

**Annex 16****TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY IN A/R CDM PROJECT ACTIVITIES**

1. An afforestation or reforestation project activity under the CDM is additional if the actual net greenhouse gas removals by sinks are increased above 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 registered CDM afforestation or reforestation project activity, in accordance with paragraphs 18–22 of Modalities and procedures for afforestation and reforestation project activities under the clean development mechanism in the first commitment period of the Kyoto Protocol (contained in the annex to Decision 19/CP.9).
2. This document provides for a step-wise approach to demonstrate additionality in A/R CDM projects. These steps include:
  - Identification of alternatives to the A/R project activity (the possible baselines);
  - Investment analysis to determine that the proposed project activity is not the most economically or financially attractive; or
  - Barriers analysis; and
  - Impact of registration of the proposed afforestation or reforestation (A/R) project activity as an A/R CDM project activity.
3. The steps are summarized in the flowchart at the end of this document.
4. The document provides a general framework for demonstrating additionality and is to be applicable to a wide range of project types. Particular project types may require adjustments to this framework.
5. The use of this tool to assess and determine additionality does not replace the need for the baseline methodology to provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario alternatives. Project participants proposing new baseline methodologies shall ensure consistency between the determination of additionality of a project activity and the determination of a baseline scenario.
6. Project participants proposing new baseline methodologies may incorporate this consolidated tool in their proposal. Project participants may also propose other tools for the demonstration of additionality to the Executive Board for its consideration.
7. The use of this tool is not applicable for small- scale afforestation and reforestation project activities.

**Step 0. Preliminary screening based on the starting date of the A/R project activity**

1. Project participants shall:
  - Provide evidence that the starting date of the A/R CDM project activity was after 31 December 1999
  - Provide evidence that the incentive from the planned sale of GHG emission allowances was seriously considered in the decision to proceed with the project activity. This evidence shall be



based on (preferably official, legal and/or other corporate) documentation that was available to third parties at, or prior to, the start of the project activity.

### **Step 0a. Preliminary screening based on the specific features of A/R activity**

2. Project participants shall provide evidence that the land within the planned project boundary is eligible as the A/R CDM project activity.
  - Land eligibility as non-forested lands needs to be proven applying the host country's national thresholds for forest definition under Decision 11/CP.7 as communicated by the respective DNA.
  - The eligibility of land for A/R CDM project activity may be demonstrated verifiable information relating to the situation before 1990 using (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>1</sup>.
  - This evidence shall be supplemented by a survey of posterior land-use in cases where land cover before 1990 alone is not sufficient to distinguish between forests and non-forests (e.g., bare lands that may have been forests due to forest regeneration under way).
3. Project participants shall provide evidence that the project activity is directly human-induced (e.g. through planting, seeding and/or the human-induced promotion of natural seed sources or root stocks) and not a mere continuation of the pre-project spontaneous processes.
  - Evidence shall be based on a concrete attribution of the planned activities to the establishment of a forest on non-forested lands that would otherwise not convert to forest.
  - In case the activity consists in preventing disturbances (e.g. invasion, fire), continuity of the disturbance risk during the project lifetime needs to be proven and monitored by the project participants.
  - Project participants further need to prove that the planned activity leads to the establishment of forest under the host country's national thresholds for forest definition under Decision 11/CP.7 as communicated by the respective DNA.

---

<sup>1</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.



### Step 1. Identification of alternatives to the A/R project activity consistent with the current laws and regulations

*(Note: In accordance with guidance by the Executive Board, consistency is to be ensured between “baseline scenario” and “baseline removals by sinks”<sup>2</sup>. The use of this tool to assess and determine additionality does not replace the need for the baseline methodology to provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario alternatives. Project participants proposing new baseline methodologies shall ensure consistency between the determination of additionality of a project activity and the determination of a baseline scenario.)*

1. Define realistic and credible alternatives<sup>3</sup> to the project activity(ies) that can be (part of) the baseline scenario through the following sub-steps

#### ***Sub-step 1a. Define alternatives to the project activity:***

2. Identify realistic and credible land-use alternative(s) available to the project participants or similar project developers<sup>4</sup>. These alternatives are to include:

- The proposed project activity not undertaken as a A/R CDM project activity;
- Other plausible and credible land-use alternatives to the project activity deemed appropriate with respect to location, size, funds, expertise requirements, etc. This may include the alternatives that represent an economically attractive course of action, taking into account barriers to investment or the most likely land-use at the time the project starts, as well as common land-use practices applied in the region where the proposed project is located.
- If applicable, continuation of the current situation (no project activity or other alternatives undertaken) or reverting to historical situation.

#### ***Sub-step 1b. Enforcement of applicable laws and regulations:***

3. The alternative(s) shall be in compliance with all applicable legal and regulatory requirements, even if these laws and regulations have objectives other than land-use and related regulations, e.g. conservation of biodiversity, soil and water resources protection / conservation, tax and investment regulations, mitigation of air pollution.<sup>5</sup> (This sub-step does not consider national and local policies that have been implemented since the adoption of the modalities and procedures for the CDM<sup>6</sup>).

<sup>2</sup> Please refer to the Glossary of A/R CDM terms contained in the “Guidelines for completing CDM-AR-PDD, CDM-AR-NMB and CDM-AR-NMM” (<http://cdm.unfccc.int/Reference/Documents>).

<sup>3</sup> Reference to “alternatives” throughout this document denotes “alternative scenarios”. Please follow guidance offered by Decision 19/CP.9.

<sup>4</sup> For example, continuation of the pre-project land-use or switch to land-use typical for region where the A/R CDM project is planned to be located, establishing agricultural plantation, tourist resort, hunting area/farm, utilizing regionally typical forms of funds investment or other economically attractive activities.

<sup>5</sup> For example, an alternative consisting of intensive agriculture with extended use of herbicides and nutrients would be non-complying in an area where this scenario would imply violations of e.g. water protection regulations.

<sup>6</sup> If the national and/or sectoral policies or regulations were implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001), then, these policies may not be taken into account in the baseline determination based on Annex 3 to the report of the EB at its sixteenth meeting. See: <http://cdm.unfccc.int/EB/Meetings/016/eb16repan3.pdf>



4. If an alternative does not comply with all applicable legislation and regulations, then show that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced. Specify smallest administrative unit in the host country that encompasses the project area and check whether non-compliance with the legislation and regulation is widespread (prevalent on at least 50% of land covered by the legislation and regulation). If this cannot be shown, eliminate the alternative from further consideration.

5. If the proposed project activity is the only alternative amongst the ones considered by the project participants that is in compliance with all regulations with which there is general compliance, then the proposed A/R CDM project activity is not additional.<sup>7</sup>

***Sub-step 1c. Selection of the baseline scenario:***

6. The baseline methodology that would use this tool shall provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario alternatives.

***→ Proceed to Step 2 (Investment analysis) or Step 3 (Barrier analysis), as it is necessary to undertake at least one of them.***

**Step 2. Investment analysis**

1. Determine whether the proposed project activity, without the revenue from the sale of temporary CERs (tCERs) or long-term CERs (lCERs), is economically or financially less attractive than other alternatives. Investment analysis may be performed as a stand-alone additionality analysis or in connection to the Barrier analysis (Step 3). To conduct the investment analysis, use the following sub-steps:

***Sub-step 2a. Determine appropriate analysis method***

2. Determine whether to apply simple cost analysis, investment comparison analysis or benchmark analysis (sub-step 2b). If the A/R CDM project activity generates no financial or economic benefits other than CDM related income, then apply the simple cost analysis (Option I). Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III)<sup>8</sup>.

***Sub-step 2b. – Option I. Apply simple cost analysis***

3. Document the costs associated with the A/R CDM project activity and demonstrate that the activity produces no financial benefits other than CDM related income.

***→ If it is concluded that the proposed A/R CDM project activity produces no financial benefits other than CDM related income then proceed to Step 4 (Impact of CDM Registration).***

***Sub-step 2b. – Option II. Apply investment comparison analysis***

<sup>7</sup> This provision may be further elaborated depending on deliberation from the Board regarding requirements for the renewal of a crediting period.

<sup>8</sup> Option I, Option II and Option III are mutually exclusive, i.e. only one can be applied by the project proponent.



4. Identify the financial indicator, such as IRR<sup>9</sup>, NPV, cost benefit ratio most suitable for the project type and decision-making context.

***Sub-step 2b – Option III. Apply benchmark analysis***

5. Identify the financial indicator, such as IRR<sup>10</sup>, NPV, cost benefit ratio, or other (e.g. required rate of return (RRR) related to investments in agriculture or forestry, bank deposit interest rate corrected for risk inherent to the project or the opportunity costs of land, such as any expected income from land speculation) most suitable for the project type and decision context. Identify the relevant benchmark value, such as the required rate of return (RRR) on equity. The benchmark is to represent standard returns in the market, considering the specific risk of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Benchmarks can be derived from:

- Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert;
- Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects;
- A company internal benchmark (weighted average capital cost of the company) if there is only one potential project developer (e.g. when the project activity upgrades an existing activity). The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark.

***Sub-step 2c. Calculation and comparison of financial indicators (only applicable to options II and III):***

6. Calculate the suitable financial indicator for the proposed A/R CDM project activity *without the financial benefits from the CDM* and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding tCER or ICERs revenues, but including subsidies/fiscal incentives<sup>11</sup> where applicable), and, as appropriate, non-market cost and benefits in the case of public investors.

7. Present the investment analysis in a transparent manner and provide all the relevant assumptions in the CDM-AR-PDD, so that a reader can reproduce the analysis and obtain the same results. Clearly present critical economic parameters and assumptions (such as capital costs, lifetimes, and discount rate or cost of capital). Justify and/or cite assumptions in a manner that can be validated by the DOE. In calculating the financial indicator, the project's risks can be included through the cash flow pattern,

---

<sup>9</sup> For the investment comparison analysis, IRRs can be calculated either as project IRRs or as equity IRRs. Project IRRs calculate a return based on project cash outflows and cash inflows only, irrespective the source of financing. Equity IRRs calculate a return to equity investors and therefore also consider amount and costs of available debt financing. The decision to proceed with an investment is based on returns to the investors, so equity IRR will be more appropriate in many cases. However, there will also be cases where a project IRR may be appropriate.

<sup>10</sup> For the benchmark analysis, the IRR shall be calculated as project IRR. If there is only one potential project developer (e.g. when the project activity upgrades an existing process), the IRR shall be calculated as equity IRR.

<sup>11</sup> This provision may be further elaborated depending on deliberations by the Board on national and sectoral policies.



subject to project-specific expectations and assumptions (e.g. insurance premiums can be used in the calculation to reflect specific risk equivalents).

8. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.

9. Present in the AR-CDM-PDD submitted for validation a clear comparison of the financial indicator for the proposed A/R CDM project activity *without the financial benefits from the CDM* and:

**Option II** (investment comparison analysis): If one of the other alternatives has the better indicator (e.g. higher IRR), then the A/R CDM project activity can not be considered as the financially attractive; or

**Option III** (benchmark analysis): If the A/R CDM project activity has a less favourable indicator (e.g. lower IRR) than the benchmark, then the A/R CDM project activity cannot be considered as financially attractive.

→ *If it is concluded that the proposed A/R CDM project activity without the financial benefits from the CDM is not financially attractive then proceed to Step 2d (Sensitivity Analysis).*

#### ***Sub-step 2d. Sensitivity analysis***

10. Include a sensitivity analysis that shows whether the conclusion regarding the financial attractiveness is robust to reasonable variations in the critical assumptions. The investment analysis provides a valid argument in favour of additionality only if it consistently supports (for a realistic range of assumptions) the conclusion that the proposed A/R CDM project activity without the financial benefits from the CDM is unlikely to be financially attractive.

- *If after the sensitivity analysis it is concluded that the proposed A/R CDM project activity without the financial benefits from the CDM is unlikely to produce an economic benefit (Option I) or to be financially attractive (Option II and Option III), then proceed directly to Step 4 (Impact of CDM registration).*
- *If after the sensitivity analysis it is concluded that the proposed A/R CDM project activity without the financial benefits from the CDM is likely to produce economic benefit (Option I) or to be financially attractive (Option II and Option III), then the project activity cannot be considered additional by means of Financial analysis. Optionally proceed to Step 3 (Barrier analysis) to prove that the proposed project activity faces barriers that do not prevent the baseline scenario(s) from occurring.*

#### **Step 3. Barrier analysis**

*Barrier analysis may be performed as a stand-alone additionality analysis or as an extension of investment analysis.*

1. If this step is used, determine whether the proposed project activity faces barriers that:

- Prevent the implementation of this type of proposed project activity; and



- Do not prevent the implementation of at least one of the alternatives.
2. Use the following sub-steps:

***Sub-step 3a. Identify barriers that would prevent the implementation of type of the proposed project activity:***

3. Establish that there are barriers that would prevent the implementation of the type of proposed project activity from being carried out if the project activity was not registered as an A/R CDM activity. Barriers that impede a project activity should not be analyzed in relation to the project participants, but solely in relation to the proposed project activity. Such barriers may include, among others:

- Investment barriers, other than the economic/financial barriers in Step 2 above, *inter alia*:
  - Debt funding is not available for this type of project activity;
  - No access to international capital markets due to real or perceived risks associated with domestic or foreign direct investment in the country where the project activity is to be implemented;
  - Lack of access to credit;
- Institutional barriers, *inter alia*:
  - Risk related to changes in government policies or laws;
  - Lack of enforcement of forest or land-use-related legislation.
- Technological barriers, *inter alia*:
  - Lack of access to planting materials
  - Lack of infrastructure for implementation of the technology.
- Barriers related to local tradition, *inter alia*:
  - Traditional knowledge or lack thereof, laws and customs, market conditions, practices;
  - Traditional equipment and technology;
- Barriers due to prevailing practice, *inter alia*:
  - The project activity is the “first of its kind”: No project activity of this type is currently operational in the host country or region.
- Barriers due to local ecological conditions, *inter alia*:
  - Degraded soil (e.g. water/wind erosion, salination, etc.);
  - Catastrophic natural and / or human-induced events (e.g. land slides, fire, etc);
  - Unfavourable meteorological conditions (e.g. early/late frost, drought);
  - Pervasive opportunistic species preventing regeneration of trees (e.g. grasses, weeds);
  - Unfavourable course of ecological succession;
  - Biotic pressure in terms of grazing, fodder collection, etc.
- Barriers due to social conditions, *inter alia*:
  - Demographic pressure on the land (e.g. increased demand on land due to population growth);
  - Social conflict among interest groups in the region where the project takes place;
  - Widespread illegal practices (e.g. illegal grazing, non-timber product extraction and tree felling);
  - Lack of skilled and/or properly trained labour force;
  - Lack of organisation of local communities.
- Barriers relating to land tenure, ownership, inheritance, and property rights, *inter alia*:
  - Communal land ownership with a hierarchy of rights for different stakeholders limits the incentives to undertake A/R activity.



- Lack of suitable land tenure legislation and regulation to support the security of tenure.
- Absence of clearly defined and regulated property rights in relation to natural resource products and services.
- Formal and informal tenure systems that increase the risks of fragmentation of land holdings
- Barriers relating to markets, transport and storage
- Unregulated and informal markets for timber, non-timber products and services prevent the transmission of effective information to project participants.
- Remoteness of A/R activities and undeveloped road and infrastructure incur large transportation expenditures, thus eroding the competitiveness and profitability of timber and non-timber products from the CDM activity.
- Possibilities of large price risk due to the fluctuations in the prices of timber and non-timber products over the project period in the absence of efficient markets and insurance mechanisms.
- Absence of facilities to convert, store and add value to production from CDM activities limits the possibilities to capture rents from the land use under A/R CDM project activity.”

4. The identified barriers are only sufficient grounds for demonstration of additionality if they would prevent potential project proponents from carrying out the proposed project activity if it was not expected to be registered as an A/R CDM project activity.

5. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers. Anecdotal evidence can be included, but alone is not sufficient proof of barriers. The type of evidence to be provided may include:

- Relevant legislation, regulatory information or environmental/natural resource-management norms, acts or rules;
- Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, associations, companies, bilateral/multilateral institutions, etc;
- Relevant statistical data from national or international statistics;
- Documentation of relevant market data (e.g. market prices, tariffs, rules);
- Written documentation from the company or institution developing or implementing the A/R CDM project activity or the A/R CDM project developer, such as minutes from Board meetings, correspondence, feasibility studies, financial or budgetary information, etc;
- Documents prepared by the project developer, contractors or project partners in the context of the proposed project activity or similar previous project implementations;
- Written documentation of independent expert judgements from agriculture, forestry and other land-use related Government / Non-Government bodies or individual experts, educational institutions (e.g. universities, technical schools, training centres), professional associations and others.

***Sub-step 3 b. Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity):***

6. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed A/R CDM project activity. In other words, explain how the identified





barriers are not preventing the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration. At least one viable alternative shall be identified.

- *If both Sub-steps 3a – 3b are satisfied, proceed to Step 4 (Impact of CDM registration)*
- *If one of the Sub-steps 3a – 3b is not satisfied then the project activity cannot be considered additional by means of barrier analysis. Optionally proceed to Step 2 (Investment analysis) to prove that the proposed A/R CDM project activity without the financial benefits from the CDM is **unlikely to produce economic benefit (Option I) or to be financially attractive (Option II and Option III).***

#### Step 4. Impact of CDM registration

1. Explain how the approval and registration of the project activity as a A/R CDM project activity, and the attendant benefits and incentives derived from this registration, will alleviate the economic and financial hurdles (Step 2) or other identified barriers (Step 3) and thus enable the project activity to be undertaken. The benefits and incentives can be of various types, such as:

- Net anthropogenic greenhouse gas removals by sinks;
- The financial benefit of the revenue obtained by selling tCERs or ICERs, including certainty and pre-defined timing of its reception;
- Attracting new players who are not exposed to the same barriers, or can accept a lower IRR (for instance because they have access to cheaper capital);
- Attracting new players who bring the capacity to implement a new technology/practice, and
- Reducing inflation /exchange rate risk affecting expected revenues and attractiveness for investors.

→ *If Step 4 is satisfied, the proposed A/R CDM project activity is not the baseline scenario and, hence, it is additional.*

→ *If Step 4 is not satisfied, the proposed A/R CDM project activity is not additional.*



**Flowchart: Additionality scheme**

