Capacity Development for CDM

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The Baseline Concept: From The Theory to the Practice

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What is a CDM-Eligible project?

- Projects that achieve emission reduction :
  - Baseline VS GHG mitigation project
- The calculated emission reduction is the basis for the agreement between the CERs Buyer and the CERs Seller
- **The <u>approved</u> emission reduction is to be credited to the Buyer's account**

How to access to CDM ?

- **<u>Approval</u> : An authorized Authority➔The CDM Executive Board (EB)**
- The Framework : a Project Design Document that is submitted to the EB:
  - The PDD: used to describe the project activity in a standard format➔ the basis for CDM project validation and registration
  - The PDD: in English

The Outline of the PDD

A.	General description of project activity
B.	Baseline methodology
C.	Duration of the project activity
D.	Monitoring methodology and plan
E.	Calculation of GHG emission by sources
F.	Environmental impacts
G.	Stakeholder Comments
Annex 1.	Contact information on project participants
Annex 2.	Information regarding public funding
Annex 3.	New baseline methodology
Annex 4.	New monitoring methodology
Annex 5.	Table of baseline data

The Baseline Concept - Definition

- The BASELINE for a CDM project activity : the scenario that reasonably represents the GHG emissions that would occur in the absence of the proposed project activity
  - **➔The Reference Scenario**

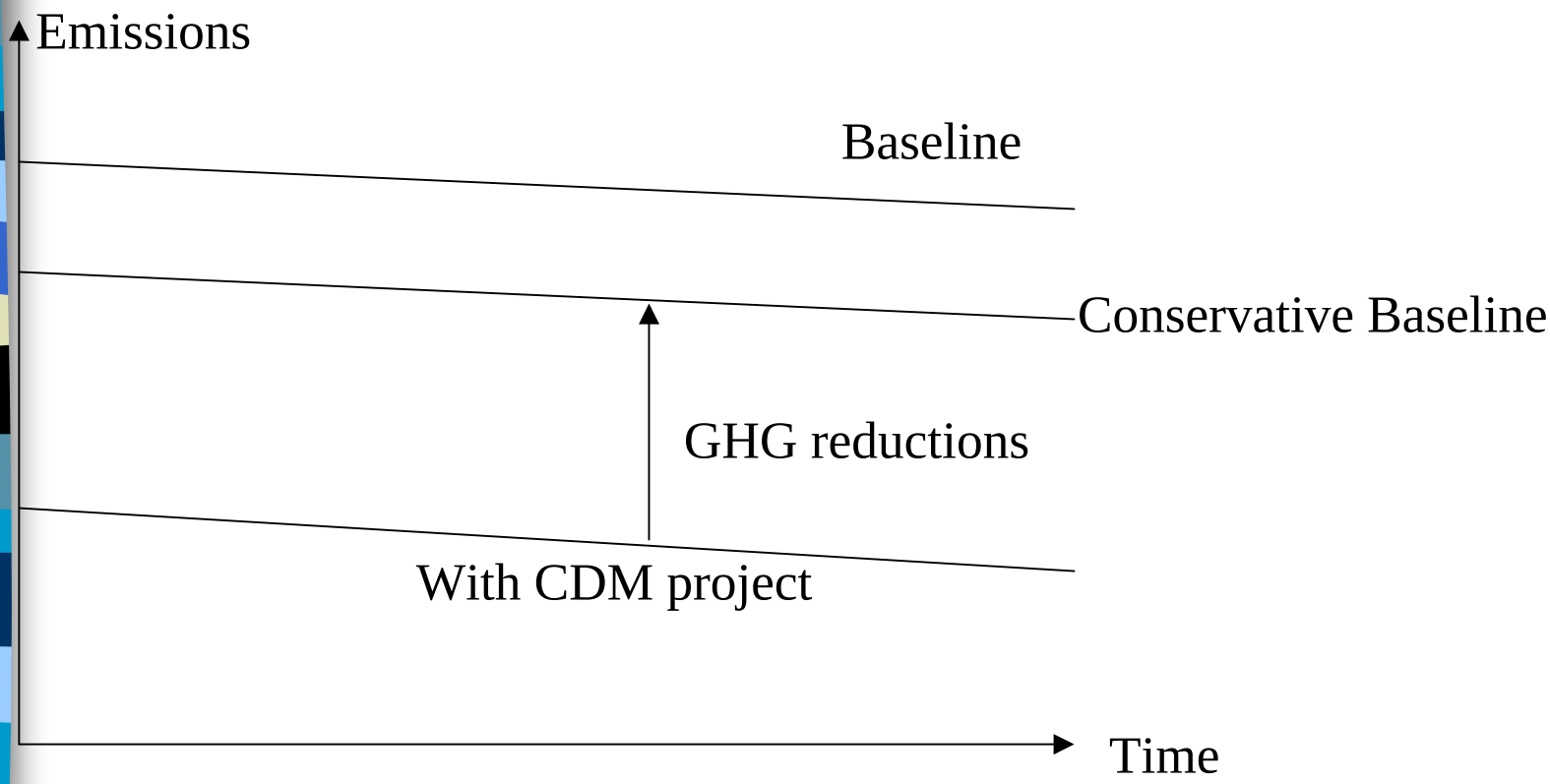
What's a Baseline Methodology

- An application of an Approach as defined in para. 48 of the CDM Modalities and Procedures➔to an individual project activity:
  - On a project-specific basis
- Taking into account relevant national and/or sectoral policies and circumstances➔e.g. expansion of the electrical sector

The Baseline Methodology - Principals

- Transparent and conservative manner regarding: the choice of approaches, assumptions, methodologies, parameters, data sources, key factors and additionality
- Taking uncertainty into account

Baseline Conservativeness



The Baseline Methodology - Principals

- BL should be defined in a way that CERs can't be earned for decreases in activity levels outside the project activity or due to force majeure (para. 47 of the Modalities & Procédures)

The Baseline Approaches

- The basis for the Baseline Methodology
- EB has determined THREE Approaches (see 17/CP7, Anx - Sub-para. 48(a) to (c) of the CDM Modalities and Procedures) applicable to CDM projects:

The Baseline Approaches

- (a) Existing actual or historical emissions, as applicable; or
- (b) Emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment;
- (c) 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.

(a) Existing actual or historical emissions, as applicable

- No other indications (number of years to be included, technologies, etc.)
- E.g. emission trends of the electrical sector for the last 10 years

(b) Emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment

- A Coal-fired Power Plant is the usual practice because of the availability of the coal in the country, and the limited needs for financial resources
- Using Petroleum coke in the Cement Industry

(c) Average emissions of similar project activities ➔previous five years, and whose performance is among the top 20 per cent of their category

	Plant installed during the last 5 years	Average emissions		Efficiency	the top 20 per cent of their category	Total emissions	Average emission to be adopted for BL
Plant1	1999	888	TCO2eq/GWh	36%			
Plant2	1999	1147	TCO2eq/GWh	27%			
Plant3	2000	648	TCO2eq/GWh	44%		350 000	
Plant4	2001	528	TCO2eq/GWh	40%		230 000	
Plant5	2001	1295	TCO2eq/GWh	23%			
Plant6	2001	720	TCO2eq/GWh	30%			
Plant7	2001	768	TCO2eq/GWh	29%			
Plant8	2002	576	TCO2eq/GWh	42%		120 000	
Plant 13	1995	650	TCO2eq/GWh	39%			
Plant 22	1993	713	TCO2eq/GWh	38%			
						700 000	**596**
Total Number of Plants in the country			25				
		"==>20%	5				

The Baseline Section in the PDD

- Title and reference to the UNFCCC CDM website for the methodology applicable to the project activity

A. Justification of the choice of the Methodology

B. How the project is additional➔not baseline scenario

C. Project boundaries

D. Details of the BL and its development

A. Justification of the choice of the Methodology

- Explain the principles of the Methodology
- Why is it applicable to the specific case of the project ?
- Justify the Approach used

B. How the project is additional➔not baseline scenario

- A CDM project is additional if the athropogenic emissions of GHG are reduced below the level that would have occurred in the absence of the project activity
- Additionality is judged and quantified by establishing the baselin on a project-specific basis

B. How the project is additional→not baseline scenario

- A flow-chart or series of questions that lead to a narrowing of potential baseline options
- Qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely
- A qualitative or quantitative assessment of one or more barriers facing the proposed project activity
- Indication that the project type is not common practice, and not required by recent/pending legislation/regulations

B. How the project is additional➔ Examples

- Investment Barriers
  - Wind Power: US$ M 1.2 / MW for 3,000 hours
  - Combined Cycle: US$ M 0.7 / MW for 6,500 hours
  - For a 100 CC (US$M 70) an equivalent 220 MW Wind Power is needed (US$M 264)

B. How the project is additional➔ Examples

- Technological Barriers
  - The project is the first one to be implemented in the country➔technological risks
  - Lack of skilled labor to operate and maintain new technologies
  - Unforseen Meteorogical damages

B. How the project is additional➔ Examples

- Barriers due prevailaing practices
  - No incentives to encourage cogeneration➔no significant capacity installed up to now
  - Untransparent regulations➔no clear tariff indications, no specification on the duration of the eventual incentives

B. How the project is additional➔ Examples

- Other Barriers
  - Discouraging Land Tenure to develop Wind Power
  - No Transmission Lines to connect to the Natural Gaz Network
  - Etc.

C. Project Boundaries

- Define the sources of GHG emissions to be calculated and estimated to establish the emissions baseline and to be monitored once the project is implemented
- Encompass all GHG emissions under the control of the project participants and those which are significant and reasonably attributable to the CDM project activity
- Can be shown through a Flow-Chart indicating the emission sources to be included or excluded.

C. Project Boundaries

- Activities that are directly related to the project activity and site location (e.g. Fugitive emissions of NG to operate a Cogeneration Facility)➔should be included in the boundary
- Impacts that are not significant relative to total emissions or that are not under the control of the project participants can be ignored

C. Project Boundaries

- Emissions from off-site activities that are significant, directly attributable to the project activity and under the control of the project participants should be included in the project emissions
  - e.g. moving location of a company to get connected to the hydro-based grid➔increases fuel consumption for transporting the raw materials from the original site .

D. Details of the Baseline

- The baseline emissions should be calculated on an annual basis and until the end of the selected crediting period
- The emissions should be calculated source-by-source and expressed in CO2 equivalents using the GWP values (CO2: 1; CH4: 21; N2O: 310; SF6: 23,900)

D. Details of the Baseline

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Baseline Case	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
CO2 (tons)	250 000	257 500	265 225	283 791	303 656	324 912	347 656
CH4 (tons)	179	184	189	203	217	232	248
N2O (tons)	40	42	43	46	49	52	56
Total T-CO2eq	**266 250**	**274 238**	**282 465**	**302 237**	**323 394**	**346 031**	**370 254**
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
Project Activity	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
CO2 (tons)	212 500	218 875	225 441	241 222	258 108	276 175	295 507
CH4 (tons)	152	156	161	172	184	197	211
N2O (tons)	34	35	36	39	42	45	48
Total T-CO2eq	**226 313**	**233 102**	**240 095**	**256 902**	**274 885**	**294 127**	**314 715**
Emission Reductions	**39 938**	**41 136**	**42 370**	**45 336**	**48 509**	**51 905**	**55 538**