



Dear CDM Registration Team,

RE: Reference: Request For Registration Incomplete Information and Reporting for "Clinker Optimization in cement types production at Derba MIDROC cement Plant" (7632).

Carbon Check and the Project Participant acknowledge the issues during the UNFCCC CDM I & R completeness check. Carbon Check hereby presents and submits justification and revised project documentation in response to the issues raised.

ISSUE 1:

The DOE is requested to describe the process taken to validate the accuracy and completeness of the project description as per VVS version 2 paragraphs 64-68 and 69 (a) (b).

The cement types involved in the project activity are not described consistently within the PDD and validation report., e.g. page 2 of PDD (CEM II / B-P, CEM II/B-L and CEM IV / B), whereas CEMII/A-L is mentioned in page 5 of the PDD.

DOE Response:

At the time of validation, the project activity plant was a Greenfield site. Therefore as per Paragraph 67 of VVS the DOE conducted the validation based on feasibility studies and available supporting documents. The Project plant is comparable (based on validation team's experience of validation of other cement projects) with the other cement Project site having following components:

- ✓ Raw Material Mines
- ✓ Raw material storage silos, Yard
- ✓ Additives storage area
- ✓ Cement Kiln
- ✓ Clinker storage Silos
- ✓ Cement Grinding Mill
- ✓ Bag Packaging & Transportation

However the DOE took cognisance of Paragraph 65a of VVS as the plant was in the last stages of commissioning and is large scale project. Therefore the DOE conducted an onsite visit and validated all evidences and physical components of the project activity.

The validation report has been revised in order to reflect the assessment / process undertaken by the DOE to validate the accuracy and completeness of the project description as per the requirements of VVS version 2 paragraphs 64-68 and 69 (a) (b).

With reference to the cement types involved in the project activity and the stated inconsistency within the PDD and validation report as raised by the UNFCCC CDM. The DOE confirms this was a typographical error. The Project Participant has corrected the reference to the cement type in the PDD on page 15 & 16 of the PDD dated 03/05/2013 version 06. The DOE confirms the accuracy of the revision and consistency of the PDD with the validation report for cement types including CEM II/B-L (initially mentioned as CEMII/A-L in the PDD).



ISSUE 2:

The DOE is requested to describe how each applicability condition of the methodology/ies is fulfilled by the project activity as per VVS version 2 paragraphs 76 and 77.

The DOE shall explain:

(a) whether blending of cement outside the cement production plants is a common practice in the host country and how the DOE has validated it.

(b) all clinker used in the project activity is produced by the cement plant that is included within the project boundary.

(c) Adequate data are available on cement types in the market. In doing so, data and information of types of cement shall be provided, in particular cement types CEMII/B-L and CEM IV/B.

DOE Response:

- a) *“Whether blending of cement outside the cement production plants is a common practice in the host country and how the DOE has validated it”*

DOE has checked the Ethiopian National cement standard E1177-1:2005^{/FVR/18/} submitted by PP for the type of cements produced in Ethiopia. Blending of cement in Ethiopia is carried out only in cement production Plants. This is valid for all plants in the country owned by Government as well as private parties. The above information was validated by reviewing the production data for the period 2007-2008-2009 for all cement plants. The data was procured by Environmental Protection Authority of FDRE Ethiopia ^{/FVR /19/,/13/}. The production data ^{/FVR /19/,/13/} clearly states the locations of the plant and DOE confirms that the blending of cement is carried out only on integrated cement production plants. Please refer to section 3.4 (page 19) of the revised validation report dated 15/06/2013 version 02.

- b) *“All clinker used in the project activity is produced by the cement plant that is included within the project boundary.”*

The DOE performed an onsite visit to the plant site and verified that, as described in the second paragraph of the PDD under Section A.1, the cement plant is a complete integrated plant. Therefore it has an onsite clinker kiln and grinding mills and hence produces all clinker and cement within the project plant boundary. Validation team based on the onsite visit also confirmed that the plant is a complete cement plant (kiln and grinding). Hence it is not a grinding-only plant. The project plant has design clinker generation capacity of 5600T/D and the whole of this quantity shall be used in production of blended cement, the same was validated through TEFR ^{/FVR/31/}. The design capacity of cement grinding system as per above study is 9000 T/Day, which is sufficient to grind and blend suits 5600T/D of clinker & 1889 t/d of additive. Hence DOE confirms that whole of the clinker produced in the plant will be used in the project activity.

Based on above assessment, it can be confirmed that the clinker used by the project activity will be produced by the cement plant within the project boundary. Please refer to section 3.4 of the revised validation report.

- c) ***“Adequate data are available on cement types in the market. In doing so, data and information of types of cement shall be provided, in particular cement types CEMII/B-L and CEM IV/B.”***

DOE confirms that there is adequate statistical data on cement production by plant, type and annual volume for the relevant years. This data is summarized in table 006 and 007 of the PDD dated 03/05/2013 version 06 (p15 and 16); checked and confirmed by the validation team ^{/FVR/19/,/13/}. Furthermore based on review of this



data, validation team confirms that there was only production practice of Ordinary Portland Cement (OPC) CEM-1 Type and Portland Pozzallana Cement (PPC) of type CEMII/B-P types in the host country. CEMII/B-L and CEM IV/B types of cements are not produced by any cement plants in the Country. This was further validated through news clipping and the contents available in public domain; Bloomberg News_{/FVR/B12/} and Ethiopian business portal dated 23/04/2012_{/FVR/B13/}. Please refer to section 3.4 of the revised validation report.

Issue 3:

The DOE is requested to describe how it has validated the project boundary and sources of GHG as per VVS version 2 paragraphs 86 and 87.

The DOE shall explain why the power generation involved in the project activity has not been included in the project boundary.

DOE Response:

Validation team could validate during the onsite visit that the cement plant is already connected to the national grid for obtaining all of its power. This is as per TEFR study_{/FVR/31/}. Power purchase agreement has been provided by the PP to the DOE during the onsite visit. Validation team based on the onsite visit confirms that the cement plant is grid connected and does not generate electricity of its own except in an emergency situation and even in such cases only an emergency back-up diesel generator is ready to switch on. The emergency back-up generator installed on site is one unit of 1701 kW diesel generator only. This cannot run the cement plant designed to receive a ¹45 MVA power supply.

Validation team based on review of the revised PDD dated 03/05/2013, version 06_{/FVR/01/} confirms that the revised PDD mentions parameters required to calculate emissions on the account of self generated electricity (i.e. the DG set). The revised PDD also provides methodological equations in section B.6.1 (p- 31). EF_{sg,y}, will also be determined in each crediting year. Please refer to the revised validation report (p-20 and 21).

Issue 4:

The DOE is requested to describe how it has assessed the application of the equations and parameters for the calculation of emission reductions as per VVS version 2 paragraphs 97 and 99 (d) (e).

The DOE shall explain how it has validated the correctness of the calculation of emission reductions. E.g. the updating of baseline benchmark of share of clinker per tonne of BC is not in line with the formula in page 10 of the ACM0005 version 7.1.

DOE Response:

The PP has used option 2 (p-10 of the applied methodology) which requires the PP to update the benchmark annually based on an annual 2% increase in share of additive (to account for autonomous increase of additive in the market). The PP has directly interpreted this into mathematical application.

Example: For type CEMII/B-P; the initial year clinker share obtained through step 2.1 is, B_{blend, 1} was 71.28%, and this means the additives share is 28.72% (i.e 100% -71.28%). On year 2, a 2% autonomous increase in additive share results in 28.72+2%*28.72= 29.29%. The clinker share therefore becomes 100-29.29%=70.706% and so on until it reaches 65% which is the regulatory norm limit for this type of cement. The annual baseline clinker share for each cement type (of the project activity) have been calculated by the same approach.

¹ Feasibility report (TEFR) of the project section 5.10.



The DOE would like to highlight here that there is a contradiction between the text mentioned in the applied methodology and the equation provided (p-10 of the applied methodology). The exact text and the equation are reiterated below:

“Update the benchmark annually based on 2% default increase in the share of additives (i.e. decreasing share of clinker) up to the limit of the regulatory/product norm in the region/national market. (Page 10 of the Applied methodology ACM 005 Version 07.1)

$B_{Blend,y} = B_{Blend,1} \times (1-0.02)^Y$ till $B_{Blend,y}$ reaches the limit of the regulatory/product norm in the region/national market for the share of clinker in the cement type.”

For the project activity, PP has opted to calculate /update the baseline benchmark of share of clinker per tonne of BC for each year, based on the text provided by the applied methodology (p 10 of 36) and not the provided equation (p 10 of 36). This approach yields a conservative emission reduction from the project and hence acceptable to the validation team. Validation team also wish to submit that since the calculation is based on the text provided in the applied methodology, this cannot be considered as deviation from the applied methodology. Please refer to the assessment provided in the revised validation report (Page 23)

Issue 5:

The DOE is requested to verify the justification of the data used for the ex-ante emission reduction calculations as per VVS version 2 paragraphs 98, 99 (a) (b) (c) and 100.

The DOE shall explain how it has validated the conservativeness of the ex-ante parameter $B_{blend,y}$ (baseline benchmark of share of clinker per tonne of BC), in particular the cement types of CEM II/B-L and CEM IV/B, considering the lowest clinker share allowed for CEM II/B-L by national standard is 65%. Further, the DOE shall explain why only private cement plants have been considered in determine the baseline and baseline parameters.

DOE Response:

The validation team confirms that, the product specification as per Ethiopian cement standard ES 1177-1-2005_{/FVR/18/} requires the minimum clinker share for type CEMII/B-L to be 65% (refer table 001 of PDD, version 06, date 03/05/2013, page 08) and for type CEMIV/B to be 45%. The same is cross checked/verified by the validation team by reviewing the Ethiopian cement standard ES 1177-1-2005_{/FVR/18/} . Validation team based on review of the CER calculation spread-sheet confirms that the lowest benchmark clinker share that will be achieved through 2% autonomous increase in additive every year in the crediting period is 94.14% (at the tenth crediting year) and 94.02% (at the tenth crediting year) for the type CEMII/B-L and CEMIV/B respectively. This is much higher than the values of 65% (for CEM II/B-L) and 45% (for CEMIV/B) the lowest allowable limit in the standard ES 1177-1-2005_{/FVR/18/} .

Furthermore, validation team confirms that PDD version 06 date 03/05/2013 clearly states (on page 27 under the last bullet point), conservative data from all plants (Government & Private) in the host country has been considered in establishing the baseline benchmark clinker share. Validation team based on review of PDD and associated CER calculation sheet confirms that PP considered both public and private cement plants in determining the baseline and baseline parameters. Please refer to the revised PDD version 06, dated 03/05/2013 Page 28 to 30. DOE confirms that the data used in ex-ante emissions reduction calculation are accurate and conservative and in compliance with the requirements of the selected methodology and applicable tools.



Issue 6:

The DOE is requested to describe how it has assessed the barrier analysis as per VVS version 2 paragraphs 125-127.

The DOE shall explain:

(a) why only private cement plants have been considering in validating the barrier of "first of its kind".

(b) how it has validated that no structured capital market in the host country is a barrier to implement the project activity.

(c) how it has validated that the CDM alleviates all those claimed barrier to a level that the project is not prevented anymore from occurring by such barriers. Further, the DOE shall explain what evidence has been checked. Please refer to page 6 of ACM0005 version 7.

DOE Response:

(a) "Why only private cement plants have been considering in validating the barrier of "first of its kind".

As per "GUIDELINES ON ADDITIONALITY OF FIRST-OF-ITS-KIND PROJECT ACTIVITIES (Version 01.0)" Para 5; A proposed project activity is the First-of-its-kind in the applicable geographical area if:

(i) The project is the first in the applicable geographical area that applies a technology that is different from any other technologies able to deliver the same output and that have started commercial operation in the applicable geographical area before the start date of the project; and

(ii) Project participants selected a crediting period for the project activity that is a maximum of 10 years with no option of renewal;

The DOE verified that taking considering the Host Country as a region, the PPs have established the CDM project activity is FOIK by ²Technology, FOIK by Feedstock and FOIK by ³Scale. PP has selected a fixed 10 years crediting period. In the revised PDD version 06, dated 03/05/2013, page 19 to 21, the demonstration of FOIK is further elaborated in order to establish FOIK by diffusion of technology (as stated on p 5/36 of methodology). In this regard the PP has used percentage statistics of cement produced by private plants in the host country versus cement produced by all plants (Govt and Private) in the host country. Since the Project Operator is a private operator, the PP has submitted evidence to the DOE that the existing public plants were established in a different investment era (early and late 1980's) and were established with Government capital funding. The "Tool for the Demonstration and assessment of Additionality" version 07.0.0 under Para 20 footnote 5, describes the relevance of taking the identity of the project developer (investor) into account when establishing alternative scenarios of delivering a product, towards assessing Additionality. Validation team confirms that it is a straight forward interpretation of "similar circumstances" and that it is only appropriate to compare the proposed project with projects in private sector (i.e. projects with similar circumstances and investment environment).

² Page 17 of PDD

³ Page 16 footnote 8 of PDD



- (b)** *"How it has validated that no structured capital market in the host country is a barrier to implement the project activity".*

PP has provided evidence that there is no Moody's, S&P or Fitch rating for the host country which is commonly used by private equity investors for measuring hurdle rates when they wish to invest (equity or other) on a certain project in a country. In the absence of such rating, private capital investors would have less information on risk or simply would assume it is risky. There is no structured capital market exist in Ethiopia through which the capital for such projects can be sourced_{/FVR /B12/,/B13/,/1B4/,and /B15/}. This is also validated through Market Potential Assessment and Road Map Development for the Establishment of Capital Market in Ethiopia- Ruediger Ruecker_{/FVR /B18/&/B19/}

DOE further validated above with the information available on public domain. A publicised report named "Ethiopian Economic fallacy Normal Growth and real poverty"_{/FVR/B22/} which states "Deliberate monopolistic government policies and high entry costs have prevented domestic private investors from entering into the manufacturing, finance, and communication sectors."

- (c)** *How it has validated that the CDM alleviates all those claimed barrier to a level that the project is not prevented any more from occurring by such barriers. Further, the DOE shall explain what evidence has been checked. Please refer to page 6 of ACM0005 version 7.*

PP has established that the revenue from the CDM would at least alleviate investment barrier and also a portion of operating expenses incurred on foreign experts' serving as source of foreign currency. The Contract for erection for project has been awarded to the Chinese company which included training of the employees and maintenance for a period. This was validated through review of contract documents_{/FVR /05/}. The DOE validated this during the onsite visit where foreign experts were witnessed operating the trial runs of the plant. Ethiopia has a very marginal foreign exchange reserves and the exchange ratio and the same were cross checked through the information available on public domain.

At <http://www.ethiopianreview.com/content/2628> . It can be confirmed that CDM alleviates the claimed barriers to the new blended cement produced under the project activity, to a level that the project is not prevented anymore from occurring by such barrier.

In view of DOE, the demonstration provided by the PP in the PDD is sufficient considering the fact the proposed project activity is located in a Least Developed Country. The DOE would like to draw attention to "GUIDELINES FOR OBJECTIVE DEMONSTRATION AND ASSESSMENT OF BARRIERS" (Version 01) "Guideline 7 reads;-

"For projects in Least Developed Countries, it is sufficient to transparently describe the relevant barriers, as less stringency is needed with regards to data availability in the actual demonstration of barrier, as compared to the projects in other countries. Projects in Least Developed Countries are not bound by the provisions in this guideline and may use other approaches that are more adapted to the local circumstances." It further gives the rationale as follows:- "Rationale: Projects in Least Developed Countries can be assumed in general to face significant barriers to their implementation. At the same time, data availability in these countries is considerably limited which complicates the demonstration of Additionality and therefore further increases transaction costs."



Africa's only Designated Operational Entity under the UNFCCC

Block A | 374 Rivonia Boulevard | Rivonia | Johannesburg | 2128 | Republic of South Africa

The DOE confirms that PP has sufficiently demonstrated the identified barriers and stated barriers are real and prohibitive. Carbon Check believe that the above response and revised documents address the issues raised and request that the project be processed for requesting registration.

In case of any further query, undersigned shall be responsible to answer and can be reached on his contact details below.

Kind regards

Vikash Singh

Technical Executive

Reference documents attached:

/01/ Revised PDD-clean and track change version PDD version 06 dated 03/05/2013

/02/ Validation Reports -clean and track change version 02 dated 15/06/2013