VCS Tool

M0331

COMBINED BASELINE AND ADDITIONALITY ASSESSMENT

Draft Version

21 August 2024

Sectoral Scopes 1-16

This draft tool was developed by Verra based on Clean Development Mechanism (CDM) tools and guidelines.

CONTENTS

1 SUMMARY DESCRIPTION

This tool provides procedures and requirements for a combined approach to identifying the baseline scenario and assessing the additionality of project activities. It provides the following steps:

- Step 1: Identify alternatives to the project activity
- Step 2: Barrier analysis
- Step 3: Investment analysis
- Step 4: Common practice analysis

This tool replaces the *CDM TOOL02 Combined Tool to Identify the Baseline Scenario and Demonstrate Additionality* for project activities under the VCS Program and consolidates the procedures and requirements for the investment analysis, barrier analysis and common practice analysis. Project activities applying methodologies referencing the CDM TOOL02 must use the equivalent sections of this tool instead.

This tool must be used as indicated in the applicable methodology and the most recent VCS Program rules and requirements.

Methodologies may provide a different approach to assess additionality as per the most recent version of the *VCS Methodology Requirements*.

The regulatory surplus check required in the *VCS Program rules and requirements* must be applied in addition to this tool for all project activities when assessing and demonstrating additionality.

[THE FINAL VERSION OF THIS TOOL WILL INCLUDE A FLOW CHART OF THE PROCEDURES.]

2 SOURCES

This tool is based on the following CDM tools and guidelines:

- *TOOL02 Combined Tool to Identify the Baseline Scenario and Demonstrate Additionality, v7.0*
- *TOOL24 Common Practice, v3.1*
- *TOOL27 Investment Analysis, v14.0*
- *Guidelines for Objective Demonstration and Assessment of Barriers, v1.0 (EB50 Annex 13)*

3 DEFINITIONS

Input
Resources used by the project activity, including but not limited to natural resources (such as land), energy sources and raw materials.

Output
Goods or services produced by the project activity, including but not limited to finished goods, products or energy carriers (such as heat, steam, electricity).

4 APPLICABILITY CONDITIONS

This tool applies to all types of project activities and is used to determine the baseline scenario and assess additionality.

This tool is applicable under any of the following conditions:

1) The applicable methodology requires or permits the use of this tool; or
2) The VCS Program rules and requirements require or permit the use of this tool.

5 PROCEDURES

The regulatory surplus check required in the *VCS Program rules and requirements* must be applied in addition to this tool for all project activities when assessing and demonstrating additionality.

Follow these steps to determine the baseline scenario and assess the additionality of the project activity:

- Step 1: Identify alternatives to the project activity
- Step 2: Barrier analysis
- Step 3: Investment analysis
- Step 4: Common practice analysis

5.1 Applicable geographic area

The applicable geographic area must be determined for Step 1, Step 2 and Step 4. The same area must be used when applying these steps.

The default applicable geographic area is the entire host country. The project proponent may choose to limit the applicable geographic area to a specific geographic area within the host country. In this case, the project proponent must justify the essential distinctions between the applicable geographic region and the rest of the host country that lead to different investment or implementation conditions specific to the project activity. Relevant factors may include:

1) Subsidies, policies, laws, or regulations
2) Climatic, topographic, or geological differences
3) Socioeconomic conditions
4) Infrastructure development and accessibility
5) Access to markets and resources
6) Cropland suitability related to soil and crop type

5.2 Step 1: Identify Alternatives to the Project Activity

This step identifies all realistic and credible alternative scenarios to the proposed project activity.

5.2.1 Step 1a: Define Alternative Scenarios to the Proposed Project Activity

Identify all plausible alternative scenarios that provide a comparable output (service or product) and/or utilize a comparable input as the proposed project activity.[1] These alternative scenarios include:

[1] For example:

1) For projects reducing emissions in aluminum or cement production, the output provided by the alternative scenarios should be the production of the same quantity of aluminum or of a cement with comparable quality and characteristics as in the project activity.
2) For improved energy efficiency of power generators in a manufacturing plant, different scenarios to supply the same amount of electricity (such as continued operation of the existing generators without retrofit or supply by the electricity grid) must be considered.
3) For a landfill gas capture project, different scenarios to manage and operate the landfill must be considered, including the methane vented to the atmosphere, captured and flared, and captured and combusted for energy generation.

1) **S1:** The proposed project activity is implemented without being registered as a project activity under a GHG program
2) **S2:** No investment is undertaken by project proponents, meaning that the same output of the proposed project activity can also be provided by entities other than the project proponent (i.e., the project proponent is not the only output provider). For example:
    a) For a greenfield power project, an alternative scenario S2 may be that the project proponents would not invest in the greenfield power plant, but that power would be generated in existing or new power plants in the electricity grid;
    b) For a transportation project, an alternative scenario S2 may be that third parties rather than the project proponent would invest in alternative modes (e.g., rail or pipelines).
3) **S3:** The continuation of the current situation without additional investment or ongoing operational expenses. For example:
    a) Continued venting of methane from a landfill
    b) Continued agricultural land use practice
4) **S4:** The continuation of the current situation, with additional investment or requiring ongoing expenses. For example:
    a) Continued use of an existing boiler involving expenditures for maintenance and operation
    b) Continued use of existing transportation infrastructure
5) **S5:** Other plausible alternative scenarios to the project activity scenario, including the common practices in the relevant sector that deliver a comparable output or utilize a comparable input;
6) **S6:** Where applicable, the proposed project activity is undertaken without being registered as a project activity, implemented at a later point in time (e.g., due to existing regulations, end-of-life of existing equipment, financing aspects)

Where the proposed project activity includes different facilities, technologies, inputs or outputs, alternative scenarios for each should be identified separately. Feasible combinations of these should be considered as possible alternative scenarios to the proposed project activity.[2]

4) For rice cultivation projects, both the cultivated land area (input) and rice yield (output) may be relevant factors when establishing alternative scenarios.

5) For projects recycling solid wastes (e.g., plastic), alternative scenarios with the same quantity of solid wastes (input) and recycled plastic material (output) must be considered. A realistic alternative could be disposing of the solid waste in a landfill or incinerated it, and supplying the same quantity of plastic from virgin plastic production to the market.

[2] For example:

1) For a cogeneration project activity, alternative scenarios for heat and electricity generation should be established separately.

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

To identify relevant alternative scenarios, provide an overview of technologies or practices (including projects registered under a GHG Program) that are similar to the proposed project activity that have been implemented previously or are currently underway in the applicable geographic area.[3] Provide relevant documentation to support the analysis, including a justification where scenario S2 is excluded.

5.2.2 Step 1b: Consistency with Mandatory Applicable Laws and Regulations

Identify the alternative scenarios from Step 1a that comply with all mandatory applicable legal and regulatory requirements within the applicable geographic region. The alternative scenarios must be compatible with all applicable laws and regulations, including those that have objectives other than GHG reductions and/or removals (e.g., for local air pollution control).[4] Policies that do not have legally binding status must not be considered.

Where any of the alternative scenarios of step 1a do not comply with all mandatory applicable legislation and regulations, follow these steps:

1) Assess the current practice in the applicable geographic region:
    a) For high-income countries,[5] all legal requirements are deemed to be enforced.
    b) For countries other than high-income countries, where the mandatory legal or regulatory requirements are systematically not enforced and non-compliance is widespread in the applicable geographic region, include the alternative scenarios in the list for further consideration. Demonstration of non-enforcement must be based on authoritative and up-to-date information that is relevant and applicable to the alternative scenario.
2) Where the mandatory legal or regulatory requirements are enforced, eliminate the alternative scenario from further consideration.

Provide a list of alternative scenarios to the project activity that comply with mandatory legislation and regulations considering enforcement in the applicable geographic region.

Outcome of Step 1

1) Where the only alternative scenario is S1 (i.e., the proposed project activity implemented without being registered as a project activity under a GHG program), the proposed project activity is not additional.
2) Otherwise, proceed to Step 2 (barrier analysis).

[3] Determined per Section 0

[4] For example, an alternative consisting of an open, uncapped landfill would be non-compliant in a country where this scenario implies violations of safety or environmental regulations pertaining to landfills.

[5] As defined by the World Bank. Available at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

5.3 Step 2: Barrier Analysis

This step identifies barriers to implementation and assesses which alternative scenarios they prevent. The project proponent must:

1) Identify realistic and credible barriers that may prevent the implementation of the alternatives

2) Demonstrate that at least one other alternative to the project activity does not face significant barriers

3) Demonstrate that carbon credit revenues are the decisive element in overcoming each identified barrier to the project activity

The barrier analysis must be conducted according to the following steps and all relevant requirements in Appendix 1.

In applying Steps 2a, 2b and 2c, provide transparent and verifiable evidence. Make conservative interpretations as to how the evidence demonstrates the existence and significance of the identified barriers and whether alternative scenarios are prevented by these barriers.

5.3.1 Step 2a: Identify Realistic and Credible Barriers That May Prevent The Implementatino Of The Alternatives

Establish a complete list of realistic and credible barriers that may prevent alternative scenarios from occurring. The barriers must be based on the actual context of the project activity and alternatives and the applicable geographic area,[6] reflecting practical challenges for their implementation. Unless the applicable methodology identifies other barriers specific to the project activity (e.g., technological barriers), such barriers are limited to:

1) Financial barriers, other than insufficient financial returns as analyzed in Step 3 (investment analysis), for example:

    a) Similar activities have only been implemented with grants or other non-commercial financing terms. Similar activities are defined as activities that rely on broadly similar technologies or practices, are of a similar scale, take place in a comparable regulatory environment, and are undertaken in the applicable geographic area.

    b) No capital is available from domestic or international capital markets due to real or perceived risks associated with investments in the applicable geographic region where the project activity is implemented. This may be demonstrated, for

[6] Determined per Section 0

example, by the credit rating of the country or other investment reports from recognized sources (e.g., country investment grade or country risk reports).

2) Information barriers, for example:

   a) Lack of awareness of financial and non-financial benefits for final users[7]

   b) Low acceptance of new or alternative practices, services, or products associated with the project activity in the relevant sector due to lack of knowledge[8]

3) Institutional barriers, for example:

   a) The investor is not the beneficiary of financial or non-financial benefits (e.g., cost savings) associated with the implementation of the project activity.

   b) Decentralized corporate structures that treat energy costs as overhead instead of direct costs provide little incentive for organizational units to reduce energy use.

Note – *the applicable methodology may identify other barriers specific to the project activity and/or region where the project activity is implemented.*

5.3.2 Step 2b: Demonstrate That At Least One Other Alternative To The Project Activity Does Not Face Significant Barriers

Identify which alternative scenarios (including the project activity) are prevented by at least one of the barriers listed in Step 2a, following the guidelines in Appendix 1. All alternative scenarios must be compared to the same set of barriers, including those faced by the project activity.

Provide verifiable evidence to demonstrate the existence of each identified barrier that would prevent the implementation of the project activity and, where possible, quantify the barrier(s).

Explain and demonstrate with verifiable evidence how the alternative or alternatives are affected less by the identified barrier(s) than the proposed project activity. Where possible, also quantify the barriers for the alternatives.

The assessment of the significance of barriers should consider the level of access to capital, availability of information, and institutional conditions in the specific context of the project activity and sector.[9]

[7] For example, households may not be aware of the life cycle cost savings associated with the use of energy-efficient appliances.

[8] For example, construction companies may perceive that high-additive cement blends are of inferior quality to traditional Portland cement.

[9] For example, projects in industries with small- and medium-sized enterprises may not have the same means to access capital or overcome information barriers as projects in sectors where typically large or international companies operate.

Eliminate the alternative scenarios that are prevented by at least one barrier from further consideration. Demonstrate that at least one other alternative to the project activity does not face significant barriers.

5.3.3 Step 2c: Demonstrate That Carbon Credit Revenues Are The Decisive Element In Overcoming Each Identified Barrier For The Project Activity

Provide verifiable evidence and demonstrate that carbon credit revenues are the decisive element in overcoming each identified barrier to the project activity.

Outcome of Step 2

1) Where all other other alternatives face significant barriers and/or the carbon credit revenues are not the decisive factor in overcoming each barrier for the project activity, the project is not additional.
2) Where there is at least one alternative without significant barriers and the carbon credit revenues are the decisive factor in overcoming each identified barrier for the project activity, apply the following steps.
3) Where only one alternative scenario is not prevented by any barrier and it is not scenario S1 (i.e., the proposed project activity implemented without being registered as a VCS project activity):
    a) Where the output can only be provided by the project, this alternative is the baseline scenario.
    b) Where the output can also be provided by others (e.g., other market participants), an emission benchmark approach is required, unless otherwise specified in the applicable methodology.[10] The baseline scenario corresponds to the scenario representing the emission benchmark.[11]
4) Where more than one alternative scenario is not prevented by any barrier, check whether the remaining alternative scenarios include scenario S1:
    a) If yes, proceed to Step 3 (investment analysis)
    b) If no, the project proponent may choose one of the following options:
        i) Option 1: Proceed to Step 3 (investment analysis); or
        ii) Option 2: Justify that the service or product can only be provided by the project proponent:
            - If yes, the baseline scenario is the alternative with the lowest emissions among the remaining alternatives.

[10] Guidance on developing the emission benchmark is provided in the applicable methodology.

[11] For example, the emission benchmark could be the grid emission factor, and the corresponding baseline scenario is the operation of the power grid.

- If no, an emission benchmark approach (e.g., grid emission factor) is required unless specified otherwise in the applicable methodology.[12] The baseline scenario corresponds to the scenario representing the emission benchmark (e.g., the operation of the power grid).

5) Where the emission level of the alternative scenario considered as the baseline scenario:
   a) is lower than or equal to that of scenario S1, the project activity is not additional
   b) is higher than that of scenario S1, proceed to Step 4 (common practice analysis)

5.4 Step 3: Investment Analysis

The objective of Step 3 is to compare the economic or financial attractiveness of the alternative scenarios remaining after Step 2 by conducting an investment analysis. The analysis must include all alternative scenarios remaining after Step 2.

The investment analysis must be conducted in accordance with the following steps and the requirements in Appendix 2.

Select one of the following options and explain and support the choice of the type of investment analysis:[13]

a) **Option 1: Investment comparison analysis**
   Use this option to compare the financial indicator of the project activity with the alternative scenarios and demonstrate that the project activity is less financially attractive in the absence of carbon credits. Where relevant, the alternative scenarios considered must provide the same output or utilize the same input as the project activity.[14]

b) **Option 2: Benchmark analysis**
   Use this option to compare the financial indicator of the project activity with a benchmark. Typically, a benchmark analysis is suitable if the proposed project activity is

[12] Guidance on developing the emission benchmark is provided in the respective methodology. Where applicable, the methodology may also specify other scenario(s) for the determination of baseline emissions (e.g., it may provide specific guidance on whether an emission benchmark alone is sufficient, or whether it must still be compared against the emission levels of the most attractive alternative scenario).

[13] The option "simple cost analysis" that was provided in the CDM TOOL01 has been removed. If the project activity and the alternatives do not generate any financial or economic benefits, they may apply the "investment comparison analysis" without cash inflows.

[14] For example, the investment comparison analysis is suitable for a project activity in a manufacturing plant that has different alternative scenarios to supply the same level of electric and thermal energy for the manufacturing process

developed as part of a portfolio of technologies or practices, or if entities other than the project proponent could provide the same output of the project activity.[15]

5.4.1 Investment comparison analysis

1) Identify the financial indicator, such as IRR, NPV, cost-benefit ratio, or levelized cost[16], suitable for the project type and decision-making context.

2) Calculate the suitable financial indicator for all alternative scenarios remaining after Step 2. If the IRR or NPV are used as the financial indicator, apply the following values for the alternative scenarios S2 or S3:

    a) The NPV is equal to zero

    b) The IRR is equal to the financial benchmark as determined in Appendix 2.

3) Present a clear comparison of the financial indicator for all alternative scenarios and rank the alternative scenarios according to the financial indicator.

4) Demonstrate that the mitigation activity would not be the economically most attractive scenario in the absence of carbon credits.

5) Conduct a sensitivity analysis to assess whether the conclusion regarding the financial attractiveness is robust to reasonable variations in the major assumptions.

5.4.2 Benchmark analysis

1) Identify the financial indicator, such as IRR, suitable for the project type and decision-making context.

2) Calculate the financial indicator for the project activity.

3) Demonstrate that:

    a) the project activity would not meet the required financial benchmark without carbon credit revenues;

    b) the economic performance of the mitigation activity increases decisively through carbon credit revenues; and

    c) carbon credit revenues raise the financial indicator at or above the required financial benchmark.[17]

[15] For example, the benchmark analysis is suitable for a grid-connected solar power plant

[16] e.g., levelized cost of electricity production in $/kWh or delivered heat in $/GJ

[17] The forecasted carbon revenues must be based on verifiable evidence such as contracts, actual sale of similar credits, published price forecasts applicable to the project

[Where a project activity can demonstrate that it meets 3a (but not 3b and 3c) and all other applicable requirements in this tool, it is considered additional, but it will not be eligible for a CCP label.]

4) Conduct a sensitivity analysis to demonstrate that the conclusion regarding the financial attractiveness is true with reasonable variations in the critical assumptions.

Outcome of Step 3

1) For the investment comparison analysis, rank the list of alternative scenarios according to the most suitable financial indicator, taking into account the results of the sensitivity analysis:
    a) If the sensitivity analysis is not conclusive (section 5.4.1, steps 3-5), the alternative scenario to the project activity with the least emissions among the alternative scenarios is considered the baseline scenario.
    b) If the sensitivity analysis is conclusive to confirm the result of the investment comparison analysis (section 5.4.1, steps 3-5), the most economically or financially attractive alternative scenario is considered the baseline scenario.
    c) If the alternative considered the baseline scenario is scenario S1 (i.e., the proposed project activity undertaken without being registered as a VCS project activity), the project activity is not additional.
2) For the benchmark analysis:
    a) If the sensitivity analysis fails to confirm that the project activity meets the requirement 3a) in section 5.4.2, the project activity is not additional.
    b) If the sensitivity analysis confirms that the project activity meets the requirement 3a) in section 5.4.2, an emission benchmark approach (e.g., grid emission factor) is required unless otherwise specified in the methodology. The baseline scenario corresponds to the scenario representing the emission benchmark (e.g., the power grid).
        i) If the sensitivity analysis also confirms that the project activity meets the requirements 3b) and 3c) in section 5.4.2, it may qualify for the CCP label.
        ii) If the sensitivity analysis fails to confirm that the project activity meets the requirements 3b) and 3c) in section 5.4.2, it does not qualify for the CCP label.
3) Where the emission level of the alternative scenario considered as the baseline scenario:
    a) is lower than or equal to that of scenario S1, the project activity is not additional
    b) is higher than that of scenario S1, proceed to Step 4 (common practice analysis)

5.5 Step 4: Common practice analysis

[The same steps as in the draft VCS tool *M0310 Additionality Assessment* apply.

For the public stakeholder consultation, review this section of M0310 and provide comments in the combined *Public Consultation Comment Template* that includes both tools.]

6 REFERENCES

Not applicable.

APPENDIX 1: BARRIER ANALYSIS REQUIREMENTS

[The same requirements as in the appendix of the draft VCS tool *M0310 Additionality Assessment* apply.

For the public stakeholder consultation, review M0310 and provide you comments in the combined *Public Consultation Comment Template* including both tools.]

APPENDIX 2: INVESTMENT ANALYSIS REQUIREMENTS

[The same requirements as in the appendix of the draft VCS tool *M0310 Additionality Assessment* apply.

For the public stakeholder consultation, review M0310 and provide you comments in the combined *Public Consultation Comment Template* including both tools.]

DOCUMENT HISTORY

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