Workshop CDM in Industrial Processes

Example CDM Project in the Cement Industry

Indocement's Sustainable Cement Production Project

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GENERAL INTRODUCTION

Currently Proposed Industrial Sector Baseline and Monitoring Methodologies (1)

Overview proposed industrial projects (Status September 2005)
Source: cdm.unfccc.int

NM0132	Industrial fuel switching from petroleum fuels to natural gas without extension of capacity and lifetime of the facility where barriers to switching exist.
NM0131	Peruvian Fuel-Switching Project (food company, fibre production company)
NM0128	Modal shifting in industry for transport of product/feedstocks
NM0126	National Fertilizers Limited (NFL) Nitrous Oxide Abatement Project
NM0124	PFC emission reductions at ALUAR Aluminio Argentino
NM0123	Substitution of raw material in cement processing
NM0122	Shell Cogeneration Project (refinery)
NM0120	Demand side electricity management program at Companhia Brasileira de Distribuição
NM0119	Petrotemex Energy Integration Project (production plant for Pure Terephthalic Acid PTA, a raw material for polyester yarn, PET etc)
NM0118	The model project for renovation to increase the efficient use of energy in brewery
NM0117	Nanjing Chemical Industries Co Ltd (NCIC) Nitrous Oxide Abatement Project
NM0116	Reduction in Ordinary Portland Cement Consumption in Concrete mix preparation utilizing lower cement concrete technology
NM0092-rev	Transalloys Manganese Alloy Smelter Upgrade & Energy Efficiency Project
NM0115	CO2, electricity and steam from renewable sources in the production of inorganic compounds

Currently Proposed Industrial Sector Baseline and Monitoring Methodologies (2)

Overview proposed industrial projects (Status September 2005) (continued)

Source: cdm.unfccc.int

NM0113	Mondi Gas Turbine Co-generation in Richards Bay, South Africa (Pulp&paper industry)
NM0111	Baseline Methodology for catalytic N2O destruction in the tail gas of Nitric Acid Plants
NM0110	Mitigation of Methane Emissions in the Charcoal Production of Plantar, Brazil (Iron/steel industry)
NM0107	Waste Gas-based cogeneration system for power & steam generation (carbon black production)
NM0106	Optimisation of clinker use in the Ramla Cement Plant in Israel through investment in grinding technology
NM0079-rev	Taishan Huafeng Cement Works Waste Heat Recovery and Utilisation for Power Generation Project
NM0098	Nobrecel Fossil-to-Biomass Fuel Switch Project in Brazil (Paper&pulp industry)
NM0095	ACC New Wadi Blended Cement Project
NM0050-rev	Ratchasima Small Power Producer (SPP) Expansion Project (sugar industry)
NM0045-rev2	Birla Corporation Limited: CDM project for "Optimal Utilization of Clinker"
NM0081	Trupán Biomass Power Plant Project in Chile (wood panel industry;pulp industry)
NM0047-rev	Indocement Sustainable Cement Production Project - Blended Cement Component
NM0033	Holcim Costa Rica's Cartago Plant Expansion Project (clinker production)

Indocement's Sustainable Cement Production Project

The purpose of Indocement's Sustainable Cement Production Project is to reduce CO_2 emissions by implementing technologies and using fuel types that are not applied at present in the Indonesian cement sector. The project consists of two independent yet integrated CO_2 reduction components, namely

- the introduction of blended cement to substitute Ordinary Portland Cement (OPC), and
- a partial substitution of traditional fuels with alternative fuels in clinker burning.

Project History

- Prototype Carbon Fund (PCF) Project of the company Indocement in Indonesia, a daughter firm of HeidelbergCement, a world-wide acting cement and construction material company based in Heidelberg, Baden-Württemberg, Germany.
- The Project Design Document (PDD) was submitted to the 6th round of the approval procedure for new Baseline and Monitoring Methods in March 2004 for two project components: (1) the production of blended cement (NM0047) and (2) the use of alternative fuels (NM0048).

Project History (continued)

- The Meth Panel recommended to the Executive Board (EB) for both components to re-examine the proposed methods after the execution of some requirements. After this classification in the Category B the proposed changes were integrated into the project documents and the revised PDD (NM0047rev. and NM0047rev.) was submitted again by the project developer for the 8th round in October 2004.
- In its 14th session end of January 2005 the Meth Panel recommended to the EB to accept the Baseline and Monitoring-Method for the second project component (use of alternative fuels) in the form of a consolidated method empfohlen. Approval by the EB occurred on its May 2005 session.

(ACM0003: “Emission reductions through partial substitution of fossil fuels with alternative fuels in cement manufacture”).

Project History (continued)

- The decision on the first project component (blended cement) was postponed by the EB in the February 2005 session to the next session of the Meth Panels, in order to ask for the advice of an expert of blended cement). In the 19th meeting in May 2005 the Executive Board asked the Meth Panel to merge the new methods NM0047-rev, NM0045-rev2 and NM0095 to a consolidated method. Approval should occur on the 20th session of the Executive Boards in July 2005 but had to be postponed to the 21st session of the EB in September 2005 as the Meth Panel had not yet finalised its work. The Meth Panel was therefore asked in July 2005 by the EB to finalise the consolidated method rapidly.
- It is expected that the EB will approve the consolidated method in this 21st session in September 2005.

Project History (continued)

- **NM0045rev2:**
  Birla Corporation Limited: CDM project for "Optimal Utilisation of Clinker" (India)
  The project activity entails a reduction of the Clinker content of the Portland Pozzolanic Cement (PPC) produced by increasing the flyash additive percentage thereby replacing an equivalent amount of clinker at BCL's cement manufacturing units at Chittorgarh, Rajasthan.
- **NM0095:**
  ACC New Wadi Blended Cement Project (India)
  The project activity consists of an increase in the percentage of fly ash blended in the Portland Pozzolonic Cement (PPC) produced by the New Wadi cement plant. The cement plant is owned and operated by The Associated Cement Company Limited (ACC) and produces the Suraksha brand of blended cement or PPC..

Project History (continued)

- The project documentation (e.g. PDD) as well as comments and positions of the Meth Panel and decisions of the Executive Boeard for NM0047, NM0047-rev, NM0048 and NM0048-rev can be look at under

  http://cdm.unfccc.int/methodologies/PAmethodologies/process?OpenAll=1&cases=B

  or under

  http://cdm.unfccc.int/methodologies/PAmethodologies/process?cases=A

- The PDD is identical for both components, contains hence under the number 47 as well as 48 the information for both components. The methods are however in separate approval processes for both components.
- The accepted consolidated method for the alternative fuel component of the project (ACM0003) can be found under

  http://cdm.unfccc.int/UserManagement/FileStorage/CDMWF_ACM_YOZT4HEMDMXQROFYK0LVBGFYJL2E2Q.pdf

Transaction Costs

- HeidelbergCement had in spring 2003 the first contact with the staff of the Prototype Carbon Funds (PCF) of the World Bank. One year passed until the submission of the original Project Design Document (PDD). The project developers also had contact with the UNFCCC bodies. So, it it could be clarified that for the two separate project components it was sufficient to work out a common PDD. The project documentation was prepared by an Indonesian consultant as well as three staff members of Indocement as well as one colleague from HeidelbergCement in Germany involved. In addition the project developers were supported, among others, in institutional questions and details related to the flexible mechanisms by the PCF. For the revision of the as "B" classified Baseline- and Monitoring-Methods and the corresponding adaptation of the PDD about half a year was necessary.

Transaction Costs (continued)

- According to HeidelbergCement the long international approval process should be speeded up, e.g. by increasing the work capacity of the UNFCCC bodies. The dissuasive impact of the high administrative barrier is illustrated by the fact that from 4 submitted Baseline- and Monitoring-Methods in the cement sector only two, among those the ones from HeidelbergCement are further pursued. The other project developers have ceased (at least for the moment) their CDM activity after the classification as Category B due to the high uncertainty and the transaction costs.

Transaction Costs (continued)

- In addition to the time aspect there are also considerable costs which have been estimated to half a million Euro. Included are costs for the Indonesian consultant (about 100.000 €), for the World Bank (about 200.000 €), for the validation (15.000 - 20.000 €) and one gross annual salary for the staff member of HeidelbergCement as well as the salaries for the three Indonesian colleagues. To this add the costs which occur with the UNFCCC, such as the Share of Proceeds. In total the CDM costs are quite high for the First Mover as he carried due to his pioneer behaviour the costs for the development of Baseline- and Monitoring-Methods. After acceptance of the methods "CDM-Imitators" can profit from this.