



**DRAFT** CLEAN DEVELOPMENT MECHANISM GUIDELINES FOR COMPLETING  
THE PROJECT DESIGN DOCUMENT FOR A/R (CDM-AR-PDD),  
THE PROPOSED NEW METHODOLOGY FOR A/R:  
BASELINE AND MONITORING (CDM-AR-NM)

Version 03

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**History of the document**

<b>Version</b>	<b>Date</b>	<b>Nature of revision(s)</b>
01	3 September 2004	Initial adoption at EB15
02	30 September 2005	Incorporation of decisions by EB19 and EB21: <ul style="list-style-type: none"><li>• The “Glossary of CDM terms” was updated to reflect guidance and clarifications provided by the Board since adoption of this document</li><li>• Treatment of confidential/proprietary information submitted through forms</li><li>• Further guidance on how to structure information submitted in a some sections (i.e. A.3 “Project participants”, A4.11.1 “Estimated amount of net anthropogenic GHG removals by sinks over the chosen crediting period”, D.5 “Table providing values obtained when applying formulae above”)</li><li>• Reflecting that, in filling in a form, a user must state explicitly that a section was left blank on purpose</li></ul>
03	28 November 2005	Incorporation of decisions by EB21 and EB22: <ul style="list-style-type: none"><li>• Revision of the guidelines and a form CDM-AR-NM which should replace the previous guidelines and forms CDM-AR-NMB and CDM-AR-NMM as contained in annex 14 of the report of EB22</li><li>• Revision of glossary of terms to incorporate guidance provided by the Board with regards to retroactivity of crediting periods for afforestation and reforestation project activities as contained in paragraph 64 of the report of EB21</li><li>• Revision of the glossary of terms and guidelines to incorporate procedures to define the eligibility of lands for afforestation and reforestation project activities as contained in annex 16 of the report of EB22</li></ul>



**PART I**

**A. General Information on  
the Project Design Document for A/R (CDM-AR-PDD),  
the Proposed New Methodology for A/R: Baseline and Monitoring (CDM-AR-NM)**

1. These guidelines seek to assist project participants in completing the following documents:
  - Project Design Document for A/R (CDM-AR-PDD);
  - Proposed New Methodology: Baseline and Monitoring for A/R (CDM-AR-NM).
2. The CDM-AR-PDD and CDM-AR-NM were developed by the clean development mechanism (CDM) Executive Board in conformity with the relevant modalities and procedures for the Project Design Document for CDM afforestation and reforestation project activities under the CDM as defined in Appendix B “Project Design Document” to the modalities and procedures for afforestation and reforestation project activities under the CDM (hereafter referred as “CDM A/R modalities and procedures”, see decision 19/CP.9 and its annex contained in document FCCC/CP/2003/6/Add.2).
3. If project participants wish to submit an afforestation or reforestation (hereafter referred as A/R) project activity for validation and registration, they shall submit a fully completed CDM-AR-PDD.
4. If project participants wish to propose new baseline and monitoring methodologies for A/R they shall complete and submit the CDM-AR-NM and a draft CDM-AR-PDD with only sections A-E filled.
5. The CDM-AR-PDD and CDM-AR-NM may be obtained electronically from the UNFCCC CDM web site (<http://unfccc.int/cdm>), by e-mail ([cdm-info@unfccc.int](mailto:cdm-info@unfccc.int)) or in printed format from the UNFCCC secretariat (Fax: +49-228-815-1999).
6. Terms, which are underlined with a broken line in the CDM-AR-PDD and the CDM-AR-NM, are explained in the “Glossary of A/R CDM Terms”, included in these guidelines. It is recommended that before or during the completion of the forms that project participants consult the most recent version of the “Glossary of A/R CDM Terms”.
7. Project participants should also consult the section “Guidance – clarifications” available on the UNFCCC CDM web site (<http://unfccc.int/cdm>) or available from the UNFCCC secretariat by e-mail ([cdm-info@unfccc.int](mailto:cdm-info@unfccc.int)) or in print via fax (+49-228-815 1999).
8. The Executive Board may revise the CDM-AR-PDD and the CDM-AR-NM, if necessary.
9. Revisions come into effect, once adopted by the Executive Board, bearing in mind the provisions below.
10. Revisions to the CDM-AR-PDD do not affect A/R project activities:
  - (a) Already validated, or already submitted to the OE for validation prior to the adoption of the revised CDM-AR-PDD;



- (b) Submitted to the OEs within a month of the adoption of the revised CDM-AR-PDD;
  - (c) The Executive Board will not accept documentation using previous versions of the CDM-AR-PDD six months after the adoption of the new version.
11. Revisions to the CDM-AR-NM do not affect new baseline and monitoring methodologies:
- (a) Submitted to the OEs prior to the adoption of the revised CDM-AR-NM;
  - (b) Submitted to the OEs within a month of the adoption of the revised CDM-AR-NM;
  - (c) The Executive Board will not accept documentation using previous versions of the CDM-AR-NM three months after the adoption of the new versions.
12. In accordance with the modalities and procedures for a CDM (“hereafter referred as CDM modalities and procedures”, see decision 17/CP.7 and its annex contained in document FCCC/CP/2001/13/Add.2), the working language of the Board is English. The CDM-AR-PDD and the CDM-AR-NM shall therefore be completed and submitted in English language to the Executive Board. However, the CDM-AR-PDD and CDM-AR-NM are available on the UNFCCC CDM web site for consultation in all six official languages of the United Nations.
13. The CDM-AR-PDD and CDM-AR-NM templates shall not be altered, that is, shall be completed using the same font without modifying its format, font, headings or logo.
14. Tables and their columns shall not be modified or deleted, rows may however be added, as needed.
15. The CDM-AR-PDD and CDM-AR-NM shall include in section A.1 the version number and the date of the document.
16. If sections of the CDM-AR-PDD and CDM-AR-NM are not applicable, it shall be explicitly stated that the section is left blank on purpose.
17. The CDM-AR-PDD and CDM-AR-NM are not applicable to CDM project activities. The CDM-PDD documentation project activities is available on the UNFCCC CDM web site.



## B. Glossary of A/R CDM terms

**The following CDM glossary intends to assist in clarifying terms used in the Project Design Document for A/R (CDM-AR-PDD), the Proposed New Methodology for A/R: Baseline and Monitoring (CDM-AR-NM) and the CDM A/R modalities and procedures in order to facilitate the completion of the CDM-AR-PDD and CDM-AR-NM by project participants.**

### **Clean development mechanism (CDM):**

Article 12 of the Kyoto Protocol defines the clean development mechanism. “The purpose of the clean development mechanism shall be to assist Parties<sup>1</sup> not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under article 3”.

At its seventh session, the Conference of the Parties (COP) adopted modalities and procedures for a clean development mechanism (hereafter referred as “CDM modalities and procedures”, see decision 17/CP.7 and its annex contained in document FCCC/CP/2001/13/Add.2) and agreed on a prompt start of the CDM by establishing an Executive Board and agreeing that until the entry into force of the Kyoto Protocol (a) this Board should act as the Executive Board of the CDM and (b) the Conference of the Parties (COP) should act as the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP) as required by the Protocol and the CDM modalities and procedures.

At its ninth session, the COP adopted modalities and procedures for afforestation and reforestation project activities under the CDM (hereafter referred as “CDM A/R modalities and procedures”, see decision 19/CP.9 and its annex contained in document FCCC/CP/2003/6/Add.2).

### **Terms in alphabetical order:**

#### **Actual net greenhouse gas removals by sinks:**

“Actual net greenhouse gas (GHG) removals by sinks” is the sum of the verifiable changes in carbon stocks in the carbon pools within the project boundary, minus the increase in emissions of the GHGs measured in CO<sub>2</sub> equivalents by the sources that are increased as a result of the implementation of the afforestation or reforestation (A/R) project activity within the project boundary, attributable to the A/R CDM project activity.

#### **Afforestation:**

“Afforestation” is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources.

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<sup>1</sup> In this glossary, the term “Party” is used as defined in the Kyoto Protocol: “Party” means, unless the context otherwise indicates, a Party to the Protocol. “Party included in Annex I” means a Party included in Annex I to the Convention, as may be amended, or a Party which has made a notification under Article 4, paragraph 2(g), of the Convention.



**A/R CDM Project activity:**

An A/R CDM project activity is an afforestation or reforestation measure, operation or action that aims at achieving net anthropogenic GHG removals by sinks. The Kyoto Protocol and the CDM modalities and procedures use the term “project activity” as opposed to “project”. An A/R CDM project activity could, therefore, be identical with or a component or aspect of a project undertaken or planned.

**“Attributable”:**

See “measurable and attributable”.

**Approval by Parties involved:**

A written approval constitutes the authorization by a designated national authority (DNA) of specific entity(ies) participation as project proponents in the specific CDM project activity. The approval covers the requirements of paragraph 33 of the CDM modalities and procedures<sup>2</sup>.

The DNA of a Party involved in a proposed CDM project activity shall issue a statement including the following:

- The Party has ratified the Kyoto Protocol.
- The approval of voluntary participation in the proposed CDM project activity
- In the case of Host Party(ies): statement that the proposed A/R CDM project activity contributes to sustainable development of the host Party(ies).

The written approval shall be unconditional with respect to the above.

Multilateral funds do not necessarily require written approval from each participant’s DNA. However those not providing a written approval may be giving up some of their rights and privileges in terms of being a Party involved in the project.

A written approval from a Party may cover more than one project provided that all projects are clearly listed in the letter.

The Board agreed that the registration of a A/R CDM project activity can take place without an Annex I Party being involved at the stage of registration. Before an Annex I Party acquires temporary or long-term CERs from such a project activity from an account within the CDM Registry, it shall submit a letter of approval to the Board in order for the CDM Registry administrator to be able to forward CERs from the CDM Registry to the national registry of the Annex I Party.

The DOE shall receive documentation of the approval.

**Authorization of a private and/or public entity to participate in an A/R CDM project activity:**

*See “Approval by Parties involved”*

**Baseline:**

*See baseline scenario for A/R project activities.*

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<sup>2</sup> Applied mutatis mutandis in the CDM A/R modalities and procedures

**Baseline approach:**

*See baseline approach for A/R CDM project activities.*

**Baseline approach for A/R CDM project activities:**

A baseline approach is the basis for a baseline methodology. The Executive Board agreed that the three approaches identified in sub-paragraphs 22 (a) to (d) of the CDM A/R modalities and procedures shall be the only ones applicable to A/R CDM project activities. These are:

- (a) Existing or historical, as applicable, changes in carbon stocks in the carbon pools within the project boundary;
- (b) 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;
- (c) Changes in carbon stocks in the pools within the project boundary from the most likely land use at the time the project starts.

**Baseline - approved methodology:**

A baseline methodology approved by the Executive Board is publicly available along with relevant guidance on the UNFCCC CDM website (<http://unfccc.int/cdm>) or through a written request sent to [cdm-info@unfccc.int](mailto:cdm-info@unfccc.int) or Fax: (49-228) 815-1999.

**Baseline methodology:**

A methodology is an application of an approach as defined in paragraph 22 of the CDM A/R modalities and procedures, to an individual A/R CDM project activity, for the determination of the baseline scenario. A baseline methodology should reflect aspects such as environmental conditions and past land uses and land use changes. No methodology is excluded a priori so that project participants have the opportunity to propose a methodology. In considering paragraph 22, the Executive Board agreed that, the following cases apply:

- (a) Case of a new methodology: In developing a baseline methodology, the first step is to identify the most appropriate approach for the proposed A/R CDM project activity and then an applicable methodology;
- (b) Case of an approved methodology: In opting for an approved methodology, project participants have implicitly chosen an approach.

**Baseline net greenhouse gas removals by sinks:**

“Baseline net GHG removals by sinks” is the sum of the changes in carbon stocks in the carbon pools within the project boundary that would have occurred in the absence of the A/R CDM project activity.

**Baseline - new methodology:**

Project participants may propose a new baseline methodology established in a transparent and conservative manner. In developing a new baseline methodology, the first step is to identify the most appropriate approach for the proposed A/R CDM project activity and then an applicable methodology. Project participants shall submit a proposal for a new methodology to a designated operational entity by forwarding a completed “Proposed New Methodology for A/R: Baseline and Monitoring (CDM-AR-NM)” along with the Project Design Document for A/R (CDM-AR-PDD) with sections A to D completed in order to demonstrate the application of the proposed new methodology to a proposed A/R CDM project activity.

The proposed new methodology will be treated as follows: If the designated operational entity determines that it is a new methodology it will forward the documentation to the Executive Board. The documentation will be considered in accordance with the latest version of the “procedures for the



submission and consideration of a proposed new methodology for afforestation and reforestation project activities under the CDM” (available on the UNFCCC CDM web site). The Executive Board shall expeditiously, if possible at its next meeting but not later than four months review the proposed methodology. Once approved by the Executive Board it shall make the approved methodology publicly available along with any relevant guidance and the designated operational entity may proceed with the validation of the proposed A/R CDM project activity (applying the approved methodology) and submit the project design document for registration. In the event that the COP/MOP requests the revision of an approved methodology, no A/R CDM project activity may use this methodology. The project participants shall revise the methodology, as appropriate, taking into consideration any guidance received.

**Baseline scenario for A/R CDM project activities:**

The baseline scenario 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 A/R CDM project activity. A baseline scenario shall be derived using a baseline methodology referred to in paragraphs 12 and 13 of the CDM A/R modalities and procedures.

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 indicating that the choice will not increase the expected net anthropogenic GHG removals by sinks.

Different baseline scenarios may be elaborated as potential projections of the situation existing before the proposed A/R CDM project activity. The continuation of an existing activity could be one of them; the implementation of the proposed A/R CDM project activity may be another; and many others could be envisaged. Baseline methodologies shall require a narrative description of all reasonable baseline scenarios.

To elaborate the different scenarios, different elements shall be taken into consideration, including related guidance issued by the Executive Board. For instance, the project participants shall take into account national / sectoral policies and circumstances, ongoing technological improvements, past land uses and land-use changes, investment barriers, etc. (see paragraph b (vii) of Appendix C to decision 17/CP.7 and paragraphs 20 (e) and 22 of decision 19/CP.9).

**Confidential/proprietary information:**

In accordance with paragraph 6 of the CDM modalities and procedures<sup>3</sup>, information obtained from A/R CDM project participants marked as proprietary or confidential shall not be disclosed without the written consent of the provider of the information, except as required by national law. Information used to determine additionality, to describe the baseline methodology and its application, and to support an environmental impact assessment shall not be considered as proprietary or confidential.

Bearing in mind paragraph 6 of the CDM modalities and procedures<sup>4</sup>, project participants shall submit documentation that contains confidential and proprietary information in two versions:

- One marked up version where all confidential/proprietary parts shall be made illegible by the project participants (e.g. by covering those parts with black ink) so that this can be made publicly available.
- A second version containing all information which shall be treated as strictly confidential by all handling this documentation (DOEs/AEs, Board members and alternates, panel/committee and

<sup>3</sup> Applied mutatis mutandis in the CDM A/R modalities and procedures

<sup>4</sup> Applied mutatis mutandis in the CDM A/R modalities and procedures





working group members, external experts requested to consider such documents in support of work for the Board, and the secretariat).

**Carbon pools:**

Carbon pools<sup>5</sup> are: above-ground biomass, belowground biomass, litter, dead wood and soil organic carbon. Project participants may choose not to account for one or more carbon pools if they provide transparent and verifiable information that indicates that the choice will not increase the expected net anthropogenic GHG removals by sinks.

**Certification:**

Certification is the written assurance by the designated operational entity that an A/R CDM project activity achieved the net anthropogenic GHG removals by sinks since the start of the project, as verified.

**Conservative:**

See “Transparent and conservative”.

**Crediting period:**

See crediting period for A/R CDM project activities

**Crediting period for A/R CDM project activities:**

The crediting period for an A/R CDM project activity is the period for which net anthropogenic GHG removals by sinks are verified and certified by a designated operational entity for the purpose of issuance of long-term certified emission reductions (ICERs) or of temporary certified emission reductions (tCERs). The crediting period shall begin at the starting date of the A/R CDM project activity. A crediting period shall not extend beyond the operational lifetime of the A/R CDM project activity.

The Board, at its twenty-first meeting, clarified that provisions of paragraphs 12 and 13 of decision 17/CP.7 do not apply to CDM afforestation and reforestation project activities. A CDM afforestation and reforestation project activity starting after 1 January 2000 can also be validated and registered after 31 December 2005 as long as the first verification of the project activity occurs after the date of registration of this project activity. Given that the crediting period starts at the same date as the starting date of the project activity, the projects starting 2000 onwards can accrue tCERs/ICERs as of the starting date.

The project participants may choose between two options for the length of a crediting period: (i) fixed crediting period or (ii) renewable crediting period, as defined in paragraph 23 (a) and (b) of the A/R CDM M & P.

*(see also: starting date of an A/R CDM project activity)*

**Crediting period – fixed:**

“Fixed Crediting Period” is one of two options for determining the length of a crediting period. In the case of this option, the length and starting date of the period is determined once for an A/R CDM project activity with no possibility of renewal or extension once the proposed A/R CDM project activity has been registered. The length of the period can be a maximum of thirty years for a proposed A/R CDM project activity. (paragraph 23 (b) of CDM A/R modalities and procedures).

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<sup>5</sup> For more information on the definition for each carbon pool, you may refer to the Intergovernmental Panel on Climate Change Good Practice Guidance for Land Use, Land-Use Change and Forestry, table 3.2.1 on page 3.15. See <http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/gpplulucf.htm>.

**Crediting period – renewable:**

“Renewable crediting period” is one of two options for determining the length of a crediting period. In the case of this option, a single crediting period may be of a maximum of twenty years. The crediting period may be renewed at most two times (maximum 60 years), provided that, for each renewal, a designated operational entity determines that the original project baseline is still valid or has been updated taking account of new data, where applicable, and informs the Executive Board accordingly (paragraph 23 (a) of the A/R CDM modalities and procedures). The starting date and length of the first crediting period has to be determined before registration.

**Designated operational entity (DOE):**

An entity designated by the COP/MOP, based on the recommendation by the Executive Board, as qualified to validate proposed CDM project activities as well as verify and certify net anthropogenic GHG removals by sinks. A designated operational entity shall not perform validation or verification and certification on the same A/R CDM project activity. Upon request, the Executive Board may however allow a single DOE to perform all these functions within a single A/R CDM project activity. COP at its eighth session decided that the Executive Board may designate on a provisional basis operational entities (please refer to decision 21/CP.8).

**Eligibility of land:**

Project participants shall follow the following procedures to define the eligibility of lands for afforestation and reforestation project activities (see Annex 16 of the report of the twenty first meeting of the Board):

1. Project participants shall provide evidence that the land within the planned project boundary is eligible as an A/R CDM project activity following the steps outlined below.
  - (a) Demonstrate that the land at the moment the project starts is not a forest by providing information that:
    - i. The land is below the forest national thresholds (crown cover, tree height and minimum land area) for forest definition under decisions 11/CP.7 and 19/CP.9 as communicated by the respective DNA; and
    - ii. The land is not temporarily unstocked as a result of human intervention such as harvesting or natural causes or is not covered by young natural stands or plantations which have yet to reach a crown density or tree height in accordance with national thresholds and which have the potential to revert to forest without human intervention.
  - (b) Demonstrate that the activity is a reforestation or afforestation project activity:
    - i. For reforestation project activities, demonstrate that on 31 December 1989, the land was below the forest national thresholds (crown cover, tree height and minimum land area) for forest definition under decision 11/CP.7 as communicated by the respective DNA.
    - ii. For afforestation project activities, demonstrate that the land is below the forest national thresholds (crown cover, tree height and minimum land area) for forest definition under decision 11/CP.7 as communicated by the respective DNA, for a period of at least 50 years.
2. In order to demonstrate steps 1 (a) and 1 (b), project participants shall provide one of the following verifiable information:
  - (a) Aerial photographs or satellite imagery complemented by ground reference data; or
  - (b) Ground based surveys (land use permits, land use plans or information from local registers such as cadastre, owners register, land use or land management register); or



(c) If options (a) and (b) are not available/applicable, project participants shall submit a written testimony which was produced by following a participatory rural appraisal methodology<sup>6</sup>.

**Forest:**

“Forest” is a minimum area of land of 0.05-1.0 hectares with tree crown cover (or equivalent stocking level) of more than 10-30 per cent with trees with the potential to reach a minimum height of 2-5 metres at maturity *in situ*. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10-30 per cent or tree height of 2-5 metres are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest. A Party not included in Annex I may host an A/R CDM project activity if it has selected and reported to the Executive Board through its designated national authority for the CDM the parameters it has chosen for the definition of “forest” to be used for the purposes of hosting A/R project activities under the CDM.

A Party not included in Annex I may host an A/R CDM project activity if it has selected and reported to the Executive Board through its designated national authority for the CDM:

- (a) A single minimum tree crown cover value between 10 and 30 per cent; and
- (b) A single minimum land area value between 0.05 and 1 hectare; and
- (c) A single minimum tree height value between 2 and 5 metres.

The selected values referred above shall be fixed for all A/R CDM project activities registered prior to the end of the first commitment period.

**Fixed Crediting Period:**

See crediting period – fixed.

**Host Party:**

A Party not included in Annex I to the Convention on whose territory the A/R CDM project activity is physically located. An A/R CDM project activity located in several countries has several host Parties. At the time of registration, a Host Party shall meet the requirements for participation as defined in paragraphs 28 to 30 of the CDM modalities and procedures.

**Issuance of temporary certified emission reductions (tCERs) or of long-term certified emission reductions (ICERs):** Issuance of ICERs or tCERs refers to the instruction by the Executive Board to the CDM registry administrator to issue a specified quantity of ICERs or tCERs for an A/R CDM project activity into the pending account of the Executive Board in the CDM registry, in accordance with paragraph 66 of the CDM modalities and procedures and sections J and K and appendix D of the A/R CDM modalities and procedures.

Upon issuance of tCERs or ICERs, the CDM registry administrator shall, in accordance with paragraph 66 of the CDM modalities and procedures, promptly forward the tCERs or ICERs to the holding accounts of project participants involved, in accordance with their request, having deducted the quantity of tCERs or ICERs corresponding to the share of proceeds to cover administrative expenses for the Executive

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<sup>6</sup> Participatory rural appraisal (PRA) is an approach to the analysis of local problems and the formulation of tentative solutions with local stakeholders. It makes use of a wide range of visualisation methods for group-based analysis to deal with spatial and temporal aspects of social and environmental problems.



Board and to assist in meeting costs of adaptation for developing countries vulnerable to adverse impacts of climate change, respectively, in accordance with Article 12, paragraph 8, to the appropriate accounts in the CDM registry for the management of the share of proceeds.

**Leakage**

See “leakage for A/R project activities”.

**Leakage for A/R project activities:**

Leakage is the increase in GHG emissions by sources which occurs outside the boundary of an A/R CDM project activity which is measurable and attributable to the A/R CDM project activity;

**Long-term certified emission reductions (ICERs):**

A long-term certified emission reduction or ICER is a unit issued pursuant to Article 12 of the Kyoto Protocol for an A/R CDM project activity, which expires at the end of the crediting period of the A/R CDM project activity under the CDM for which it was issued. It is equal to one metric tonne of carbon dioxide equivalent.

Where project participants have chosen the ICER approach to address non-permanence, a request to the Executive Board has to be made for issuance of ICERs equal to the verified amount of net anthropogenic GHG removals by sinks achieved by the A/R CDM project activity since the previous certification.

**Measurable and attributable:**

In an operational context, the terms measurable and attributable in paragraph 51 (project boundary) of the CDM modalities and procedures should be read as “which can be measured” and “directly attributable”, respectively.

**Modalities of communication of project participants with the Executive Board:**

The modalities of communication between project participants and the Executive Board are indicated at the time of registration by submitting a statement signed by all project participants. All official communication from and to project participants, after a request for registration is submitted by a DOE, shall be handled in accordance with these modalities of communication. If these modalities have to be modified, the new statement shall be signed by all project participants and submitted in accordance with the modalities that are to be replaced.

**Monitoring of an A/R CDM project activity:**

Monitoring refers to the collection and archiving of all relevant data necessary for estimating or measuring the net anthropogenic GHG removals by sinks during the crediting period. For more information on the monitoring plan, please refer to paragraph 25 of the A/R CDM modalities and procedures.

**Monitoring methodology:**

A monitoring methodology refers to the method used by project participants for the collection and archiving of all relevant data necessary for the implementation of the monitoring plan.

**Monitoring methodology - approved:**

A monitoring methodology approved by the Executive Board and made publicly available along with relevant guidance.

**Monitoring methodology - new:**

Project participants may propose a new monitoring methodology. In developing a monitoring methodology, the first step is to identify the most appropriate methodology bearing in mind good monitoring practice in relevant sectors. Project participants shall submit a proposal for a new methodology to a designated operational entity by forwarding a completed “Proposed New Methodology for A/R: Baseline and Monitoring (CDM-AR-NM)” along with the project design document for A/R (CDM-AR-PDD) with sections A to E completed in order to demonstrate the application of the proposed new methodology to a proposed A/R CDM project activity.

A new proposed methodology will be treated as follows: If the designated operational entity determines that it is a new methodology it will forward the documentation to the Executive Board. The documentation will be considered in accordance with the latest version of the “procedures for the submission and consideration of a proposed new methodology for afforestation and reforestation project activities under the CDM” (available on the UNFCCC CDM web site). The Executive Board shall expeditiously, if possible at its next meeting but not later than four months review the proposed methodology. Once approved by the Executive Board it shall make the approved methodology publicly available along with any relevant guidance and the designated operational entity may proceed with the validation of the proposed A/R CDM project activity (applying the approved methodology) and submit the project design document for registration. In the event that the COP/MOP requests the revision of an approved methodology, no A/R CDM project activity may use this methodology. The project participants shall revise the methodology, as appropriate, taking into consideration any guidance received.

**Monitoring plan:**

*Please see “Monitoring of an A/R CDM project activity”.*

**Net anthropogenic greenhouse gas removals by sinks:**

“Net anthropogenic GHG removals by sinks” is the actual net GHG removals by sinks minus the baseline net GHG removals by sinks minus leakage.

**Operational lifetime of an A/R CDM project activity:**

It is defined as the period during which the A/R CDM project activity is in operation. No crediting period shall end after the end of the operational lifetime (calculated as from starting date).

**Party involved:**

A Party involved is a Party that provides a written approval.

*See “Approval by Parties involved”.*

**Project activity:**

*See “A/R CDM Project activity”.*

**Project boundary for A/R project activities:**

The “project boundary” geographically delineates the A/R CDM project activity under the control of the project participants. An A/R CDM project activity may contain more than one discrete areas of land. If an A/R CDM project activity contains more than one discrete area of land:

- Each discrete area of land should have a unique geographical identification;
- The boundary should be defined for each discrete area and should not include the areas in between these discrete areas of land.

**Project participants:**

In accordance with the use of the term project participant in the CDM modalities and procedures and A/R CDM modalities and procedures, a project participant is (a) a Party involved, and/or (b) a private and/or public entity authorized by a Party to participate in an A/R CDM project activity.

In accordance with Appendix D of the CDM modalities and procedures, the decision on the distribution of CERs from an A/R CDM project activity shall exclusively be taken by project participants.

Project participants shall communicate with the Executive Board, through the secretariat, in writing in accordance with the “modalities of communication” as indicated at the time of registration or as subsequently altered (*see “Modalities of communication ...” above*).

If a project participant does not wish to be involved in taking decisions on the distribution of ICERs/tCERs, this shall be communicated to the Executive Board through the secretariat at the latest when the request regarding the distribution is made.

*See also: “Approval by Parties involved”, “Party involved” and “Request for distribution of ICERs or of tCERs”.*

**Renewable crediting period:**

See Crediting period – renewable.

**Reforestation:**

“Reforestation” is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989.

**Request for distribution of ICERs or of tCERs:**

The request regarding the distribution of ICERs or of tCERs can only be changed if all signatories of the previous instruction have agreed to the change and signed the appropriate document.

A change of project participants shall immediately be communicated to the Executive Board through the secretariat. The indication of change shall be signed by all project participants of the previous communication and by all new and remaining project participants. Each new project participant needs authorization, as required.

**Stakeholders:**

Stakeholders mean the public, including individuals, groups or communities affected, or likely to be affected, by the proposed A/R CDM project activity or actions leading to the implementation of such an activity.

**Starting date of an A/R CDM project activity:**

A CDM afforestation and reforestation project activity starting after 1 January 2000 can also be validated and registered after 31 December 2005 as long as the first verification of the project activity occurs after the date of registration of this project activity. Given that the crediting period starts at the same date as the starting date of the project activity, the projects starting 2000 onwards can accrue tCERs/ICERs as of the starting date. This clarification was provided by the Board in para 64, of the meeting report EB21 and stipulates that provisions of paragraphs 12 and 13 of decision 17/CP.7 do not apply to CDM afforestation and reforestation project activities.

**Temporary certified emission reductions (tCERs):**

A temporary certified emission reduction or tCER is a unit issued pursuant to Article 12 of the Kyoto Protocol for an A/R CDM project activity under the CDM, which expires at the end of the commitment period following the one during which it was issued. It is equal to one metric tonne of carbon dioxide equivalent.

Where project participants have chosen to issue tCERs to address non-permanence, a request to the Executive Board has to be made for issuance of tCERs equal to the verified amount of net anthropogenic GHG removals by sinks achieved by the A/R CDM project activity under the CDM since the start of the A/R CDM project activity.

**Transparent and conservative:**

Establishing a baseline in a transparent and conservative manner (paragraph 20 (b) of the CDM A/R modalities and procedures) means that assumptions are made explicitly and choices are substantiated. In case of uncertainty regarding values of variables and parameters, the establishment of a baseline is considered conservative if the resulting projection of the baseline does not lead to an overestimation of net anthropogenic GHG removals by sinks attributable to an A/R CDM project activity (that is, in the case of doubt, values that generate a higher baseline net GHG removals by sinks shall be used).

**Permanence:**

Submit a suggestion of definition.

**Registration:**

Registration is the formal acceptance by the Executive Board of a validated project as an A/R CDM project activity under the CDM. Registration is the prerequisite for the verification, certification and issuance of tCERs or ICERs relating to that A/R CDM project activity.

**Validation:**

Validation is the process of independent evaluation of a proposed A/R CDM project activity under the CDM by a designated operational entity (DOE) against the requirements of afforestation and reforestation project activities under the CDM as set out in decision 19/CP.9, its annex and relevant decisions of the COP/MOP, on the basis of the project design document.

**Verification:**

Verification is the periodic independent review and ex post determination by the DOE of the net anthropogenic GHG removals by sinks achieved, since the start of the project, by an A/R CDM project activity under the CDM. Certification is the written assurance by a DOE that an A/R CDM project activity under the CDM achieved the net anthropogenic GHG removals by sinks since the start of the project, as verified.



## PART II

### **A. Information note for Project Design Document for afforestation and reforestation project activities (CDM-AR-PDD)**

1. The CDM-AR-PDD presents information on the essential technical and organizational aspects of the afforestation or reforestation (A/R) project activity and is a key input into the validation, registration, and verification of the project as required under the Kyoto Protocol to the UNFCCC. The relevant modalities and procedures are detailed in decision 17/CP.7 contained in document FCCC/CP/2001/13/Add.2 and decision 19/CP.9 contained in document FCCC/CP/2003/6/Add.2).
2. The CDM-AR-PDD contains information on the proposed A/R CDM project activity, the approved baseline methodology applied to the proposed A/R CDM project activity, and the approved monitoring methodology applied to the project. It discusses and justifies the choice of baseline methodology and the applied monitoring concept, including monitoring data and calculation methods.
3. Project participants should submit the completed version of the CDM-AR-PDD, together with attachments if necessary, to an accredited designated operational entity for validation. The designated operational entity then examines the adequacy of the information provided in the CDM-AR-PDD, especially whether it satisfies the relevant modalities and procedures concerning the proposed A/R CDM project activity. Based on this examination, the designated operational entity makes a decision regarding validation of the project.
4. Bearing in mind paragraph 6 of the CDM modalities and procedures<sup>7</sup>, project participants shall submit documentation that contains confidential / proprietary information in two versions:
  - One marked up version where all confidential/proprietary parts shall be made illegible by the project participants (e.g. by covering those parts with black ink) so that this can be made publicly available.
  - A second version containing all information which shall be treated as strictly confidential by all handling this documentation (DOEs/AEs, Board members and alternates, panel/committee and working group members, external experts requested to consider such documents in support of work for the Board, and the secretariat).

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<sup>7</sup> Applied mutatis mutandis in the CDM A/R modalities and procedures





**B. Specific guidelines for completing the Project Design Document for afforestation and reforestation project activities (CDM-AR-PDD)**

**CONTENTS**

**PROJECT DESIGN DOCUMENT FOR AFFORESTATION AND REFORESTATION PROJECT ACTIVITIES (CDM-AR-PDD)**

- A. General description of the proposed A/R CDM project activity
- B. Application of a baseline methodology
- C. Application of a monitoring methodology and plan
- D. Estimation of the net anthropogenic GHG removals by sinks
- E. Environmental impacts of the proposed A/R CDM project activity
- F. Socio-economic impacts of the proposed A/R CDM project activity
- G. Stakeholders' comments

**Annexes**

- Annex 1: Contact information on participants in the proposed A/R CDM project activity
- Annex 2: Information regarding public funding
- Annex 3: Baseline information
- Annex 4: Monitoring plan



**SECTION A. General description of the proposed A/R CDM project activity:**

**A.1. Title of the proposed A/R CDM project activity:**

Please indicate

- The title of the A/R CDM project activity.
- The version number of the document
- The date of the document.

**A.2. Description of the proposed A/R CDM project activity:**

Please include in the description:

- The purpose of the proposed A/R CDM project activity;
- The view of the project participants of the contribution of the proposed A/R CDM project activity to sustainable development (max. one page).

Please use the list of key words available on the UNFCCC CDM web site. If no suitable Key words can be identified, or if it is considered that they are insufficient, please suggest a new/news Key word(s), being guided by relevant information on the UNFCCC CDM web site.

**A.3. Project participants:**

Please list project participants and Party(ies) involved and provide contact information in Annex 1. Information shall be indicated using the following tabular format.

Name of Party involved (*) (host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
Name A (host)	<ul style="list-style-type: none"> <li>• Private entity A</li> <li>• Public entity A ...</li> </ul>	No
Name B	<ul style="list-style-type: none"> <li>• None</li> </ul>	Yes
Name C	<ul style="list-style-type: none"> <li>• None</li> </ul>	No
...	<ul style="list-style-type: none"> <li>• ...</li> </ul>	...

(\*) In accordance with the CDM A/R modalities and procedures, at the time of making the CDM-AR-PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration, the approval by the Party(ies) involved is required.

**Note:** When the CDM-AR-PDD is filled in support of a proposed new methodology (forms CDM-AR-NBM and CDM-AR-NMM), at least the host Party(ies) and any known project participant (e.g. those proposing a new methodology) shall be identified.



**A.4. Technical description of the proposed A/R CDM project activity:**

**A.4.1. Location of the proposed A/R CDM project activity:**

**A.4.1.1. Host Party(ies):**

**A.4.1.2. Region/State/Province etc.:**

**A.4.1.3. City/Town/Community etc:**

**A.4.1.4. Detail of geographical location and project boundary, including information allowing the unique identification(s) of the proposed A/R CDM project activity:**

The “project boundary” geographically delineates the A/R CDM project activity under the control of the project participants.

The A/R CDM project activity may contain more than one discrete area of land. If an A/R CDM project activity contains more than one discrete area of land:

- Each discrete area of land should have a unique geographical identification;
- The boundary should be defined for each discrete area and should not include the areas in between these discrete areas of land.

**A.4.1.5. A description of the present environmental conditions of the area, including a description of climate, hydrology, soils, ecosystems, and the possible presence of rare or endangered species and their habitats:**

**A.4.2. Species and varieties selected:**

**A.4.3. Specification of the greenhouse gases (GHG) whose emissions will be part of the proposed A/R CDM project activity:**

Please specify the GHG that are expected to be emitted as a result of the implementation of the proposed A/R CDM project activity, for example, inter alia, emissions from soil preparation, from the use of machinery and from the use of fertilisers.

Identify all GHG emission sources in the project boundary using the table below in accordance with the new proposed/approved methodology used. Note that CO<sub>2</sub> emissions or removals resulting from changes in carbon stocks should not be included in this table. 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.

Sources	Gas	Included/ excluded	Justification / Explanation
E.g. use of fertilizers...	CO <sub>2</sub>		
	CH <sub>4</sub>		
	N <sub>2</sub> O		
E.g. combustion of	CO <sub>2</sub>		
	CH <sub>4</sub>		



fossil fuels used in on-site vehicles	N <sub>2</sub> O		
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**A.4.4. Carbon pools selected:**

In calculating the baseline net GHG removals by sinks and/or actual net GHG removals by sinks, project participants may choose not to account for one or more carbon pools, and/or emissions of the GHG measured in units of CO<sub>2</sub> equivalents, while avoiding double counting. This is subject to the provision of transparent and verifiable information that the choice will not increase the expected net anthropogenic GHG removals by sinks. Project participants shall otherwise account for all significant changes in carbon pools and/or emissions of the GHG measured in units of CO<sub>2</sub> equivalents by the sources that are increased as a result of the implementation of the proposed A/R CDM project activity, while avoiding double counting.

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 in accordance with the proposed new/ approved methodology used. 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		

**A.4.5. Assessment of the eligibility of land:**

In order to define afforestation or reforestation, project participants shall follow the definition for “forest” selected by the host Party, which specifies:

- A single minimum tree crown cover value between 10 and 30 per cent; and
- A single minimum land area value between 0.05 and 1 hectare; and
- A single minimum tree height value between 2 and 5 metres.

The definition for forest selected by each Party can be found on the DNA page on the UNFCCC CDM website.

Please specify how the project fulfils the definition of afforestation or reforestation and eligibility of the land, as provided in the glossary of terms above, using the following procedures:

1. Provide evidence that the land within the planned project boundary is eligible as an A/R CDM project activity following the steps outlined below:



(a) Demonstrate that the land at the moment the project starts is not a forest by providing information that:

- i. The land is below the forest national thresholds (crown cover, tree height and minimum land area) for forest definition under decisions 11/CP.7 and 19/CP.9 as communicated by the respective DNA; and
- ii. The land is not temporarily unstocked as a result of human intervention such as harvesting or natural causes or is not covered by young natural stands or plantations which have yet to reach a crown density or tree height in accordance with national thresholds and which have the potential to revert to forest without human intervention.

(b) Demonstrate that the activity is a reforestation or afforestation project activity:

- i. For reforestation project activities, demonstrate that on 31 December 1989, the land was below the forest national thresholds (crown cover, tree height and minimum land area) for forest definition under decision 11/CP.7 as communicated by the respective DNA.
- ii. For afforestation project activities, demonstrate that the land is below the forest national thresholds (crown cover, tree height and minimum land area) for forest definition under decision 11/CP.7 as communicated by the respective DNA, for a period of at least 50 years.

2. In order to demonstrate steps 1 (a) and 1 (b), provide one of the following verifiable information:

- (a) Aerial photographs or satellite imagery complemented by ground reference data; or
- (b) Ground based surveys (land use permits, land use plans or information from local registers such as cadastre, owners register, land use or land management register); or
- (c) If options (a) and (b) are not available/applicable, project participants shall submit a written testimony which was produced by following a participatory rural appraisal methodology.

**A.4.6. A description of legal title to the land, current land tenure and land use and rights of access to the sequestered carbon:**

**A.4.7. Type(s) of A/R CDM project activity:**

Please use the list of types of A/R CDM project activities and of registered A/R CDM project activities by type available on the UNFCCC CDM web site, please specify the type(s) of A/R CDM project activities into which the proposed A/R CDM project activity falls. If no suitable type(s) of A/R CDM project activities can be identified, please suggest a new type(s) descriptor and its definition, being guided by relevant information on the UNFCCC CDM web site.

**A.4.8. Technology to be employed by the proposed A/R CDM project activity:**

This section should include a description of the environmentally safe and sound technologies and know-how which will be employed by the project, specifying, if any, those to be transferred to the host Party(ies).

**A.4.9. Approach for addressing non-permanence:**

In accordance with paragraph 38 and section K of the CDM A/R modalities and procedures, please specify which of the following approaches to address non-permanence has been selected:



- Issuance of tCERs
- Issuance of ICERs

**A.4.10. Duration of the proposed A/R CDM project activity / Crediting period:**

**A.4.10.1. Starting date of the proposed A/R CDM project activity and of the (first) crediting period, including a justification:**

The crediting period shall begin at the start of the A/R CDM project activity under the CDM. The starting date of a A/R CDM project activity is the date on which the implementation or real action of an A/R CDM project activity begins, resulting in actual net GHG removals by sinks.

The Board, at its twenty-first meeting, clarified that provisions of paragraphs 12 and 13 of decision 17/CP.7 do not apply to CDM afforestation and reforestation project activities. A CDM afforestation and reforestation project activity starting after 1 January 2000 can also be validated and registered after 31 December 2005 as long as the first verification of the project activity occurs after the date of registration of this project activity. Given that the crediting period starts at the same date as the starting date of the project activity, the projects starting 2000 onwards can accrue tCERs/ICERs as of the starting date.

**A.4.10.2 Expected operational lifetime of the proposed A/R CDM project activity:**

Please state the expected operational lifetime of the proposed A/R CDM project activity in years and months as appropriate.

**A.4.10.3 Choice of crediting period and related information:**

Please state whether the proposed A/R CDM project activity will use a renewable or a fixed crediting period and complete A.4.10.3.1 or A.4.10.3.2 accordingly. A.4.10.3.1 and A.4.10.3.2 are mutually exclusive – please select only one of them.

The Board, at its twenty-first meeting, clarified that provisions of paragraphs 12 and 13 of decision 17/CP.7 do not apply to CDM afforestation and reforestation project activities. A CDM afforestation and reforestation project activity starting after 1 January 2000 can also be validated and registered after 31 December 2005 as long as the first verification of the project activity occurs after the date of registration of this project activity. Given that the crediting period starts at the same date as the starting date of the project activity, the projects starting 2000 onwards can accrue tCERs/ICERs as of the starting date.

**A.4.10.3.1 Renewable crediting period, if selected:**

Each crediting period shall be a maximum of twenty (20) years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable.

Please state the length of the crediting period in years and months as appropriate



**A.4.10.3.1.1. Starting date of the first crediting period:**

**A.4.10.3.1.2. Length of the first crediting period:**

**A.4.10.3.2. Fixed crediting period, if selected:**

Fixed crediting period shall be at most thirty (30) years. Please state the length of the crediting period in years and months.

**A.4.10.3.2 .1. Starting date:**

**A.4.10.3.2.2. Length:**

**A.4.11. Brief explanation of how the net anthropogenic GHG removals by sinks are achieved by the proposed A/R CDM project activity, including why these would not occur in the absence of the proposed A/R CDM project activity, taking into account national and/or sectoral policies and circumstances:**

Please briefly explain how net anthropogenic GHG removals by sinks are to be achieved (detail to be provided in section B) and provide the estimate of the anticipated total net anthropogenic GHG removals by sinks in tonnes of CO<sub>2</sub> equivalent as determined in section E. This section should provide a summary of section B.3 and have a max. length of one page.

**A.4.11.1. Estimated amount of net anthropogenic GHG removals by sinks over the chosen crediting period:**

Please provide the total estimation of net anthropogenic GHG removals by sinks as well as annual estimates for the chosen crediting period. Information on the net anthropogenic GHG removals by sinks shall be indicated using the following tabular format.

<b>Years</b>	<b>Annual estimation of net anthropogenic GHG removals by sinks in tonnes of CO<sub>2</sub> e</b>
Year A	
Year B	
Year C	
Year ...	
<b>Total estimated net anthropogenic GHG removals by sinks (tonnes of CO<sub>2</sub> e)</b>	
<b>Total number of crediting years</b>	
<b>Annual average over the crediting period of estimated net anthropogenic GHG removals by sinks (tonnes of CO<sub>2</sub>e)</b>	

**A.4.12. Public funding of the proposed A/R CDM project activity:**

In case public funding from Parties included in Annex I is involved, please provide in Annex 2 information on sources of public funding for the project activity from Parties included in Annex I which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties.



**Note:** When the CDM-AR-PDD is filled in support of a proposed new methodology (form CDM-AR-NM), it is to be indicated whether public funding from Parties included in Annex I is likely to be involved indicating the Party(ies) to the extent possible.

**SECTION B. Application of a baseline methodology:**

Where project participants wish to propose a new baseline methodology, please complete the form for “Proposed New Methodology for A/R: Baseline and Monitoring”(CDM-AR-NM) in accordance with procedures for submission and consideration of proposed new methodologies (see Part III of these Guidelines).

**B.1. Title and reference of the approved baseline methodology applied to the proposed A/R CDM project activity:**

Please refer to the UNFCCC CDM web site for the title and reference list as well as the details of approved baseline methodologies<sup>8</sup>. Please note that the table “Baseline Information” contained in Annex 3 is to be prepared in parallel to completing the remainder of this section.

**B.1.1. Justification of the choice of the methodology and its applicability to the proposed A/R CDM project activity:**

Please justify the choice of methodology by showing that the proposed A/R CDM project activity meets the applicability conditions under which the methodology is applicable.

**B.2. Description of how the methodology is applied to the proposed A/R CDM project activity:**

Please explain the basic assumptions of the baseline methodology in the context of the proposed A/R CDM project activity and show that the key methodological steps are followed in determining the baseline scenario for the proposed A/R CDM project activity. Provide the key information and data used to determine the baseline scenario (variables, parameters, data sources etc.) in table form.

**B.3. Description of how the actual net GHG removals by sinks are increased above those that would have occurred in the absence of the registered A/R CDM project activity:**

Explanation of how and why this project is additional and therefore not the baseline scenario in accordance with the selected baseline methodology. Include 1) a description of the baseline scenario determined by applying the methodology, 2) a description of the project scenario, and 3) an analysis showing why the baseline net GHG removals by sinks scenario would likely lie below actual net anthropogenic GHG removals by sinks in the project scenario.

<sup>8</sup> If a new baseline methodology is proposed, please complete the form for “Proposed New Methodology: Baseline for A/R ”(CDM-A/R-NMB).





**B.4. Detailed baseline information, including the date of completion of the baseline study and the name of person(s)/entity(ies) determining the baseline:**

Please attach detailed baseline information in Annex 3.  
Please provide date of completion in *DD/MM/YYYY*.  
Please provide contact information and indicate if the person/entity is also a project participant listed in Annex 1.

**SECTION C. Application of a monitoring methodology and of a monitoring plan:**

Where project participants wish to propose a new monitoring methodology, please complete form “Proposed New Methodology for A/R: Baseline and Monitoring” (CDM-AR-NM) in accordance with procedures for submission and consideration of proposed new methodologies (see Part III of these Guidelines).

This section shall provide a detailed description of the monitoring plan, including an identification of the data and its quality with regard to accuracy, comparability, completeness and validity, taking into consideration any guidance contained in the methodology. The monitoring plan is to be attached in annex 4.

The monitoring plan needs to provide detailed information related to the collection and archiving of all relevant data needed to

- estimate or measure verifiable changes in carbon stocks in the carbon pools and the emissions of GHG occurring within the project boundary,
- determine the Baseline, and
- identify increased emissions outside the project boundary.

The monitoring plan should reflect good monitoring practice appropriate to the type of A/R\_CDM project activity. The plan should follow the instructions and steps defined in the approved monitoring methodology. Project participants shall implement the registered monitoring plan and provide data, in accordance with the plan, through their monitoring report.

Please note that data monitored and required for verification and issuance are to be kept for two years after the end of the (last) crediting period.

**C.1. Title and reference of approved monitoring methodology applied to the project activity:**

Please refer to the UNFCCC CDM web site for the name and reference as well as details of approved methodologies. Where project participants wish to propose a new monitoring methodology, please complete the form for “Proposed New Methodology for A/R: Baseline and Monitoring” (CDM-AR-NM) and subsequently complete, sections A-D of the CDM-AR-PDD to demonstrate the application of the proposed new methodology to the proposed A/R\_CDM project activity.

If a national or international monitoring standard has to be applied to monitor certain aspects of the proposed A/R\_CDM project activity, please identify this standard and provide a reference to the source where a detailed description of the standard can be found.



Please fill the section below in accordance with the approved monitoring methodology selected.

**C.2. Justification of the choice of the methodology and its applicability to the proposed A/R CDM project activity:**

Please justify the choice of methodology by showing that the proposed A/R CDM project activity and its context meet the conditions under which the methodology is applicable.

**C.3 Sampling design and stratification:**

Describe the sampling design that will be used in the project 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 shall describe, inter alia, stratification, determination of number of plots, plot distribution, etc.

**C.4. Monitoring of the baseline net GHG removals by sinks and the actual net GHG removals by sinks:**

**C.4.1. Actual net GHG removals by sinks data:**

**C.4.1.1. Data to be collected or used in order to monitor the verifiable changes in carbon stock in the carbon pools within the project boundary resulting from the proposed A/R CDM project activity, and how this data will be archived:**

Monitored data shall be archived for 2 years following the end of the (last) crediting period.  
Header of tables and titles of columns shall not be modified and columns shall not be deleted.  
Please add rows to the table below, as needed.

**C.4.1.2. Data to be collected or used in order to monitor the GHG emissions by the sources, measured in units of CO<sub>2</sub> equivalent, that are increased as a result of the implementation of the proposed A/R CDM project activity within the project boundary, and how this data will be archived:**

Monitored data shall be archived for 2 years following the end of the (last) crediting period.  
Header of tables and titles of columns shall not be modified and columns shall not be deleted.  
Please add rows to the table below, as needed.

**C.4.1.3. Description of formulae and/or models used to monitor the estimation of the actual net GHG removals by sinks:**

**C.4.1.3.1. Description of formulae and/or models used to monitor the estimation of the verifiable changes in carbon stock in the carbon pools within the project boundary (for each carbon pool in units of CO<sub>2</sub> equivalent):**

Formulae and/or models should be consistent with the formulae and/or models outlined in the description of the baseline methodology.



**C.4.1.3.2. Description of formulae and/or models used to monitor the estimation of the GHG emissions by the sources, measured in units of CO<sub>2</sub> equivalent, that are increased as a result of the implementation of the proposed A/R CDM project activity within the project boundary (for each source and gas, in units of CO<sub>2</sub> equivalent):**

Formulae and/or models should be consistent with the formulae and/or models outlined in the description of the baseline methodology.

**C.4.2. As appropriate, relevant data necessary for determining the ex-post baseline net GHG removals by sinks and how such data will be collected and archived, if required:**

Monitored data shall be archived for 2 years following the end of the (last) crediting period.

Header of tables and titles of columns shall not be modified and columns shall not be deleted. Please add rows to the table below, as needed.

Please state if not applicable.

**C.4.2.1. Description of formulae and/or models used to monitor the estimation of the ex-post baseline net GHG removals by sinks (for each carbon pool, in units of CO<sub>2</sub> equivalent), if required:**

Formulae and/or models should be consistent with the formulae and/or models outlined in the description of the baseline methodology.

The formulae to be provided if the baseline net GHG removals by sinks is estimated based on ex-post monitored data.

**C.5. Treatment of leakage in the monitoring plan:**

Please indicate if leakage will be directly or indirectly monitored. If leakage is not monitored during the implementation of the proposed A/R CDM project activity, please explain rationale behind it. Please state if not applicable.

**C.5.1. If applicable, please describe the data and information that will be collected in order to monitor leakage of the proposed A/R CDM project activity:**

Monitored data shall be archived for 2 years following the end of the (last) crediting period.

Header of tables and titles of columns shall not be modified and columns shall not be deleted. Please add rows to the table below, as needed.

**C.5.2. Description of formulae and/or models used to estimate leakage (for each GHG, source, carbon pool, in units of CO<sub>2</sub> equivalent):**

Formulae and/or models should be consistent with the formulae and/or models outlined in the description of the baseline methodology.



**C.5.3. Please specify the procedures for the periodic review of implementation of activities and measures to minimize leakage:**

**C.6. Description of formulae and/or models used to estimate ex-post net anthropogenic GHG removals by sinks for the proposed A/R CDM project activity (for each GHG, carbon pool, in units of CO<sub>2</sub> equivalent):**

Formulae and/or models should be consistent with the formulae and/or models outlined in the description of the baseline methodology.

**C.6. Quality control (QC) and quality assurance (QA) procedures undertaken for data monitored:**

Refer to data items in tables contained in sections C.4 and C.5, as applicable.

**C.7. Please describe the operational and management structure(s) that the project operator will implement in order to monitor actual GHG removals by sinks and any leakage generated by the proposed A/R CDM project activity:**

**C.8. Name of person/entity determining the monitoring methodology:**

Please provide contact information and indicate if the person/entity is also a project participant listed in Annex 1 of this document.

**SECTION D. Estimation of net anthropogenic GHG removals by sinks:**

Please fill section D. following the selected baseline and monitoring methodologies.

**D.1. Estimate of the ex-ante actual net GHG removals by sinks:**

Please provide estimated sum of verifiable changes in carbon stocks, minus the increase in emissions measured in units of CO<sub>2</sub> equivalent by the sources that are increased as an attributable result of the implementation of the proposed A/R CDM project activity within the project boundary (for each gas, pool, source, formulae/algorithm, in units of CO<sub>2</sub> equivalent).

**D.2. Estimated ex-ante baseline net GHG removals by sinks:**

Estimates should be given for each carbon pool, source, in units of CO<sub>2</sub> equivalent.

**D.3. Estimated leakage:**

Please provide estimate of any leakage, defined as: the increase of anthropogenic emissions by sources of GHG which occurs outside the project boundary, and that is measurable and attributable to the proposed A/R CDM project activity. Estimates should be given for each gas, source, in units of CO<sub>2</sub> equivalent. Please state if not applicable.

**D.4. The sum of D.1 minus D.2 minus D.3 representing the net anthropogenic GHG removals by sinks of the proposed A/R CDM project activity:**



**D.5. Table providing values obtained when applying formulae above:**

The *ex post* calculation of baseline net GHG removals by sinks may only be used if proper justification is provided. Notwithstanding, the baseline net GHG removals by sinks shall also be calculated *ex ante* and reported in the CDM-AR-PDD. The result of the application of the formulae above shall be indicated using the following tabular format.

Year	Estimation of baseline net GHG removals by sinks (tonnes of CO <sub>2</sub> e)	Estimation of actual net GHG removals by sinks (tonnes of CO <sub>2</sub> e)	Estimation of leakage (tonnes of CO <sub>2</sub> e)	Estimation of net anthropogenic GHG removals by sinks (tonnes of CO <sub>2</sub> e)
Year A				
Year B				
Year C				
Year ...				
<b>Total</b> (tonnes of CO <sub>2</sub> e)				

**SECTION E. Environmental impacts of the proposed A/R CDM project activity:**

**E.1. Documentation on the analysis of the environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary of the proposed A/R CDM project activity:**

This analysis should include, where applicable, information on, inter alia, hydrology, soils, risk of fires, pests and diseases. Please attach the relevant documentation to the CDM-AR-PDD.

**E.2. If any negative impact is considered significant by the project participants or the host Parties, a statement that project participants have undertaken an environmental impact assessment, in accordance with the procedures required by the host Party, including conclusions and all references to support documentation:**

Please attach the documentation to the CDM-AR-PDD.

**E.3. Description of planned monitoring and remedial measures to address significant impacts referred to in E.2 above:**

**SECTION F. Socio-economic impacts of the proposed A/R CDM project activity:**

**F.1 Documentation on the analysis of the socio-economic impacts, including impacts outside the project boundary of the proposed A/R CDM project activity:**

This analysis should include, where applicable, information on, inter alia, local communities, indigenous peoples, land tenure, local employment, food production, cultural and religious sites,



and access to fuelwood and other forest products. Please attach the documentation to the CDM-AR-PDD.

**F.2. If any negative impact is considered significant by the project participants or the host Party, a statement that project participants have undertaken a socioeconomic impact assessment, in accordance with the procedures required by the host Party, including conclusions and all references to support documentation:**

Please attach the documentation to the CDM-AR-PDD.

**F.3 Description of planned monitoring and remedial measures to address significant impacts referred to in section F.2 above:**

**SECTION G. Stakeholders' comments:**

**G.1. Brief description of how comments by local stakeholders have been invited and compiled:**

Please describe the process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted. In this regard, project participants shall describe an A/R CDM project activity in a manner which allows the local stakeholders to understand the proposed A/R CDM project activity, taking into account confidentiality provisions of the CDM modalities and procedures.

**G.2. Summary of the comments received:**

Please identify stakeholders that have made comments and provide a summary of these comments.

**G.3. Report on how due account was taken of any comments received:**

Please explain how due account have been taken of comments received from stakeholders.

**Annex 1**

**CONTACT INFORMATION ON PARTICIPANTS IN THE PROPOSED A/R CDM PROJECT ACTIVITY**

Please copy and paste table as needed. Please fill for each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail.

**Annex 2**

**INFORMATION REGARDING PUBLIC FUNDING**



Please provide information from Parties included in Annex I on sources of public funding for the proposed A/R CDM project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties

**Annex 3**

**BASELINE INFORMATION**

Please provide a table containing the key elements used to determine the baseline for the proposed A/R CDM project activity including elements such as variables, parameters and data sources. For approved methodologies you may find a draft table on the UNFCCC CDM web site.

**Annex 4**

**MONITORING PLAN**

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## PART III

**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](mailto: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 be 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) 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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**(CDM-AR-NM)**

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**Section IV: Lists of variables, acronyms and references**

1. List of variables used in equations:
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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

>>

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

>>

### 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.

>>

### 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.

>>

**Explanation/justification:**

Explain the applicability conditions.

Indicate if an approved methodology exists for the same conditions of application.

>>

**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.

>>





## 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 activity.
- 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:**

>>

#### **b. Monitoring methodology steps:**

>>

## 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 A/R CDM project activities)
- b. Identify all GHG emission sources in the project boundary, using the table below. Note that CO<sub>2</sub> 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.

>>

Sources	Gas	Included/ excluded	Justification / Explanation
E.g. use of fertilizers...	CO <sub>2</sub>		
	CH <sub>4</sub>		
	N <sub>2</sub> O		
E.g. combustion of fossil fuels used in on-site vehicles	CO <sub>2</sub>		
	CH <sub>4</sub>		
	N <sub>2</sub> O		

**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.

>>

**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 sinks. Use of remote sensing products is recommended. This may include the use of aerial photos, satellite imagery, etc.

>>

**Explanation/justification:**

Explain the appropriateness and underlying assumptions of the procedure.

>>

**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.

>>

**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.

>>

#### 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.

>>

## 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.

>>

### **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.

>>

## 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(In identifying GHG emissions by sources from the project activity project participants shall consider guidance by the Board regarding pre-project emissions as contained in annex 15 of EB 21 report.)
- 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.

>>

#### **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.

>>

## **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.

The Board clarified that the accounting of decreases of carbon pools outside the project boundary are to be considered as leakage and that, in particular:

- (a) In the case of deforestation as land clearance outside the project boundary due to activity shifting, effects on all carbon pools shall be considered;
- (b) In the case of fuelwood collection or similar activities outside the project boundary, only the gathered volume of wood that is non-renewable shall be considered as an emission by sources if forests are not significantly degraded due to this activity. The equation (Eq. 3.2.8) for fuelwood gathering as outlined in IPCC GPG (2003) could be applied in combination with household surveys or Participatory Rural Appraisal (PRA). In the case that forests are significantly degraded, accounting rule 1 applies. “Not significantly degraded” means, that the extracted volume results in emissions which are between 2% and 5 % of net actual GHG removals by sinks. If the extracted wood volume results in emissions which are below 2% of the net actual GHG removals by sinks, this type of leakage can be ignored.

In identifying leakage project participants shall consider guidance by the Board regarding pre-project emissions as contained in annex 15 of EB 21 report.



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.

>>

**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.

>>

**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 ICERs. Please refer to the latest guidance by the Executive Board regarding these formulae.

>>

### 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

>>

### 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.

ID number	Variable	Data unit	Description of variable	Source of data and geographical scale	Vintage	Comment

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 imagery, field checks
RSR	Root Shoot Ratios for all types of species involved	Most recent data available	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.

>>

### 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.

>>

#### 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.

>>

**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.

>>

**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 A/R project activities. Provide references as necessary.

>>

**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	Variable	Description of variable	Data unit	Source of data	Measured (m) Calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	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.



6.1 Data to be collected and archived for the quantification of carbon pools

ID number	Variable	Description of variable	Data unit	Source of data	Measured (m) Calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	Comment

6.2 Data to be collected and archived for the quantification of GHG emission sources

ID number	Variable	Description of variable	Data unit	Source of data	Measured (m) Calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	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.

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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	Variable	Description of variable	Data unit	Source of data	Measured (m) Calculated (c) estimated (e)	Recording frequency	Pro-portion of data monitored	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 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.**

>>

### 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

>>

### 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:**

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