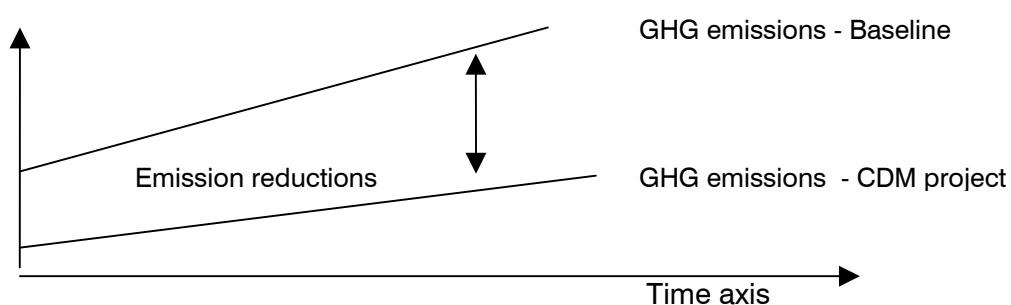


Start Up Clean Development Mechanism in ACP-Countries CDM-Susac

BASELINE FACT-SHEET (2)

This fact-sheet is intended to give some background knowledge on the use of baselines in the CDM project implementation cycle the existing baseline methodologies. The UNFCCC requires that CDM projects are 'environmentally additional', which means that the project must result in green house gas (GHG) emissions reductions that are **additional** to any that would have occurred in the absence of the project activity.

Demonstrating the environmental additionality¹ of a project requires the comparison of a project's emission with the emissions that would have occurred in the absence of the project under business as usual (BAU) circumstances. The emissions that would have occurred in the absence of the project are referred to as the **baseline** scenario. In other words the baseline is a reference case representing the estimated level of GHG emissions that would occur if the project were not implemented. The certified emission reductions (CERs) are calculated by subtracting the project's GHG emissions from the baseline emissions.



To date the UNFCCC has not yet issued guidelines defining the best approaches for calculating a baseline, however the UNFCCC has agreed that only baselines that are transparent, credible and practical will be acceptable. Once a baseline has been established for a project and the volume of emission credits determined, independent third parties will have to verify their validity.

Whilst there is currently no agreement regarding methods to calculate the baseline, the following state of the art approaches are the ones most commonly referred to in the literature (Ellis; 1999, Lazarus; 2000, Kelly; 1999, Willems; 2000 etc). The main methodologies for baseline definitions are highlighted in the next section.

¹ Additionality addresses the question of whether CDM projects are actually new projects or substitute existing or planned projects in the host country.

DIFFERENT BASELINE METHODOLOGIES

- **Project-specific baseline**: baseline drawn up for an individual project by examining it on a case-by-case basis. This includes investment analysis, control groups and scenario analysis. Project specific baselines are based on project specific assumptions, measurements and data. The calculation of the BAU scenario has to take into account the collective set of economic, financial, technological, regulatory and political circumstances within which a project will be implemented and will operate. All these factors influence the level of emissions in the baseline scenario. Most observers consider project specific baselines to be the most credible, although they often incur high costs due to the need for extensive data collection.
- **Standardised approach**: the goal of having standardised baseline methodologies is to reduce transaction costs without compromising the credibility of the estimates. Additionally they provide great transparency. These include benchmarking, top-down baselines and technology matrix. Under the **benchmarking** approach host countries establish default performance standards for the emissions intensity of technologies, products, sectors or regions under BAU circumstances (carbon per unit of output e.g.: tCO₂/kWh or tCO₂/t cement etc...). Any project with an emission rate lower than the benchmark would be considered additional. **Top-down** baselines are defined by host governments and are projection of annual GHG emissions under BAU scenario at the national level. Once a national average is identified, different sectors of the economy are set different baselines. One advantage of top-down approach is that depending on the data used to develop future GHG emissions under different scenarios it can account for leakage². Under the **technology matrix** approach a number of pre-defined technologies are identified as the baseline technology for a specific region in a determined time. Projects that introduce a technology with GHG emissions lower than the specific baseline technology would be considered additional (e.g.: for the power sector the baseline technology in a region could be oil fired thermal plants, therefore gas power stations or renewables would be additional).
- **Hybrid baselines**: Hybrid baselines are usually developed to comprise aspects of both a project specific approach and a standardised one. They are generally developed from a

² Leakage occurs when emission reductions from a project result in higher emissions elsewhere.

project specific baseline, but some components use aggregated/standardised parameters.

REFERENCES

Bosi, M. (2000). “*An Initial View on Methodologies for Emission Baselines: Electricity Generation Case Study*” OECD and IEA Information paper, Paris. <http://www.oecd.org/env/docs/cc/baseline-electricity.pdf>

Ellis, J. and Bosi, M. (1999). “*Options for Project Emission Baselines*”. OECD and IEA Information paper, Paris. <http://www.oecd.org/env/docs/cc/options.pdf>

Kelly, C., Kolar, S., Leining, C. and Margolick, M. (2000). “*Caribbean Benchmarks: A Regional Approach to Establishing Baselines under the Clean Development Mechanism*” prepared for ‘Capacity Building in the Caribbean: climate Change Workshop’, Barbados, 8th March 2000. <http://www.ccap.org>

Lazarus, M., Kortha, S. and Bernow S. (2000). “*Key Issues in Benchmark Baselines for the CDM: Aggregation, Stringency, Cohorts and Updating*”. Tellus Institute Boston, SEI Boston. <http://www.tellus.org/seib/publications/cdmjune2000.pdf>

Lazarus, M., Kortha, S., Ruth, M. and Bernow S. (1999). “*Evaluation of Benchmarking as an Approach for Establishing Clean Development Mechanism Baselines*” Tellus Institute Boston, SEI Boston. http://www.tellus.org/seib/publications/benchmarking_full.pdf

Leining, K., Helme, N. and Lawson, K. (2000). “*Implementing the Additionality Requirement & Ensuring the Stringency of Project Baseline Under the CDM*” Centre for Clean Air Policy. <http://www.ccap.org>

Michaelowa, A. and Fages, E. (1999). “*Options for baselines of the Clean Development Mechanism*”. Published in ‘Mitigation and Adaptation Strategies’.

UNIDO (no date) “*Determining Baselines and Additionality for CDM/JI Projects*”. <http://www.unido.org/doc.cfm?cfm=/asdocs.cfm?did=330791>

Willems, S. (2000). “*Framework for Baseline Guidelines*” OECD and IEA Information paper, Paris. <http://www.oecd.org/env/docs/cc/baseline-framework.pdf>