

**The 2nd CDM Capacity Building Workshop in the Pacific
Under the EC ACP MEA Project**

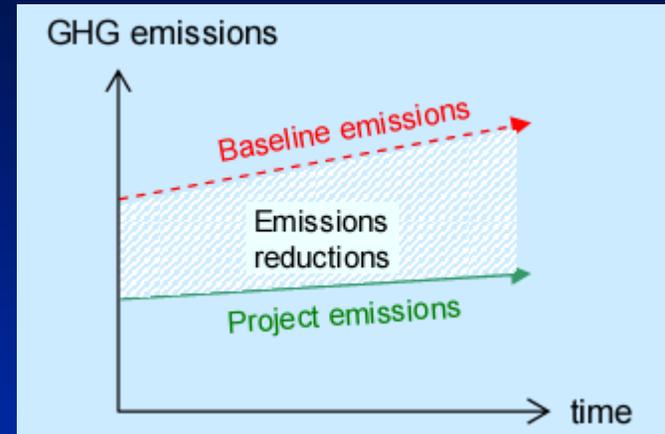
**Baseline Establishment,
Additionality Demonstration &
Emission Reduction
Calculation**

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What is a Baseline

- As per CDM M&P:
The baseline for a CDM project activity is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity
- In other words, a baseline for a CDM project activity is a **hypothetical reference case**, representing the **volume** of greenhouse gases that would **have been emitted** if the project were not implemented.



What is a Baseline (2)

- The baseline can be used to determine:
 - whether a CDM project activity is additional; and
 - the volume of additional greenhouse gas emission reductions achieved by a project activity.
- Baselines must cover emissions from all gases, sectors and source categories listed in Annex A to the Kyoto Protocol that occur within the project boundary.
- A baseline is deemed to be accurate if it is derived using a baseline methodology covered by the modalities and procedures.

What is a Baseline (3)

- A baseline is deemed to **reasonably represent** the most **likely alternative scenario** to project implementation if it is developed using a **baseline methodology** that is:
 - already **approved** by the Executive Board; or
 - developed in accordance with the **rules for developing new methodologies** and then **approved** by the Executive Board.

How to Establish a Baseline

- A baseline shall be established:
 - Using **approved methodologies** (if not available, a **new methodology** has to be developed)
 - In a **transparent, conservative** and **justifiable** manner
 - On a **project-specific** basis
 - Using **simplified procedures** for small-scale projects
 - Taking account of **national** and/or **sectoral** policies

Baseline Establishment – Approved/New Methodologies

- Using the approved or new methodologies:
 - it is acceptable to argue that the **most plausible baseline** involves a rise in emissions levels
 - baselines must not be defined so as to **enable CERs** to be earned for decreases in emissions levels not due to the project activity
 - baselines are typically calculated *ex ante*, as a forecast of hypothetical future greenhouse gas emissions. *Ex post* calculation of baselines, that is after the period represented by the baseline has occurred, is permitted in some circumstances
 - where a CDM project activity involves the **replacement or retrofit of existing equipment or facilities**, the baseline methodology for project activity should provide a **methodological approach** to assess whether the existing equipment would in the absence of the CDM be replaced.

Baseline Establishment – Transparent & Conservative

- The Executive Board has clarified the meaning of 'transparent and conservative' in the context of baseline methodologies. 'Transparent' means:
 - that assumptions are explicitly explained and choices are substantiated
- 'Conservative' means that:
 - In case of uncertainty regarding values of variables and parameters ... the resulting projection of the baseline does not lead to an overestimation of emission reductions attributable to the CDM project activity (that is, in the case of doubt, values that generate a lower baseline projection shall be used)

Baseline Establishment – Project Specific Basis

- As per CDM M&P, baseline establishment can be done by **selecting and justifying** from the most appropriate of the following approaches :
 - **Existing actual or historical emissions**, as applicable, or
 - Emissions from a **technology** that represents an **economically attractive course of action**, taking into account **barriers to investment**, or
 - The **average emissions** of similar project activities undertaken in the previous **five years**, in similar **social, economic, environmental and technological circumstances**, and whose performance is among the top 20 per cent of their category

Baseline Establishment – National or Sectoral Policies

- The Executive Board has clarified that in general:

A baseline scenario shall be established taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector

- However, only **mandatory laws and regulations** need to be taken into account, so national and local policies that do not have **legally-binding status** can be ignored

Baseline Establishment – National or Sectoral Policies (2)

- The Executive Board has created **exceptions** for the following types of mandatory national and/or sectoral policies:
 - National and/or sectoral policies or regulations that give **comparative advantages to more emissions-intensive technologies or fuels** over **less emissions-intensive technologies or fuels** [so-called **Type E+ policies**]
 - National and/or sectoral policies or regulations that give comparative advantages to **less emissions-intensive technologies** over **more emissions-intensive technologies** (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programs) [so-called **Type E- policies**]

What is Additionality? (SSC Projects)

➤ As per CDM M&P:

A [small-scale] CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered [small-scale] CDM project activity

➤ Additionality is the requirement that the greenhouse gas emissions **after implementation of a CDM project activity** are **lower** than those that would have occurred in the **most plausible alternative scenario** to the implementation of the CDM project activity.

What is Additionality? (SSC Projects)

- This **alternative scenario** may be the **business-as-usual case** (that is, the continuation of current emission levels in the absence of the small-scale project activity), or it may be **some other scenario** which involves a gradual lowering of emissions intensity.
- Additionality is a principal condition for the eligibility of any project under the CDM.
- Additionality is a requirement for validation, and will be confirmed by the designated operational entity (DOE) as part of the validation report

Additionality for SSC Projects

- As per **Attachment A to Appendix B** to Annex II of 4/CMP.1 , Small-scale projects must demonstrate that they would not be implemented in the absence of CDM registration because of one or more barriers
 - **Investment** barrier
 - **Access-to-finance** barrier
 - **Technological** barrier
 - Barrier due to **prevailing practice**
 - **Other** barriers

Additionality for SSC Projects

➤ Investment Barrier

- a financially more viable **alternative** to the project activity would have led to higher emissions

➤ **Best practice examples** of investment barrier include but are not limited to:

- application of **investment comparison analysis** using a relevant **financial indicator**
 - application of a **benchmark analysis** or
 - a **simple cost analysis** (where CDM is the only revenue stream such as end-use energy efficiency)
- ## ➤ It is recommended to use **national or global accounting practices and standards** for such an analysis.

Additionality for SSC Projects

➤ Access to Finance Barrier

- the project activity could not access **appropriate capital** without consideration of the CDM revenues

➤ **Best practice examples** of investment barrier include but are not limited to:

- the demonstration of **limited access to capital** in the absence of the CDM
- such as a **statement from the financing bank** that the revenues from the CDM are critical in the approval of the loan

Additionality for SSC Projects

➤ Technological Barrier

- a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions

➤ Best practice examples of technological barrier include but are not limited to:

- demonstration of non-availability of human capacity to operate and maintain the technology
- lack of infrastructure to utilize the technology
- un-availability of the technology and high level of technology risk

Additionality for SSC Projects

- **Barrier due to prevailing practice**
 - prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions
- **Best practice examples** of barrier due to prevailing practice include but are not limited to:
 - demonstration that project is among the **first of its kind** in terms of technology
- **Other Barriers**
 - without the project activity, for another specific reason identified, such as **institutional barriers** or **limited information, managerial resources, organizational capacity, financial resources**, or capacity to absorb **new technologies**, emissions would have been higher

Additionality for Specific SSC Projects

- “Guidelines for Demonstrating Additionality of **Microscale** Project Activities” (EB 60, Annex 25)
- For project activities up to **5 MW** that employ **renewable energy** as their **primary technology** and for **energy efficiency** project activities that aim to achieve **energy savings** at a scale of **no more than 20 GWh/y**, simplified modalities for demonstrating additionality has been approved by the EB
- **Most relevant to PIC’s**: the geographic location of the project activity is in **one of the Least Developed Countries or the Small Island Countries (LDCs/SIDs)** or in a special underdeveloped zone of the host country identified by the Government before 28 May 2010

Emission Reductions

- In the CDM context, emission reductions represent the **difference** between **baseline emissions** and **actual emissions**, accounting for the **leakage**.

Subsequent to the monitoring and reporting of reductions in anthropogenic emissions, CERs resulting from a CDM project activity during a specified time period shall be calculated, applying the registered methodology, by subtracting the actual anthropogenic emissions by sources from baseline emissions and adjusting for leakage

Calculating Emission Reductions

- The **project design document** must contain the following information relating to the calculation of emission reductions:
 - I. Description of **formulae** used to calculate and estimate **anthropogenic emissions by sources** of greenhouse gases of the CDM project activity within the **project boundary**
 - II. Description of formulae used to calculate **project leakage**, defined as: the **net change** of anthropogenic emissions by sources of greenhouse gases which occurs **outside the CDM project activity boundary**, and that is **measurable** and **attributable** to the **CDM project activity**
 - III. The **sum of (I) and (II)** above representing the **CDM project activity emissions**

Calculating Emission Reductions

- IV. Description of formulae used to calculate the anthropogenic emissions by sources of greenhouse gases of the baseline
- V. Description of formulae used to calculate project leakage [in the baseline scenario]
- VI. The sum of (IV) and (V) above representing the baseline emissions
- VII. Difference between (VI) and (III) above representing the emission reductions of the CDM project activity

CDM Project Activity Emission Reductions = Baseline Emissions – Project Emissions - Leakage

THANK YOU