Annex 5

PROPOSED NEW FORMAT AND GUIDELINES TO REPLACE CDM-AR-NMB and CDM-AR-NMM BY CDM-AR-NM

1. Due to the very close link between monitoring and baseline methodologies and in order to simplify the presentation of methodologies under consideration and approved methodologies, the A/R WG recommends that the forms for "proposed new methodology for A/R: baseline" (CDM-AR-NMB) and for "proposed new methodology for A/R: monitoring" (CDM-AR-NMM) are replaced by a single form for "proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM). This form contains three main sections, common information is presented in an introductory section and specific information is presented in separate sections for the baseline and monitoring methodologies.

2. If the Board agrees with the CDM-AR-NM form and its guidelines, the CDM guidelines for completing the project design document for afforestation and reforestation project activities (CDM AR PDD), CDM-AR-NMB and CDM-AR-NMM should be revised in order to incorporate the CDM-AR-NM. CDM-AR NM should replace references to CDM-AR-NMB and CDMN-AR-NMM.

A. Information note for Proposed New Methodology for afforestation and reforestation project activities (CDM-AR-NM)

1. A strong link between baseline and monitoring methodologies is to be provided. New baseline and monitoring methodologies shall be proposed and approved together.

2. The form "proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM) is to be used to propose a new baseline methodology and a new monitoring methodology. This form shall fully and completely describe the baseline and monitoring methodologies. The most recent version of this form may be obtained from the "forms" section of the UNFCCC CDM web site (http://unfccc.int/cdm) or from the UNFCCC secretariat by e-mail (cdm info@unfccc.int) or in print via fax (+49-228-815-1999).

3. The form "proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM) shall be accompanied by a "Project Design Document for A/R" (CDM-AR-PDD) with sections A-E completed, in order to demonstrate the application of the proposed new methodologies to a proposed A/R CDM project activity.

4. The form "proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM) shall be submitted to the Executive Board in accordance with "Procedures for submission and consideration of a proposed new A/R methodology". For the most recent version of the procedures, please refer to procedures page of the UNFCCC CDM web site (http://unfccc.int/cdm).

5. Each proposed new set of baseline and monitoring methodologies should use a separate form "proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM). "Proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM) forms for several new baseline and monitoring methodologies may be submitted together with the same CDM-AR-PDD for several components of a proposed project activity.

6. For additional guidance on aspects to be covered in the description of a new methodology, please refer to guidance and clarifications by the Executive Board on the "guidance – clarifications" section of the UNFCCC CDM web site and the "CDM-AR-PDD Glossary of Terms". Project participants are encouraged to use, as appropriate and to the extent possible, the Intergovernmental Panel on Climate Change (IPCC) Good Practice Guidance (GPG) for Land Use, Land-Use Change and Forestry (LULUCF) .

7. Project participants shall refrain from providing glossaries or using key terminology not used in the documents of the Conference of the Parties (COP) or the CDM A/R glossary and refrain from rewriting the instructions on the forms.

8. The "methodology procedure" sections shall:

   (a) Be completed in a fashion that can be readily used as an approved methodology. This requires use of appropriate format, tone, and level of specificity. Text shall be clear and succinct, well-written, and logically sequenced. It shall describe the procedures in a manner that is sufficiently explicit to enable the methodology to carried out by a methodology user, applied to projects unambiguously, and reproduced by a third party. It shall be possible for projects following the methodology to be subjected to a validation and/or verification study. Methodology developers should review and be familiar with methodologies approved by the CDM Executive Board (please refer to the section on methodologies in the UNFCCC CDM web site).

(b) Be generally appropriate for the entire group of project activities that satisfy the specified applicability conditions. A new methodology should therefore stand independently from the specific project activity proposed in the draft CDM-AR-PDD with which the new methodology is being submitted. The methodology should not make direct reference to, or depend on characteristics of, the specific project activity being proposed in the draft CDM-AR-PDD. It should not refer to specific project activities or locations, project-specific conditions or project-specific parameters. This project-specific information should be described in the draft CDM-AR-PDD, however, it can be referred to in the explanation/justification section to help describe the methodology.

(c) Present methodology steps as one might present a recipe. In doing so, clearly state what the methodology user must do and what information must be presented in the resulting CDM-AR-PDD. It should include all algorithms, formulae, and step-by-step procedures needed to apply the methodology and validate the project activity, i.e. calculating baseline, project, and leakage emissions. The completed form shall provide stand-alone replicable methodologies, and avoid reference to any secondary documents other than EB-approved tools and methodologies.

(d) Indicate precisely what information the project proponent must report in the draft CDM-AR-PDD and/or in monitoring reports.

(e) Support important procedures and concepts with equations and diagrams. Non-essential information should be avoided.

(f) Refer by name and reference number to approved methodologies and tools if they are used – in whole or in part – in this methodology. Relevant sections can be cited specifically, but do not need to be repeated. Any proposed modifications and/or additions to approved tools and methodologies need to be clearly highlighted.

(g) Specify, for all formulae/algorithms and/or models:
- The variables used (e.g. species, tree density, growth rates.);
- The spatial resolution of data (e.g. local, regional, national, etc.);
- The vintage of data (relative to project crediting period);

(h) Use common formats for equations and terms and international system units (SI units).

(i) Specify, for the data sources and assumptions:
- Where the data are obtained (official statistics, expert judgement, proprietary data, IPCC GPG for LULUCF, commercial data and scientific literature, etc.);
- The assumptions used;

(j) Clearly specify data requirements and sources, as well as procedures to be followed if expected data are unavailable. For instance, the methodology could point to a preferred data source (e.g. national statistics for the past 5 years), and indicate a priority order for use of additional data (e.g. using longer time series) and/or fall back data sources to preferred sources (e.g. private, international statistics, etc.).

(k) Provide instructions for making any logical or quantitative assumptions that are not provided in the methodology and must be made by the methodology user.

(l) Include instructions to assist in implementing the methodology in a conservative manner where logical or quantitative assumptions have to be made by the methodology user, particularly in cases of uncertainty.

9. The "explanation and justification" sections shall:

(a) Be used to assist the assessment by the AR WG and the Executive Board in reviewing the methodology. If the proposed methodology is approved these sections are removed from the final version.

(b) Provide the rationale for the procedures presented.

(c) If the procedure draws from an approved methodology or tool, provide reference of the same and clearly note any changes to them or elaborations of them. Justify why such changes have been made.

(d) Point out the key logical and quantitative assumptions, i.e., those assumptions to which the results of the baseline methodology are particularly sensitive to.

(e) Be clear about sources of uncertainty. Clearly point out which logical or quantitative assumptions have significant uncertainty associated with determining them. If the methodology makes a certain assumption in cases where there is uncertainty, explain why this assumption is appropriate.

(f) Explain how the methodology ensures conservativeness. Explain how the procedures and assumptions on which the procedures rely are conservative. In particular, explain how assumptions in the case of uncertainty are conservative.

10. General instructions for completing the baseline methodology section of the new methodology form (CDM-AR-NM):

(a) The baseline for an A/R CDM project activity is the scenario that reasonably represents the sum of the changes in carbon stocks in the carbon pools within the project boundary that would occur in the absence of the proposed A/R CDM project activity. A baseline shall cover all carbon pools within the project boundary, but project participants may choose not to account for one or more carbon pools if they provide transparent and verifiable information showing that the choice will not increase the expected net anthropogenic GHG removals by sinks. The general characteristics of a baseline are contained in paragraphs 20 to 22 of the CDM A/R modalities and procedures.

(b) When drafting a proposed new baseline methodology, project participants shall, in particular, follow the following steps:

(i) Choose and justify why one of the baseline approaches listed in paragraph 22 of the CDM A/R modalities and procedures is considered to be the most appropriate;

(ii) Elaborate a proposal for a new baseline methodology. A baseline methodology is an application of the selected baseline approach contained in paragraphs 22 (a) to (c) of the CDM A/R modalities and procedures to an individual A/R CDM project activity, reflecting aspects such as sector, technology and region. The Executive Board agreed that no methodology is to be excluded a priori so that project participants have the opportunity to

propose any methodology, which they consider appropriate. The project participant shall take into account guidance by the Board on aspects to be covered by a methodology (please see guidance and clarifications by the Executive Board on the "Guidance – clarifications" web page of the UNFCCC CDM web site);

(iii) Describe the proposed new methodology using the form for "Proposed New Methodology for A/R" (CDM-AR-NM) taking into account guidance given by the Executive Board as well as the information provided in the CDM-AR-PDD Glossary of Terms; and

(iv) Demonstrate the applicability of the proposed methodology, and, implicitly, that of the approach, to an A/R DM project activity by providing relevant information in sections A-E of a draft CDM-AR-PDD.

(c) In accordance with guidance provided by the Executive Board, the proposed new baseline methodology shall include a basis for determining the baseline scenario and , in particular:

(i) An explanation of how the baseline scenario is chosen, taking into account paragraph 20 (e) of the A/R modalities and procedures;

(ii) An underlying rationale for algorithm/formulae and/or model used in the baseline methodology;

(iii) An explanation of how, through the methodology, it is demonstrated that a proposed A/R CDM project activity is additional and, therefore, not the baseline scenario (section B.4 of the CDM-AR-PDD);

(iv) Delineation of the project boundary (with respect to carbon pools, gases and sources included, physical delineation, etc.);

11. General instructions for completing the monitoring methodology section of the new methodology form (CDM-AR-NM):

(a) Monitoring of an A/R CDM project activity refers to the collection and archiving of all relevant data necessary for determining the baseline net GHG removals by sinks, measuring actual net GHG removals by sinks within the project boundary of an A/R CDM project activity, leakage and applicability conditions, as applicable.

(b) When drafting a proposed new monitoring methodology, project participants shall:

(i) Describe the proposed new methodology using the form "proposed new baseline and monitoring methodologies for A/R" (CDM-AR-NM) taking into account guidance given by the Executive Board as well as the information provided in the CDM-AR-PDD Glossary of Terms;

(ii) Demonstrate the applicability of the proposed monitoring methodology to an A/R CDM project activity by providing relevant information in sections A-E of a draft CDM-AR-PDD.

(c) The monitoring methodology needs to provide detailed information on how to establish the monitoring plan related to the collection and archiving of all relevant data needed to:

(i) Estimate or measure actual net GHG removals by sinks occurring within the project boundary,

(ii) Determine the baseline net GHG removals by sinks, and

(iii) Identify all potential sources of and estimate leakage for A/R CDM project activities;

(d) The monitoring methodology should reflect good monitoring practice appropriate to the type of A/R CDM project activity.

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PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES FOR A/R (CDM-AR-NM)

6. Data to be collected and archived for actual net GHG removals by sinks

7. Leakage

8. Data to be collected and archived for leakage

9. Ex post net anthropogenic GHG removal by sinks

10. Uncertainties and conservative approach

11. Other information

Section IV: Lists of variables, acronyms and references

1. List of variables used in equations:

2. List of acronyms used in the methodologies:

3. References:

Section I. Summary and applicability of the baseline and monitoring methodologies

1. Methodology title (for baseline and monitoring)

Methodology title:
Provide an unambiguous title for a proposed methodology. The title should reflect the project types to which the methodology is applicable. Do not use project-specific titles.
Please indicate the following:
- *The title of the proposed methodology*
- *The version number of the document*
- *The date of the document*

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If this methodology is a based on a previous submission, please state the previous reference number (NMXXXX/AMXXXX) here:

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2. Selected baseline approach for A/R CDM project activities

Choose One (delete others):

☐ Existing or historical, as applicable, changes in carbon stocks in the carbon pools within the project boundary;
☐ Changes in carbon stocks in the carbon pools within the project boundary from a land use that represents an economically attractive course of action, taking into account barriers to investment;
☐ Changes in carbon stocks in the pools within the project boundary from the most likely land use at the time the project starts.

Explanation/justification of choice:
The choice of the baseline approach should be based, if possible, on the procedure described in the baseline net GHG removals by sinks sections below.

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3. Applicability conditions

Methodology procedure:
Describe the project activity (for example: reforestation on degraded lands).

List any conditions which a proposed AR CDM project activity must satisfy in order for the methodology to be applicable (e.g. eligible species, sectoral circumstances, region, or historical use of the land areas). Conditions should not substitute for steps that are necessary parts of the baseline methodology, such as defining the baseline, which must be derived through step-by-step application of the methodology procedures. Applicability conditions must pertain to the type of proposed project activity and sector in which it takes place. They should not be conditions on a presumed baseline scenario (e.g., it is not appropriate for an applicability condition to be "The land area would continue to be the same without the project activity" as this is not a condition on the project activity, but a result of baseline assessment.).

In some cases, compliance with an applicability condition, such as "the project activity is wood production or non-wood production such as rubber", is obvious, easily validated, and unlikely to

change. In other cases however, compliance with an applicability condition may need to be monitored during the crediting period, and the consequences of non-compliance would need to be indicated in the methodology. For example, if an applicability conditions is "The project activity does not result in the displacement of more than 50% of the pre-project activities", the methodology should explain how the applicability condition can be satisfied (e.g. through monitoring of displacements), and how it will be reported.

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Explanation/justification:
Explain the applicability conditions.
Indicate if an approved methodology exists for the same conditions of application.

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4. Selected carbon pools

Methodology procedure:
Select the carbon pools that are considered in determining actual net GHG removals by sinks and baseline net GHG removals by sinks in the table below. Note that the same carbon pools should be considered in the actual net GHG removals by sinks and the baseline net GHG removals by sinks. Provide short explanations and justifications for the choice in the table.

Carbon pools	Selected (answer with yes or no)	Justification / Explanation
Above ground		
Below ground		
Dead wood		
Litter		
Soil organic carbon		

Explanation/justification:
Explain the appropriateness and underlying assumptions of the procedure..

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5. Summary description of major baseline and monitoring methodological steps

Summary description:
Summarize the key elements of the proposed new methodology, per the sections below.
Include brief statements on each on how baseline and the monitoring address the following issues.

Baseline methodology:
i. Definition of the project boundary
ii. Stratification
iii. Choice of the baseline scenario
iv. Ex-ante calculation of baseline net GHG removals by sinks
vi. Demonstration of additionality
vii. Calculation of ex-ante the actual net GHG removals by sinks
viii. Leakage emissions

Monitoring methodology:
i. Monitoring of the implementation of the project
ii. Stratification
iii. Calculation of ex post baseline net GHG removals by sinks, if required
vi. Calculation of ex post actual net GHG removal by sinks

In doing so, if relevant, note how this methodology builds on, complements, and/or provides an alternative to approved methodologies.

Please do not exceed one page. The detailed explanation of the methodology is to be provided in sections below.

a. Baseline methodology steps:
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b. Monitoring methodology steps:
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Section II. Baseline methodology description

1. Project boundary

Methodology procedure:
Definition: The project boundary shall geographically delineate and encompass all anthropogenic GHG emissions by sources and removals by sinks on lands under the control of the project participants that are significant and reasonably attributable to an A/R CDM project activity.

a. Describe the physical delineation of the project boundary (i.e. the project boundary shall include the land areas that are planned for afforestation or reforestation CDM project activities)
b. Identify all GHG emission sources in the project boundary, using the table below. Note that CO_2 emissions or removals resulting from changes in carbon stocks should not be included in this table (they are addressed in section I.3 above). Explain whether any emission sources are excluded in the calculation of actual net GHG removals by sinks, and if so, justify their exclusion. If possible, use the table provided below.
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Sources	Gas	Included/ excluded	Justification / Explanation
E.g. use of fertilizers…	CO_2		
	CH_4		
	N_2O		
E.g. combustion of fossil fuels used in on-site vehicles	CO_2		
	CH_4		
	N_2O		

Explanation/justification:
Justify the project boundary, bearing in mind that it shall encompass all anthropogenic emissions by sources of greenhouse gases that are significant, reasonably attributable to the project activity and under the control of project participants.
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2. Stratification

Methodology procedure:
Describe how the stratification of land areas is to be undertaken for the ex-ante estimation of net anthropogenic GHG removals by sink. Use of remote sensing products is recommended. This may include the use of aerial photos, satellite imaginary, etc.

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Explanation/justification:
Explain the appropriateness and underlying assumptions of the procedure.

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3. Procedure for selection of most plausible baseline scenario

Methodology procedure:
Provide a systematic, step-by-step procedure for determining the most likely baseline scenario. This procedure should describe a process for identifying the options to be considered as plausible candidate baseline scenarios. It should clearly explain the logical and analytical steps that must be followed in ascertaining the most likely baseline scenario from among these candidates. It should clearly state what the methodology user must do and what information must be presented in the resulting CDM-AR-PDD in order to make a logical and well-substantiated case for the baseline scenario. Be specific and complete, so that the procedure can be carried out in an unambiguous way, replicated, and subjected to a validation study.

Ensure consistency between baseline scenario derived by this methodology and the procedure and formulae used to calculate the baseline net GHG removals by sinks (below). The baseline scenario determination procedure should indicate for which baseline scenarios the overall methodology is applicable. This situation would occur when baseline net GHG removals by sinks section (below) does not include algorithms and/or parameters relevant to this scenario.

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Explanation/justification:
Explain why the proposed procedure for determining the baseline scenario is appropriate for the project type and applicability conditions.

Justify that the range of options to be considered as plausible baseline scenarios is sufficiently comprehensive. The options to be considered should not exclude plausible options that, if included, might result in the determination of a different baseline scenario.

Highlight the key logical assumptions and quantitative factors underlying the procedure for determining the baseline scenario. State clearly which assumptions and factors have significant uncertainty associated with them, and how such uncertainty is to be addressed.

Explain how national and/or sectoral policies and circumstances, if and as relevant, are taken into account by the methodology.

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4. Estimation of baseline net GHG removals by sinks

Methodology procedure:
Baseline net GHG removals by sinks are defined as the sum of changes in carbon stocks in the carbon pools within the project boundary that would have occurred in the absence of an A/R CDM project activity.

Explain whether the methodology provides an ex-ante estimation of baseline net GHG removals by sinks and also monitors baseline net GHG removals by sinks as part of the monitoring methodology or whether the methodology only estimates baseline net GHG removals by sinks ex ante.

Elaborate all the algorithms and formulae used to estimate, measure or calculate the baseline net GHG removals by sinks from the baseline scenario. Be specific and complete, so that the procedure can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study:
- Use consistent variables, equation formats, subscripts, etc.
- Number all equations;
- Define all variables and parameters, with units indicated;
- Justify the conservativeness of the algorithms/procedures; to the extent possible, include methods to quantitatively account for uncertainty in key parameters.

Several parameters, coefficients, variables, etc. may be used in the calculation of the baseline net GHG removals by sinks.
a) Where values are provided in the methodology:
- Clearly indicate the precise references from which these values are taken (e.g. official statistics, IPCC Guidelines, commercial and scientific literature);
- Justify the conservativeness of the values provided.

b) Where values are to be provided by the project participant, clearly indicate how the values are to be selected and justified, for example, by explaining:
- The vintage of data that is suitable;
- What spatial level of data is suitable (local, regional, national, international);
- How conservativeness of the values is to be ensured.

Any parameters, coefficients, variables, etc. that are to be obtained through monitoring should be noted. The project participants shall ensure consistency between the baseline methodology and the monitoring methodology.

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5. Additionality

Methodology procedure:
Provide a systematic step-by-step procedure for determining whether or not the project activity is, or is part of, the baseline scenario, and thereby determining whether the project activity is additional. The methodology should clearly state what the methodology user must do and what information must be presented in the resulting CDM-AR-PDD in order to make a logical and well-substantiated case for the project's additionality.

Ensure consistency between baseline scenario derived by this methodology and the procedure and formulae used to demonstrate additionality. Note, for many methodologies there will be a strong link between the baseline scenario and additionality sections. Present the procedures in each step in as much detail as needed, but avoid repetition that is not needed for reasons of clarity.

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Explanation/justification:
Justify why the proposed procedure is an appropriate procedure for establishing the project's additionality.

Highlight the key logical assumptions and quantitative factors underlying the procedure for demonstrating the project activity is additional. State clearly which assumptions and factors have significant uncertainty associated with them, and how such uncertainty is to be addressed.

If relevant, explain how national and/or sectoral policies and circumstances are taken into account by the methodology.

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6. Ex ante actual net GHG removals by sinks

Methodology procedure:
Provide a consistent step-by-step procedure for the ex ante estimation of actual net GHG removals by sinks. Elaborate all algorithms and formulae required. In doing so:
- Use consistent variables, equation formats, subscripts, etc.
- Number all equations;
- Define all variables and parameters, with units indicated;
- Where default values are provided in the methodology: Clearly indicate the precise references from which these values are taken (e.g. official statistics, IPCC Guidelines, commercial and scientific literature);
- Where values are to be provided by the project participant, clearly indicate how the values are to be selected.

In doing so, differentiate between the following GHG emissions by sources and removals by sinks:
a. Verifiable changes in carbon stocks in the carbon pools.
b. GHG emissions by sources. This includes increases in GHG emissions by the sources within the project boundary as a result of the implementation of an A/R CDM project activity. For example:
i) Calculation of GHG emissions from burning of fossil fuel
ii) Calculation of emissions from biomass burning
iii) Calculation of nitrous oxide emissions from nitrogen fertilization practices
c. Actual net GHG removals by sinks. This is the sum of verifiable changes in carbon stocks in the carbon pools, minus the increase in emissions by sources.

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Explanation/justification:
Explain any parts of the algorithms or formulae that are not self-evident. Justify that the procedure is consistent with standard procedures for afforestation and reforestation activities. Provide references as necessary.

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7. Leakage

Methodology procedure:
Leakage is defined as the increase in GHG emissions by sources which occurs outside the boundary of an AR CDM project activity which is measurable and attributable to the AR CDM project activity.

Identify possibly significant sources of leakage. List which sources of leakage can be neglected.

Elaborate the all the algorithms and formulae used to estimate, measure or calculate leakage emissions. Be specific and complete, so that the procedure can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study:
- Use consistent variables, equation formats, subscripts, etc.
- Number all equations;
- Define all variables and parameters, with units indicated;
- Justify the conservativeness of the algorithms/procedures; to the extent possible, include methods to quantitatively account for uncertainty in key parameters.

Several parameters, coefficients, variables, etc. may be used in the calculation of leakage.
a) Where values are provided in the methodology:
- Clearly indicate the precise references from which these values are taken (e.g. official statistics, IPCC Guidelines, commercial and scientific literature);
- Justify the conservativeness of the values provided.

b) Where values are to be provided by the project participant, clearly indicate how the values are to be selected and justified, for example, by explaining:
- What types of sources are suitable;
- The vintage of data that is suitable;
- What spatial level of data is suitable (local, regional, national, international);
- How conservativeness of the values is to be ensured.

Any parameters, coefficients, variables, etc. that are to be obtained through monitoring should be noted. The project participants shall ensure consistency between the baseline methodology and the monitoring methodology.

Even if the calculation of the leakage is to be performed ex post, the procedure should include the calculation of an ex ante estimate.

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Explanation/justification:
Explain any parts of the algorithms or formulae that are not self-evident. Justify that the procedure is consistent with standard technical procedures in the relevant sector. Provide references as necessary.

Justify the selection of sources of leakage that can be neglected.

State clearly which assumptions and procedures that have significant uncertainty associated with them, and how such uncertainty is to be addressed.

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8. Ex ante net anthropogenic GHG removal by sinks

Methodology procedure:
Net anthropogenic GHG removals by sinks is defined as the actual net GHG removals by sinks minus the baseline net GHG removals by sinks minus leakage.

Please provide for the formulae to calculate net anthropogenic GHG removals by sinks for project activities using tCERs and for those using lCERs. Please refer to the latest guidance by the Executive Board regarding these formulae.

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9. Uncertainties and conservative approach

Explanation/justification:
Explain how the methodology ensures that net anthropogenic GHG removals by sinks are estimated in conservative manner, taking into account the uncertainties of the methodology. In doing so you may assess and describe the uncertainties of the baseline methodology, in particular regarding:
a. The basis for determining the baseline scenario
b. Algorithms and formulae
c. Key assumptions
d. Data

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10. Data needed for ex ante estimations

Methodology procedure:
Provide information on each data or parameter needed to perform ex-ante calculations in the table below. Two examples are provided below.

Data / parameter	Description	Vintage	Data sources and geographical scale
Historic land use / cover data	Maps and tables clearly describing the distribution of types of land uses and cover across the project boundary	1990 and most recent data prior to project implementation	Aerial photographs, satellite imaginary, field checks
RSR	Root Shoot Ratios for all types of species involved	Most recent data vailable	Scientific literature, IPCC LULUCF GPG

11. Other information

Explanation/justification:
Explanation of how the baseline methodology allows for the development of baselines in a transparent manner.

What are the potential strengths and weaknesses of this proposed new methodology?

Provide any other information here.

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Section III: Monitoring methodology description

1. Monitoring project implementation

Methodology procedure:
Provide a procedure to clearly identify and document the implementation of the project on the land areas within the project boundary. This should include the following aspects:

a. The size and geographical location of the stands established as part of the project activity.
b. Any changes to the area of the single stands.

c. Whether the stands are managed according to any previously established management plan.
d. Where relevant: whether the applicability conditions still apply to the project activity.

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Explanation/justification:
Explain the appropriateness and underlying assumptions of each procedure.

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2. Sampling design and stratification

Methodology procedure:
Describe how the sampling design is to be undertaken for the ex-post calculation of actual net GHG removals by sinks and, in case the baseline is monitored, the baseline net GHG removals by sinks. The sampling design may, inter alia, include stratification, determination of number of plots, plot distribution, etc.

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Explanation/justification:
Explain the appropriateness and underlying assumptions of the procedure.

>>

3. Calculation of ex post baseline net GHG removals by sinks, if required

Methodology procedure:
If the methodology requires the monitoring of the baseline, provide a consistent step-by-step procedure for the ex post estimation of the baseline net GHG removals by sinks. Elaborate all algorithms and formulae required. In doing so:
- Use consistent variables, equation formats, subscripts, etc.
- Number all equations;
- Define all variables and parameters, with units indicated;

a) Where values are provided in the methodology:
- Clearly indicate the precise references from which these values are taken (e.g. official statistics, IPCC Guidelines, commercial and scientific literature);
- Justify the conservativeness of the values provided.

b) Where values are to be provided by the project participant, clearly indicate how the values are to be selected and justified, for example, by explaining:
- The vintage of data that is suitable;
- What spatial level of data is suitable (local, regional, national, international);
- How conservativeness of the values is to be ensured.

Where appropriate describe any quality assurance and quality control procedures, if necessary stating tolerable deviations.

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Explanation/justification:

Explain any parts of the algorithms or formulae that are not self-evident. Justify that the procedure is consistent with standard procedures for afforestation and reforestation activities. Provide references as necessary.

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4. Data to be collected and archived for the estimation of baseline net GHG removals by sinks

Methodology procedure:
If the methodology requires the monitoring of the baseline, list all data that should be collected and archived for the estimation of baseline net GHG removals by sinks, using the table below. Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.

ID number	Data Variable	Source of data	Data unit	Measured (m) calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	How will data be archived? (electronic/ paper)	Comment

5. Calculation of ex post actual net GHG removal by sinks

Methodology procedure:
Elaborate all the algorithms and formulae used to estimate, measure or calculate the emissions from the project activity. Be specific and complete, so that the procedure can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study:
- Use consistent variables, equation formats, subscripts, etc.;
- Number all equations;
- Define all variables, with units indicated;
- Justify the conservativeness of the algorithms/procedures; to the extent possible, include methods to quantitatively account for uncertainty in key parameters.

Several parameters, coefficients, variables, etc. may be used in the calculation of the baseline net GHG removals by sinks.
a) Where values are provided in the methodology:
- Clearly indicate the precise references from which these values are taken (e.g. official statistics, IPCC Guidelines, commercial and scientific literature);
- Justify the conservativeness of the values provided.

b) Where values are to be provided by the project participant, clearly indicate how the values are to be selected and justified, for example, by explaining:
- What types of sources are suitable;
- The vintage of data that is suitable;
- What spatial level of data is suitable (local, regional, national, international);
- How conservativeness of the values is to be ensured.

Ensure consistency between the baseline methodology and the monitoring methodology.

Differentiate between the following GHG emissions by sources and removals by sinks:
a. Verifiable changes in carbon stocks in the carbon pools.

b. GHG emissions by sources. This includes increases in GHG emissions by the sources within the project boundary as a result of the implementation of an A/R CDM project activity. For example:

i) Calculation of GHG emissions from burning of fossil fuel

ii) Calculation of emissions from biomass burning

iii) Calculation of nitrous oxide emissions from nitrogen fertilization practices

c. Actual net GHG removals by sinks. This is the sum of verifiable changes in carbon stocks in the carbon pools, minus the increase in emissions by sources.

Where appropriate describe any quality assurance and quality control procedures, if necessary stating tolerable deviations.

6. Data to be collected and archived for actual net GHG removals by sinks

Methodology procedure:
List all data that should be collected and archived for the estimation of actual net GHG removals by sinks, using the table below. Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.

ID number	Data Variable	Source of data	Data unit	Measured (m) calculated (c) estimated (e)	Recording frequency	Proportion of data monitored	How will data be archived? (electronic/ paper)	Comment

7. Leakage

Methodology procedure:
Please refer to the guidance in section II.8 above.

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Explanation/justification:
Please refer to the guidance in section II.8 above.

>>

8. Data to be collected and archived for leakage

Methodology procedure:
List all data that should be collected and archived for the estimation of leakage emissions, using the table below. Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.

ID number	Data Variable	Source of data	Data unit	Measured (m) calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	How will data be archived? (electronic/ paper)	Comment

ID number	Data Variable	Source of data	Data unit	Measured (m) calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	How will data be archived? (electronic/ paper)	Comment

9. Ex post net anthropogenic GHG removal by sinks

Methodology procedure:
Net anthropogenic GHG removals by sinks is defined as the actual net GHG removals by sinks minus the baseline net GHG removals by sinks minus leakage.

Please provide for the formulae to calculate net anthropogenic GHG removals by sinks for project activities using tCERs and for those using lCERs. Please refer to the latest guidance by the Executive Board regarding these formulae.

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10. Uncertainties and conservative approach

Explanation/justification:
Explain how the methodology ensures that net anthropogenic GHG removals by sinks are estimated in conservative manner, taking into account the uncertainties of the methodology. In doing so you may assess and describe the uncertainties of the baseline methodology, in particular regarding:
a. The basis for determining the baseline scenario
b. Algorithms and formulae
c. Key assumptions
d. data

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11. Other information

Explanation/justification:
Explanation of how the baseline methodology allows for the development of baselines in a transparent manner.

What are the potential strengths and weaknesses of this proposed new methodology?

Provide any other information here.

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Section IV: Lists of variables, acronyms and references

1. List of variables used in equations:

Variable	SI Unit	Description

2. List of acronyms used in the methodologies:

Acronym	**Description**

3. References: