



Annex 2

Draft of version 03 of “Tool for the demonstration and assessment of additionality”

Attached draft of version 03 of “Tool for the demonstration and assessment of additionality”.



Methodological Tool

“Tool for the demonstration and assessment of additionality” (DRAFT Version x)

I. SCOPE AND APPLICABILITY

This document provides for a step-wise approach to demonstrate and assess additionality. These steps include:

- Identification of alternatives to the proposed CDM project activity;
- Investment analysis to determine that the proposed CDM project activity is not the most economically or financially attractive;
- Barriers analysis;
- Common practice analysis; and

Based on information about activities similar to the proposed CDM project activity, the common practice analysis is to complement and reinforce the investment and barriers analysis. The steps are summarized in the flow-chart at the end of this document.

The tool provides a general framework for demonstrating additionality. In some cases particular project types may require adjustments or additional explanations to this framework. This could include, *inter alia*, a listing of relevant alternative scenarios that should be considered in step 1, any relevant types of barriers other than those presented in this tool and guidance on how common practice should be established. Project participants may also propose other procedures or tools for assessment and demonstration of additionality to the CDM Executive Board (EB) for its consideration.

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 proposed CDM project activity and the determination of a baseline scenario. Project participants can use “tool for identification of baseline scenario and demonstration of additionality”, which provides procedure for baseline scenario identification as well as additionality demonstration.

In validating the application of this tool, Designated Operational Entities (DOEs) should carefully assess and verify the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality. The elements checked during this assessment and the conclusions should be documented transparently in the validation report.

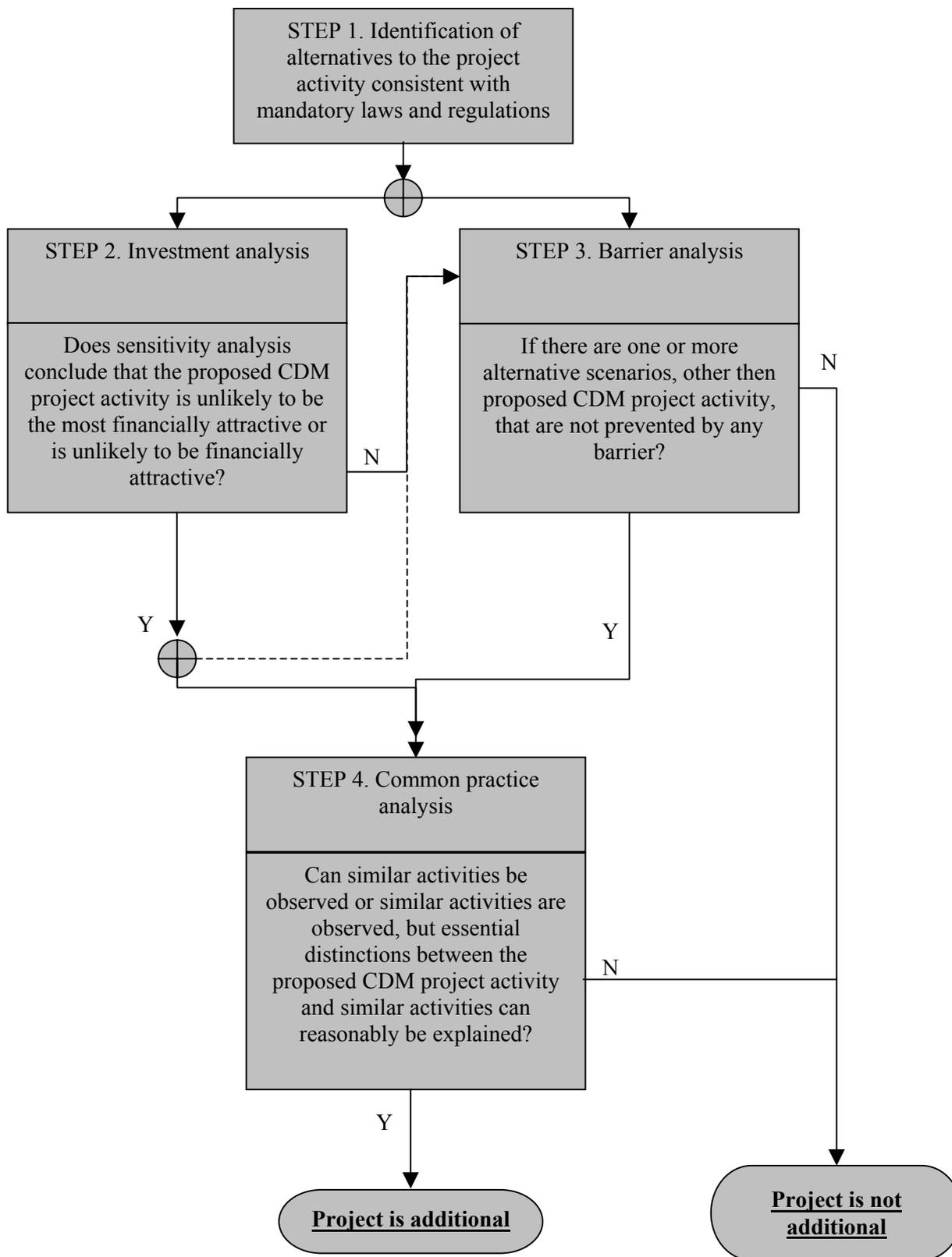
II. METHODOLOGY PROCEDURE

Project participants shall apply the following four steps:

- STEP 1. Identification of alternatives to the proposed CDM project activity consistent with current laws and regulations
- STEP 2. Investment analysis (if applicable)
- STEP 3. Barrier analysis (if applicable)
- STEP 4. Common practice analysis



The procedure is summarized in the indicative flowchart below. For more specific detail regarding the flowchart please refer to the text.



**STEP 1. Identification of alternatives to the proposed CDM project activity**

(Note: In accordance with guidance by the Executive Board, consistency is to be ensured between “baseline scenario” and “baseline emissions”¹)

Define realistic and credible alternative scenarios² to the proposed CDM project activity(s) that can be (part of) the baseline scenario through the following sub-steps:

Sub-step 1a. Define alternative scenarios to the proposed CDM project activity:

Identify realistic and credible alternative(s) available to the project participants or similar project developers³ that provide outputs or services comparable with the proposed CDM project activity⁴. These alternatives are to include:

- The proposed CDM project activity undertaken without being registered as a CDM project activity;
- All other plausible and credible alternative scenarios to the proposed CDM project activity scenario, including the common practices in the relevant sector, that deliver outputs or services (e.g. electricity, heat or cement) with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;
- If applicable, continuation of the current situation and, where relevant, the “proposed CDM project activity undertaken without being registered as a CDM project activity” undertaken at a later point in time (e.g. due to existing regulations, end-of-life of existing equipment, financing aspects).

If the proposed CDM project activity includes several different facilities, technologies, outputs or services, alternative scenarios for each of them should be identified separately. Realistic combinations of these should be considered as possible alternative scenarios to the proposed CDM project activity.⁵

¹ Please refer to paragraph 2 of Annex 3 of the report of the Executive Board at its ninth meeting, see <<http://cdm.unfccc.int/EB/Meetings>>.

² Reference to “alternatives” throughout this document denotes “alternative scenarios”.

³ For example, a coal-fired power station or hydropower may not be an alternative for an independent power producer investing in wind energy or for a sugar factory owner investing in a co-generation, but may be an alternative for a public utility. Alternatives are, therefore, related to technology and circumstances as well as to the investor.

⁴ For example:

- In the case of a project reducing emissions in the aluminium or cement production, the output provided by the alternative scenarios should be the production of the same quality of aluminium or the production of a cement type that can be used in the same applications as the cement type produced by the project activity.
- In the case of a project improving the energy efficiency of motors in a facility, the service provided is mechanical energy. Different scenarios to produce the same quantity of mechanical energy should be considered.
- In the case of a landfill gas capture project, the service provided by the project includes operation of a landfill. Alternative scenarios to the project could include different ways to operate the landfill, such as no capture of methane, capture and flaring of the methane or capture and combustion of the methane for energy generation.

⁵ For example:

- In case of a cogeneration project activity, alternative scenarios for heat and electricity generation should be established separately.



For the purpose of identifying relevant alternative scenarios, provide an overview of *other* technologies or practices that provide outputs or services (e.g. electricity, heat or cement) with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently underway in the relevant geographical area. The relevant geographical area should in principle be the host country of the proposed CDM project activity. A region within the country could be the relevant geographical area if the framework conditions vary significantly within the country. However, the relevant geographical area should include at least ten facilities (or projects) that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity. If less than ten facilities (or projects) that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity are found in the region/host country, the geographical area shall be expanded to an area that covers at least ten such facilities (or projects). In cases where the above described definition of geographical area is not suitable, the underlying methodology should provide and justify an alternative definition of geographical area. Other registered CDM project activities are not to be included in this analysis. Provide relevant documentation to support the results of the analysis.

Outcome of Step 1a: List of plausible alternative scenarios to the proposed CDM project activity

Sub-step 1b. Consistency with mandatory applicable laws and regulations:

The alternative(s) shall be in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.⁶ (This sub-step does not consider national and local policies that do not have legally-binding status).

If an alternative does not comply with all mandatory applicable legislation and regulations, then show that, based on an examination of current practice in the country or region in which the mandatory law or regulation applies, those applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread in the country. If this cannot be shown, then eliminate the alternative from further consideration;

If the proposed CDM project activity is the only alternative amongst the ones considered by the project participants that is in compliance with all mandatory regulations with which there is general compliance, then the proposed CDM project activity is not additional.

Outcome of Step 1b: List of alternative scenarios to the proposed CDM project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations.

→ ***Proceed to Step 2 (Investment analysis) or Step 3 (Barrier analysis). (Project participants may also select to complete both steps 2 and 3.)***

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- In case of a project that improves energy efficiency in several boilers with rather different characteristics (e.g. size, technology, age, etc), alternative scenarios should be established for each boiler or for types of boilers with broadly similar characteristics.

⁶ For example, an alternative consisting of an open, uncapped landfill would be non-complying in a country where this scenario would imply violations of safety or environmental regulations pertaining to landfills.



STEP 2. Investment analysis

Determine whether the proposed CDM project activity is the economically or financially less attractive than alternative scenarios, identified in step 1, without the revenue from the sale of certified emission reductions (CERs). To conduct the investment analysis, use the following sub-steps:

Sub-step 2a. Determine appropriate analysis method

Determine whether to apply simple cost analysis, investment comparison analysis or benchmark analysis (sub-step 2b).

In the case that (a) there are only two alternatives remaining after Step 2, which include the proposed CDM project activity and one other alternative, (b) both scenarios do not incur any revenue other than CDM related revenue or incur exactly the same revenue other than CDM related revenue and (c) the project incurs costs and the other remaining alternative does not incur costs, then a simple cost analysis can be applied (Option I). In this case it is sufficient to document that the proposed CDM project activity undertaken without being registered as a CDM project incurs costs.

Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III).

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

Document the costs associated with the CDM project activity and demonstrate that the activity produces no economic benefits other than CDM related income.

→ If it is concluded that the proposed CDM project activity is not financially attractive then proceed to Step 4 (Common practice analysis).

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

Identify the financial indicator, such as IRR⁷, NPV, cost benefit ratio, or unit cost of service (e.g., levelized cost of electricity production in \$/kWh or levelized cost of delivered heat in \$/GJ) most suitable for the project type and decision-making context.

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

Identify the financial indicator, such as IRR⁸, NPV, cost benefit ratio, or unit cost of service (e.g., levelized cost of electricity production in \$/kWh or levelized cost of delivered heat in \$/GJ) 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:

⁷ 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.

⁸ 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.



- 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 process). 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):

Calculate the suitable financial indicator for all alternative scenarios identified in step 1. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (including subsidies/fiscal incentives⁹, ODA, etc. where applicable), and, as appropriate, non-market costs and benefits in the case of public investors.

Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the PDD, so that a reader can reproduce the analysis and obtain the same results. Include all critical techno-economic parameters and assumptions (such as capital costs, fuel prices, 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 risks of the alternative scenarios can be included through the cash flow pattern, subject to project-specific expectations and assumptions (e.g. insurance premiums can be used in the calculation to reflect specific risk equivalents).

Assumptions and input data for the investment analysis shall not differ across the proposed CDM project activity and its alternative scenarios, unless differences can be well substantiated.

Present in the CDM-PDD submitted for validation a clear comparison of the financial indicator for the proposed CDM activity and:

- (a) The alternatives, if Option II (investment comparison analysis) is used. If one of the alternatives has the best indicator (e.g. highest IRR), then the proposed CDM project activity can not be considered as the most financially attractive;
- (b) The financial benchmark, if Option III (benchmark analysis) is used. If the CDM project activity has a less favourable indicator (e.g. lower IRR) than the benchmark, then the CDM project activity cannot be considered as financially attractive.

Sub-step 2d. Sensitivity analysis (only applicable to options II and III):

Include a sensitivity analysis to assess whether the conclusion regarding the financial attractiveness is robust to reasonable variations in the critical assumptions. The investment comparison analysis provides

⁹ Note that according to guidance by the EB (EB22, Annex 3), subsidies and incentives may be excluded from consideration in certain cases.



a valid argument in identifying the baseline scenario only if it consistently supports (for a realistic range of assumptions) the conclusion that one alternative is the most economically and/or financially attractive.

→ If after the sensitivity analysis it is concluded that the proposed CDM project activity is unlikely to be the most financially attractive or is unlikely to be financially attractive (as per step 2c), then proceed to Step 4 (Common practice analysis). Project proponents may use Step 3 (Barrier analysis.)

→ Otherwise, unless the barrier analysis below is undertaken and indicates that the proposed CDM project activity faces barriers that do not prevent at least one of the alternative scenario(s) from occurring, the proposed CDM project activity is considered not additional.

STEP 3. Barrier analysis

This step serves to identify barriers and to assess which alternatives are prevented by these barriers.

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

- (a) Prevent the implementation of this type of proposed CDM project activity; and
- (b) Do not prevent the implementation of at least one of the alternatives.

Use the following sub-steps:

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

Establish that there are barriers that would prevent the implementation of the type of proposed CDM project activity from being carried out if the proposed CDM project activity was not registered as a CDM activity. Such realistic and credible barriers may include:

- Investment barriers, other than insufficient financial returns as analyzed in Step 2, *inter alia*:
 - Similar activities have only been implemented with grants or other non-commercial finance terms. Similar activities are defined as activities that rely on a broadly similar technology or practices, are of a similar scale, take place in a comparable environment with respect to regulatory framework and are undertaken in the relevant geographical area, as defined in sub-step 1a above.
 - No private capital is available from domestic or international capital markets due to real or perceived risks associated with investments in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investment reports of reputed origin.
- Technological barriers, *inter alia*:
 - Skilled and/or properly trained labor to operate and maintain the technology is not available in the relevant geographical area, which leads to an unacceptably high risk of equipment disrepair, malfunctioning or other underperformance.
 - Lack of infrastructure for implementation and logistics for maintenance of the technology (e.g. natural gas can not be used because of the lack of a gas transmission and distribution network).
 - Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable



to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information.

- The particular technology used in the proposed CDM project activity is not available in the relevant geographical area.
- Lack of prevailing practice:
 - The alternative is the “first of its kind”:
- Other barriers, preferably specified in the underlying methodology as examples.

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

Outcome of Step 3a: List of barriers that may prevent the implementation of the proposed CDM project activity if it was not expected to be registered as a CDM activity.

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

Identify which alternative scenarios are prevented by at least one of the barriers listed in sub-step 3a and eliminate those alternative scenarios from further consideration.. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. All alternative scenarios shall be compared to the same set of barriers. The assessment of the significance of barriers should take into account the level of access to and availability of information, technologies and skilled labour in the specific context of the industry where the project type is located. For example, projects located in sectors with small and medium sized enterprises may not have the same means to overcome technological barriers as projects in a sector where typically large or international companies operate.

Outcome of Step 3b: List of alternative scenarios to the proposed CDM project activity that are not prevented by any barrier. At least one viable alternative shall be identified.

In applying sub-steps 3a and 3b, provide transparent and documented evidence, and offer conservative interpretations of this evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternative scenarios are prevented by these barriers. The type of evidence to be provided should include at least one of the following:

- (a) Relevant legislation, regulatory information or industry norms;
- (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc;
- (c) Relevant statistical data from national or international statistics;
- (d) Documentation of relevant market data (e.g. market prices, tariffs, rules);
- (e) Written documentation from the company or institution developing or implementing the CDM project activity or the CDM project developer, such as minutes from Board meetings, correspondence, feasibility studies, financial or budgetary information, etc;
- (f) Documents prepared by the project developer, contractors or project partners in the context of the proposed CDM project activity or similar previous project implementations;



- (g) Written documentation of independent expert judgements from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others.

→ ***If there is only one alternative scenario that is not prevented by any barrier, and if this alternative is the proposed CDM project activity undertaken without being registered as a CDM project activity, then the proposed CDM project activity is not additional.***

→ ***If there are one or more alternative scenarios that are not prevented by any barrier, and if these alternatives do not include the proposed CDM project activity undertaken without being registered as a CDM project activity, then proceed to step 4. Explain – using qualitative or quantitative arguments – how the registration of the CDM project activity will alleviate the barriers that prevent the proposed CDM project activity from occurring in the absence of the CDM. If the CDM alleviates the identified barriers that prevent the proposed CDM project activity from occurring, proceed to Step 4, otherwise the proposed CDM project activity is not additional.***

Step 4. Common practice analysis

The previous steps shall be complemented with an analysis of the extent to which the proposed project type (e.g. technology or practice) has already diffused in the relevant sector and geographical area. This test is a **credibility check** to demonstrate additionality which complements the barrier analysis (Step 2) and, where applicable, the investment analysis (Step 3).

Sub-step 4a. Analyze other activities similar to the proposed CDM project activity:

Provide an analysis to which extent similar activities to the proposed CDM project activity have been implemented previously or are currently underway. Similar activities are defined as activities (i.e. technologies or practices) that are of similar scale, take place in a comparable environment, *inter alia*, with respect to the regulatory framework and are undertaken in the relevant geographical area, as defined in sub-step 1a above, subject to further guidance by the underlying methodology. Other registered CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant geographical area.

Sub-step 4b. Discuss any similar options that are occurring:

If similar activities to the proposed CDM project activity are identified, then compare the proposed CDM project activity to the other similar activities and assess whether there are essential distinctions between the proposed CDM project activity and the similar activities. If this is the case, point out and explain the essential distinctions between the proposed CDM project activity and the similar activities and explain why the similar activities enjoyed certain benefits that rendered them financially attractive (e.g., subsidies or other financial flows) and which the proposed CDM project activity can not use or why the similar activities did not face barriers to which the proposed CDM project activity is subject.

Essential distinctions may include a serious change in circumstances under which the proposed CDM project activity will be implemented when compared to circumstances under which similar projects were carried out. For example, new barriers may have arisen, or promotional policies may have ended, leading to a situation in which the proposed CDM project activity would not be implemented without the incentive provided by the CDM. The change must be fundamental and verifiable.



- *If Sub-step 4a and 4b are satisfied, i.e. (i) similar activities cannot be observed or (ii) similar activities are observed but essential distinctions between the proposed CDM project activity and similar activities can reasonably be explained, then the proposed CDM project activity is additional.*

- *If Sub-step 4a and 4b are not satisfied, i.e. similar activities can be observed and essential distinctions between the proposed CDM project activity and similar activities cannot reasonably be explained, then the proposed CDM project activity is not additional.*