

NM0099: “Energy Efficiency Improvement in a Cement Plant” by Jaypee Associates (Cement), Madhya Pradesh

Query 1: Section D1 of CDM-NMB: This section highlights two possible baseline scenarios. Are these the only two scenarios possible in general for such projects? If not how will other possible scenarios be chosen? Please also indicate what procedure should be used to choose between them.

Baseline Scenarios three steps method is to be followed:

- Identification of all possible baseline scenarios
- Selection of Plausible Baseline Scenarios
- Selecting Baseline Scenario

Step 1: Identification of all possible baseline scenarios

Project Participants should identify all possible alternatives available for the Energy Efficiency Project. Possible alternative include the following scenarios:

Alt-1: Continuation of as is scenario – existing level of emissions per unit of output (past performance)

Alt-2: Deterioration in Performance- if it is a normal feature of technology that with time performance deteriorates. The validity of this scenario needs to be established by past performance of other plants as well as technology experts. This scenario is likely to be valid only in very few cases

Alt-3: Performance Improvement necessitated due to National or Sectoral policies Laws rules, and regulations that mandate well defined improvements in energy consumption, and which are strictly enforced.

Alt-4: Performance reduction necessitated due to National or Sectoral policies Laws, rules and regulations which result in adoption of practices/technologies leading to deterioration in energy consumption norms, and which are strictly implemented.

For example technologies, which reduce water or air consumption but result in higher energy consumption.

Alt-5: Improved energy efficiency and GHG emissions as a result of the Project Activity.

Step 2: Selection of Plausible baseline Scenarios

Scenarios 1,5 are most likely scenarios in all cases.

However if performance deterioration over time can be established as a normal occurrence for technology in question and enough public data is available to establish the rate of deterioration, scenario 2 will replace scenario 1 as a valid baseline scenario.

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If analysis of regulation shows that implementation will lead to either improvement in energy efficiency or deterioration in energy efficiency (scenario 3,4), these effects will be superimposed on scenario 1 or 2, to create a consolidated baseline scenario.

If the historical performance (modified for future natural deterioration, if valid) is better (less energy consumed/unit of output) than what is mandated by National or Sectoral policies then historical performance would form the baseline.

However if policies dictate modifications, which may result in deterioration of performance, this effect will be applied to historical performance and a baseline scenario created.

Thus in the final analysis 2 scenarios will be left:

- Historical performance (with necessary modifications for future performance).
- Improvements due to the proposed Project Activity

Step 3: Selection of baseline Scenario:

The baseline for a CDM project activity is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases (GHG) that would occur in the absence of the proposed project activity.

In order to determine the baseline scenario, plausible scenarios to the project activity will be selected and will be analyzed according to Additionality Tool (Described in section D.3). Additionality test shall help in selecting the most likely scenario as the baseline one. In this way, the same steps used to prove Additionality shall be used to determine the baseline scenario.

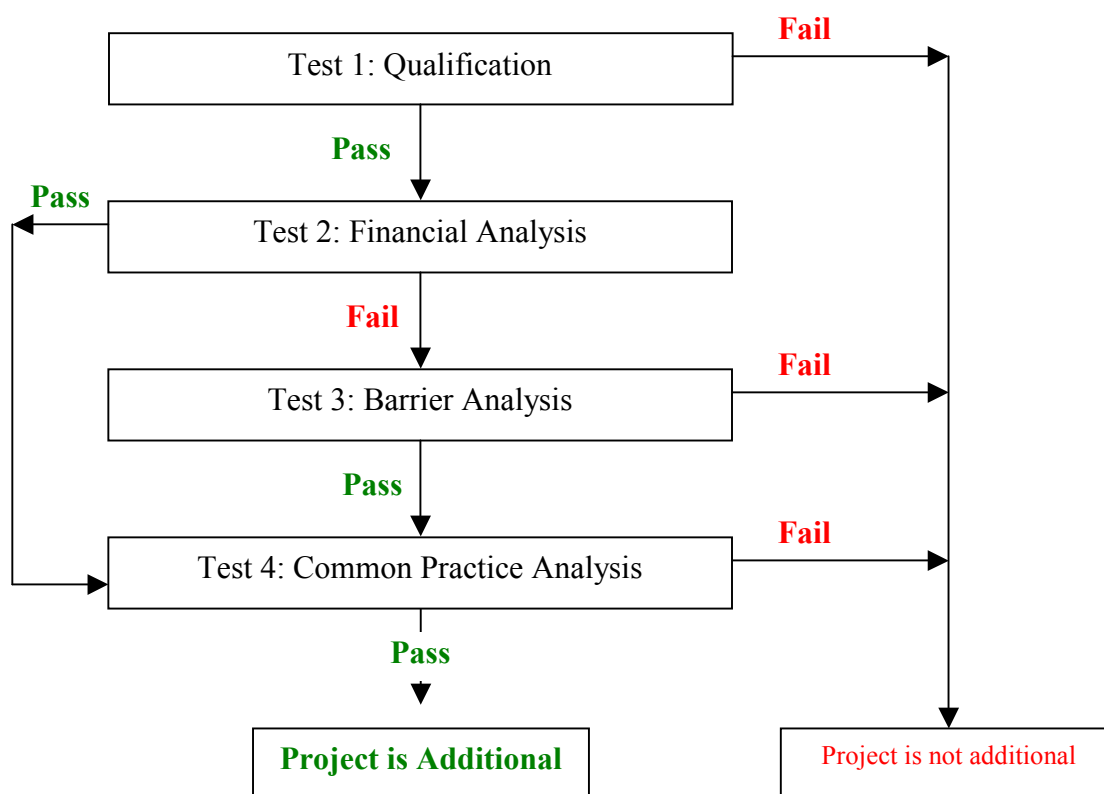
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Query 2: Section D3 of CDM-NMB: The relationship between the steps to test Additionality is not clear. For example, the proposed methodology indicates that "if this test proves the project is additional, move to test 2", "if the project is financially unattractive the project is additional and move to test 4", "to finally test Additionality...". Please clarify which steps a project needs to pass in Order for it to be assessed as additional.

(Section D.3 is changed in following way)

The proposed methodology calculates GHG abatement for improvements, which are beyond the past performance of Project Proponent.

Project shall demonstrate Additionality using following approach. Project that passes Test-1 (Qualification), Test-2 (Financial Analysis) or Test-3 (Barrier Analysis) and Test-4 (Common Practice Analysis) can be termed as additional.



➤ Test 1 Qualification:

- Check if Project Activity Reduces Emissions below the Baseline.
- Check if the project activity is mandated by a regulation, which is not created specifically for reducing GHG reductions after the signing of Kyoto Protocol.
 - If Project Activity is mandated by such a regulation, it does not qualify unless there are enough indications that the regulation is

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not effectively implemented.

- If the crediting period is proposed before the Project Registration date, it should be proven that the Activity was undertaken with CDM in mind and CDM benefits were part of management decisions as proved in internal records, minutes of investment decisions taken, project reports etc.

If a project meets all three conditions listed above, then it passes Qualification test and is eligible to move for next test else it is not additional.

➤ **Test 2: Financial Analysis** – analyse the profitability of the proposed changes as follows:

- Take into account the overall impact of energy consumption, thermal energy consumption and throughput changes and translate them into savings as given in annexure-2.
- Calculate IRR.
- If IRR is < average cost of capital adjusted for risks and uncertainties of energy efficiency projects then the project should be considered as financially less attractive than normal projects and therefore not the baseline scenario. Using sensitivity analysis show that project remains less attractive for a range of values of the assumptions, which may be expected to occur in normal course of events.

If project is financially unattractive the project is additional. Now move to **Test 4**.

If project is financially attractive, move to **Test 3** and demonstrate that Project faces significant barriers and therefore unlikely to be the baseline.

Test 3: Barrier Analysis

- **Investment barrier:** Understand the investment attractiveness of the Project.
 - Analyse response from banks for financing similar projects etc, to assess how easy it is to get financing for such projects in the country where Project Activity is being undertaken.
 - If it is difficult to arrange finance normally and if CERs have been used as means of financial closure of the project, Project is additional
 - Financial closure can be shown if Project CERs helped attract an equity investor or an investor for quasi equity (ex preference capital) or if CERs made the project attractive to get sanction of Debt, as evidenced in sanction letter/communication of the bank.

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- **Technological barrier (risk):** If the technology or improvement concept involved is
 - Complex, posing difficulties of management or operation, requiring manpower skills which are not available
 - Not proven at a large scale, has lot of associated risks
 - Not freely available
 - Requires supporting infrastructure which is not readily available in the country

And Carbon Credits have been used as means to attract a technology participant to remove the constraints mentioned above, and then the Project passes this test.

- **Barriers due to prevailing practice:**

If Industry¹ lacks familiarity with state-of-the-art technologies and/or are reluctant to use these; or if the project is the “not of usual kind” involving other risks such as related to market, customer acceptance, supply of materials, (resistance from) regulation, (uncertainty of) operating performance etc and if Carbon Credits attract Project Participants or Additional Support which alleviates the risk perception of Project Proponents, then such projects pass this test.

Energy Efficiency Projects in India and other developing countries are normally not considered for investments unless payback periods are low (<2 yrs) as these countries are growing rapidly and promoters want to invest in capacity expansions to finance their growth rather than expensive energy efficiency projects. Also energy efficiency projects are considered risky because often the intended benefits are not realized.

Hence if Energy Efficiency Projects are undertaken and/or financed/managed by Energy Services Companies, to counter the hesitation/reluctance of Promoters, such activities also pass this test.

The barriers should be shown to be significant based on external or internal assessments based on public information.

If the Project demonstrates that there are significant barriers for this project move to **Test 4** else Project is not additional.

Test 4: Common Practice Analysis

¹ Industry is defined as consisting of players who produce similar products, serve similar/same markets and face similar conditions of supply of materials, regulation, labour availability, financing etc.

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If Project Activity is a common practice in the Industry

- As evidenced in industry published information, market surveys etc or
- Adoption of technology or similar activity in more than 50% of potential plants (where such practices have been adopted without recourse to CDM benefits) then the project can't be considered as additional UNLESS the Project Proponent faces unique constraints and is able to remove them due to benefits arising from registration as CDM project:
 - Proponent doesn't have financial capability² to undertake the project and the project has become feasible due to Carbon Credit supported financing
 - Proponent doesn't have management expertise to undertake the project and this constrained is removed by attracting a investor or project participant.
 - Proponent has better investment opportunities and is persuaded to support the energy efficiency project when investment and/or management support has come from an outside participant such as an Energy Service Company or equivalent of it.

The project is finally considered as additional if it qualifies to be additional after passing through Test 1→Test 4.

² Debt: equity ratio > 1.5, EBIDT/Debt <0.25, DSCR for the project <1.5 for developing country context.

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Query 3: The Meth Panel also notes that the documentation includes the text Includes "the barriers should be shown to be significant based on external or internal assessments public/private documentation etc.". However, as outlined in the Marrakech Accords (paragraphs 6 and 27): "Information used to determine additionality as defined in paragraph 43 of the CDM modalities and procedures, to describe the baseline methodology and its application, and to support an environmental impact assessment referred to in paragraph 37(c) of the CDM modalities and procedures, shall not be considered as proprietary or confidential". This should be clarified.

(Text modified in line with Meth Panel suggestion)

The barriers should be shown to be significant based on external or internal assessments based on public information.