



## **Capacity-Building for CDM projects in Industry**

**Development of operational guidelines and decision-support tools for baseline studies for GHG emissions reduction projects in the industrial sector**

**Sao Paulo, 19-21 September 2001**

**Draft Programme**

**IN COOPERATION WITH COMGAS, CNI, CEBDS, FIESP**

## Introduction

The Clean Development Mechanism (CDM) introduced to the world by Article 12 of the Kyoto Protocol (1997), established at the 3rd Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) provides the opportunity for creating transferable GHG emission reductions and an additional source of foreign direct investment to national mitigation projects, which contributes to a decrease in worldwide greenhouse gas (GHG) emission levels. Although there is much speculation about the size and the prospects of a future CDM market, there is little doubt that carbon market is growing as companies and governments have started purchasing emissions credits through voluntary trading schemes, carbon investment funds and government procurements tenders. By some estimates the market is growing by 60-100 per cent each year. The ERU-PT programme alone is prepared to invest in CDM mitigations project some US 50 million on a yearly basis from 2003 to 2010.

Should the Kyoto Protocol be ratified and the CDM become operational, the market for certified emission reductions could bring over US\$ 20 billion in new investment for technology transfer and efficiency improvements to developing countries each year by 2010.

Brazil has been identified by the international community as a competitive supplier for cost-effective GHG offset projects, together with other developing nations such as India and China. Recognizing this national potential as well as the possible benefits derived from such investment flows to Brazil, the federal government has placed a prompt start to the CDM at the top of its climate-change agenda in the context of the international climate-change negotiations. This decision is widely backed by the private sector and civil society, which has demonstrated wide support for the implementation of the CDM.

The Brazilian federal government recognizing the importance of global cooperation for climate change abatement and its implications for national objectives for sustainable development, created by Federal Decree in July 7<sup>th</sup>, 1999 the Inter-ministerial Commission on Climate Change (*Comissão Interministerial de Mudança Global do Clima*) as the federal agency responsible for decision-making regarding climate change issues. The Commission is currently composed by 9 ministries and the Civil House of the Presidency. It is led by the Ministry of Science and Technology whose minister, Mr. Ronaldo Mota Sardenberg, currently presides it. It is important to mention that there are currently no institutions in place at the state and municipal levels in Brazil governing issues regarding the CDM and climate change at large.

The Inter-Ministerial Commission has the responsibility among others to define eligibility criteria for CDM projects additional to those determined by the COP/MOP, *according to national strategies of sustainable development*. National strategies for sustainable development in turn are governed by a Sustainable Development and National Agenda 21 Commission created by Federal Decree of February 26, 1997 and is composed by 5 ministries.

Currently, government efforts to mitigate climate change and promote sustainable development include initiatives such as: the national alcohol program (Proálcool), energy conservation

programs (Procel), expansion program in biomass co-generation and electric energy production as well as many others. Eventually, these programs may generate CDM candidate projects approved internationally.

In the private environment, priority sectors for CDM projects have been identified by Brazilian and international institutions. These sectors include the energy (including biomass for fuel in the North/Northeastern in order to decrease deforestation rates in the Amazon region) , transportation, agriculture , mining, metal production and waste management activities which in the opinion by many may maximize the Brazilian contribution to halt climate change.

Most of the private sector agents in Brazil are still somewhat skeptical about the CDM/Kyoto debate and lack sufficient information and guarantees to invest in CDM-candidate projects. On the other hand, there are a number of “early credits” initiatives, which have attracted the attention of many global players such as multi-lateral funds. Overall candidate projects have been developed in the metal producing, waste management, and energy and forestry sectors. Fuel switching to less carbon intensive fuels, energy efficiency and reforestation has been the focus so far.

An interesting public-private initiative coordinated by the Brazilian chapter of the World Business Council on Sustainable Development (WBCSD) or CEBDS has been the formulation of a national system for CDM projects including all phases such as project development and validation.

CDM forums involving Brazilian businessman and policy makers have been organized by the government, universities and chambers of commerce. These attempts focused on detailing possible eligibility criteria as well as on clarifying the project cycle regarding the construction of prototype carbon offset projects. Although successful in disseminating information, much uncertainty still surrounds the theme.

As a result, the private sector currently lacks appropriate venues of information about the CDM and capacity building in issues such as the project cycle and risks, development and transaction costs as well as the validation process will proof crucial for the ability of Brazil as a nation to deliver high quality emission reductions of greenhouse gases.

## **GHG Emissions Baselines for CDM projects**

Determination of GHG emission reductions achieved as a result of CDM activities requires a specification of a baseline to which emission reductions are additional. The baseline should represent a reference scenario that “would occur in the absence of the certified project activity”.

While the environmental and economic benefits of low-emission technologies such as cogeneration or the use of renewables or biomass for energy generation are well understood, the methodologies for calculating the emissions reductions attributable to their deployment continue to be problematic and remain a matter of intense discussion.

There have been numerous calls for the standardization of baselines or for the standardization of the process of arriving at an objective and unbiased estimate of baselines for CDM projects. There have also been a number of warnings, particularly from project developers in the private sector, regarding the need to simplify the baseline-setting process, which is too complex and too vague as set forth in the Protocol. It is thus likely to give rise to prohibitively high transaction costs that will overburden the CDM and eventually price certified emissions reductions off the emissions-reductions market. On the other hand, there have been equally numerous warnings of the need to maintain the rigor of baseline estimation methodologies so as not to compromise the credibility of the CDM.

All of the competing demands made on baseline methodologies appear to be valid, and they create a pressing need for a manageable yet sufficiently rigorous process for assessing CDM project baselines.

To some extent, it is possible to argue that a baseline is by definition a counterfactual "what-would-have-happened-otherwise" scenario that cannot be established with an absolute degree of precision and whose estimation will remain subjective under the best of circumstances. However, knowing with a sufficient degree of certainty and confidence "what would have happened otherwise", namely in the absence of a CDM project, is absolutely crucial for the delivery of "real, long-term and measurable" benefits in terms of reducing emissions of GHGs, because the baseline is the starting point for calculating the emissions reductions that later become the increase in emissions that a country with an emissions-reduction target is permitted.

Analyzing a baseline scenario requires a careful consideration of all the factors impacting CDM project selection and a systematic assessment of all the project alternatives against those factors. The guidelines developed by UNIDO aim at identifying the factors and developing a ranking system that allows an objective ranking of all the baseline options (including the proposed CDM project). This process yields a probability ranking of activities by their likelihood to have been replaced by the proposed activities of the CDM project.

In addition, the baseline document provides important reference points for the MRV protocol. It defines system boundaries, points of measurement and identifies those factors that need to be observed to discover baseline shifts.

## **Workshop's objectives**

The objectives of this workshop are to introduce the UNIDO guidelines options for baselines setting and determination of additionality to project developers in the industrial sector in Brazil and to stimulate a discussion on the conceptual framework and the algorithms presented in the guidelines. The ultimate objective is to facilitate the process of identification, assessment and development of high quality projects in the industrial sector by strengthening national capacities in the area of CDM project development.

The workshop aims at moving the debate on baselines from a theoretical to a practical, working level. The guidelines and tools, which are to be presented, will provide insights on how to develop credible, workable and transparent baselines from which to quantify the mitigation effects of industrial CDM projects.

The workshop will also provide a forum for reviewing the results of the recently-concluded COP6.5 and the current status of CC negotiations, national policies and strategies, growth prospects of carbon markets and some key issues in CDM project design.

Speakers:

Rapporteurs:

Organizers: **UNIDO, COMGAS, CNI, CEBDS, FIESP**

## **DAY 1**

8:30 - 9:00            **Registration**

9:00-10:00           **Opening Statements**

Agenda of the Workshop and Introductions of Participants  
(Fujihara/Ploutakhina);

Welcome statements by organizers (FIESP or FIRJAN, CEBDS, CNI,  
COMGAS, and MCT/Dr. Miguez)

- **Keynote Address** ( Dr. Jose Goldemberg )

10:00-11:45           **Overview of Climate Change Issues and Negotiations**

- Summary of recent meetings: COP6.5 (UNFCCC Secretariat, to be confirmed)
- Presentation of results from IPCC Synthesis Report (to be agreed with the speaker) – (Gylvan Meira Filho, Brazilian Space Agency or José Goldemberg, IEE)
- Assessment of the state of the negotiations and the future prospects as regards the CDM operationalization (Dr. Jose Miguez)

11:45 – 12:30        **National climate change activities, priorities and strategies**

- Technical and institutional capacity strengthening for Climate Change mitigation projects in industry (to be determined)
- Governmental institutional framework (Dr. Miguez or someone else from the MCT)
- Climate Change and society (Fabio Feldmann, FBMC)

12:30 – 2:15      **Lunch Break**

2:15 – 3:45      **Flexible Mechanisms of the Kyoto Protocol and Key Issues in CDM project design**

- The global GHG market and the CDM ( EMA or IETA to be confirmed)
- CDM in Brazil: key sectors and prospects for CDM projects (Roberto Schaiffer);
- CDMs and Sustainable Development (Dr. Suzanna Kahn OPPE)
- CDM project development in Brazil: projects and initiatives (Marco Antônio Fujihara);
- Key Issues in Project Design: Overview of Baseline Approaches (Lazarus)

3:45 – 4:00      **Break**

4:00 – 5: 00      **UNIDO Guidelines for Baseline and Additionality Assessment for CDM projects**

- Introduction to the UNIDO Guidelines Options to support decision making on baselines; (Ingo Phul)
  - Purpose
  - Methodological approach
  - Implementation
  - Future outlook

4:30 – 5:30      **Discussion**

## **DAY 2**

### **9:00-11:30 UNIDO Guidelines for Baseline and Additionality Assessment: Case studies and Practical Application**

- Introduction to case-study Plantar (Samy Hotimsky)
- Demonstration of baseline development with prototype tool support (Ingo)
- Introduction to case-study Comgas (Marco Fujihara)
- Demonstration of baseline development with prototype tool support (Ingo)

**11:30 – 12:00 Break**

### **12:00 – 1:00 Review and comment of baseline development prototype tool**

- Case study Plantar
- Methodological approach
- Implementation
- Presentation
- User interface

**1:00 – 2:00 Lunch Break**

### **2:00 – 4:00 Presentation of COMFAR: The Computer Model for Feasibility Analysis and Reporting**

- General Description of the Model (UNIDO)
- Financial and economic analysis module (UNIDO)
- Sensitivity module (UNIDO)

- Demonstration (UNIDO)

4:00-4:30 **Break**

4:30 – 5:30 **Review and comment of baseline development prototype tool and COMFAR tool**

- Case study Plantar
- Methodological approach
- Implementation
- Presentation
- User interface

5:30- 6:00 **Synthesis and Evaluation**

6:00 – 6:30 **Closing Statements**

7:00 **Adjourn**

7:00 – 9:00 **Reception**