VALIDATION REPORT

NEDBANK LTD

BODY COAL AND CLAMP KILN FUEL SWITCH AT ALLBRICK, SOUTH AFRICA

REPORT NO: 09CDMZA120002- 10/053

DATE: 2012-12-07

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Validation Report:	***Report No.***	***Rev. No.***	***Date of 1st issue:***	***Date of this rev.***
	09CDMZA120002 – 10/053	0	2012-06-25	2012-12-07
Project:	***Title:***		***Initial PDD Version:***	***Final PDDVersion***
	Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa		2010-02-03	2012-12-07
Client:	Nedbank Ltd		***Client ref:***	Kevin Whitfield
Project Participant(s):	***Host Party (Republic of South Africa):***		***Other involved parties:***	
	Allbrick Manufacturing and Marketing (Pty) Ltd Nedbank Ltd		N/A	
Applied methodology/ies:	***Title:***		***No.:***	***Scope / TA:***
	Fuel Switch, process improvement and energy efficiency in brick manufacture		AMS III.Z ver. 03	4 / 4.1
Validation team / Technical Review and Final Approval	***Validation Team:***		***Technical review:***	***Final approval:***
	Martin Saalmann (TL) Stefan Winter (TM) David Lubanga (TM) Grzegorz Kochaniewicz,(TM)		Rainer Winter Katja Beyer (OR)	Rainer Winter
Expected Emission reductions: [t CO_2e]	***Expected emission reductions over the first crediting period:***		***Project starting date:***	
	56,040 t CO_{2e}		2009-03-11	
Confidential content:	☐ Yes		☒ No	
Summary of Validation Opinion:	☒ Positive validation opinion		☐ Negative validation opinion	
	In detail the conclusions can be summarised as follows: ☒ The project is in line with all relevant host country criteria (Republic of South Africa) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of the Republic of South Africa vide the Letter of Approval (HCA) dated 2012-08-28. ☒ The project additionality is sufficiently justified in the PDD. ☒ The monitoring plan is transparent and adequate. ☒ The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 56,040 tCO_2e are most likely to be achieved within the fixed crediting period. ☒ The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.			
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Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
FAR	Forward Action Request
GEF	Grid Emission Factor
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
NEMAQA	National Environmental Management: Air Quality Act
PDD	Project Design Document
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual[/VVM/], carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data		
Project title	Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa		
Project size	☐ Large Scale ☒ Small Scale		
Project Scope *(according to UNFCCC sectoral scope numbers for CDM)*	☐	1	Energy Industries (renewable- /non-renewable sources)
	☐	2	Energy distribution
	☐	3	Energy demand
	☒	4	Manufacturing industries
	☐	5	Chemical industry
	☐	6	Construction
	☐	7	Transport
	☐	8	Mining/Mineral production
	☐	9	Metal production
	☐	10	Fugitive emissions from fuels (solid, oil and gas)
	☐	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	☐	12	Solvents use
	☐	13	Waste handling and disposal
	☐	14	Afforestation and Reforestation
	☐	15	Agriculture
Applied Methodology	AMS III.Z version 03		
Technical Area(s)	K: Fuel Switch 4.1: Cement Sector		
Crediting period	☐ Renewable Crediting Period (7 y) ☒ Fixed Crediting Period (10 y)		
Start of crediting period	2013-01-01		

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Republic of South Africa	Allbrick Manufacturing and Marketing (Pty) Ltd
Host party	Republic of South Africa	Nedbank Ltd
Other Party(ies)	N/A	N/A

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	Republic of South Africa
Region:	Western Cape
Project location address:	44 13th Street Thembalethu, George
Latitude:	34^0 00' 25 S
Longitude:	22^0 28' 46 E

2.4 Technical Project Description

The project activity involves switch from coal to charcoal as thermal fuel in the body and kiln in brick production. Charcoal retorts introduced in the project premises will convert renewable biomass to charcoal in an oxygen constrained environment using conventional technology. The charcoal produced will be combusted in the kilns in the clay brick making process.

The technical key data are provided in table 2-4 below

Table 2-4: Technical data of the project activity

Parameter	Unit	Value
Charcoal Retorts	-	6
Temperature	0^C	Approx. 500
Atmosphere	-	Oxygen Constrained
Manufacturer	-	Allbrick

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- Desk review of the PDD and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2009-12-07
Submission of PDD for global stakeholder commenting process	2010-02-06
On-site visit date	2010-02-08 to 2010-02-10
Draft reporting finalised	2010-07-08
Final reporting finalised	2012-12-07
Technical review on final reporting finalised	2012-12-07

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,

- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and two additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function [1]	Qualification Status [2]	Scheme competence [3]	Technical competence [4]	Host country Competence	On-site visit
☒ Mr. ☐ Ms.	Martin Saalmann	TN CERT GmbH	TL	SA	☒	-	☐	☐
☒ Mr. ☐ Ms.	Grzegorz Kochaniewicz	TN South Africa	TM[A)]	A	☒	-	☒	☒
☒ Mr. ☐ Ms..	Stefan Winter	TN CERT GmbH	TM[A)]	SA	☒	K	☐	☒
☒ Mr. ☐ Ms.	David Lubanga	TN CERT GmbH	TM[B)]	A	☒	-	☐	☐
☐ Mr. ☒ Ms.	Katja Beyer	TN CERT GmbH	TR[B)]	LA	☒	-	☐	-
☒ Mr. ☐ Ms.	Rainer Winter	TN CERT GmbH	TR/FA[B)]	SA	☒	4.1	☐	-

1) TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

2) GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

3) GHG auditor status (at least Assessor)

4) As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, …)

5) As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....), according to the Accreditation Standard (Version 01.1) K: Fuel switch

6) As per S01-MU03 or S01-VA070 A2 (such as TA 1.1, TA 1.2,.....), according to the Accreditation Standard (Version 2) TA4.1: Cement sector

A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

In order to qualify further personnel the project team was accompanied by observers and/or trainees as indicated in the table above. They are usually not considered as team members.

Statements of competence for the above mentioned team members are enclosed in annex 6 of this report.

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments are received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	***Validation Team Comment***	***Reference***	***Draft Conclusion***	***Final Conclusion***
The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.	*The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.*	*Gives reference to the information source on which the assessment is based on*	*Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.*	*In case a corrective action or a clarification the final assessment at the final validation stage is given.*

Figure 1: Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project consultant Local sawmill owner	- Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project - Host Government Approval

Interviewed Persons / Entities	Interview topics
	- Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD - Availability of Biomass waste

A comprehensive list of all interviewed persons is part of section 7 ‘References’.

3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or

- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised**:**

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic [1)]	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	3	2	0
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	9	1	0
Duration of the Project / Crediting Period (C)	1	0	0
Environmental impacts (D)		0	0
Stakeholder Comments (E)	1	0	0
SUM	**14**	**3**	**0**

[1)] The letters in brackets refer to the validation protocol

Table 4-2: PDD versions used for assessments

Version Nr.	Assessment Round
PDD v. 4 (Published)	DOE Assessment #1
PDD v. 5	DOE Assessment #2
PDD v. 6	DOE Assessment #3
PDD v. 8	DOE Assessment #4
PDD v. 9	DOE Assessment #5
PDD v.10 (basis for technical Review	DOE Assessment #6
PDD v. 11 (Final for initial submission)	DOE Assessment #7
PDD v. 12 (Final for re-submission)	DOE Assessment #8

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding	**A1**		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	At time of onsite validation the Letter of Approval (HCA) of Host Country South Africa is pending.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Application for the LoA will be submitted to the South African DNA once the final validation report is received.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The HCA has been issued on the 2012-08-28 by the Department of Energy of South Africa (DNA). The letter of approval confirms permission to Allbrick Manufacturing and Marketing (Pty) and Nedbank Ltd as the project participants, the exact title of the project and that the project activity contributes to sustainable development. The HCA conforms to all stipulations outlined in paragraph 45-48 of the VVM (EB 55 Annex 1)		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	**A2**		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	What was the result of the interest by the CEF? The interest by Central Energy Fund (CEF) should be further clarified to ensure that no ODA is involved in the project activity.		

Finding	A2
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	CEF expressed interest but apart from that there was no subsequent CEF activity on the project. Furthermore, CEF is a private company and therefore would not be considered public funding. (http://www.cef.org.za/index.php?option=com_content&view=article&id=1&Itemid=2).
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	CEF is a private company involved in the search for appropriate energy solution to meet the future energy needs. CEF expressed interest in to look at funding and as shareholder of the project, with special focus on maximizing the Carbon revenue. The related internet link was cross-checked and no further interest and involvement of the CEF on the project activity could be evidenced. The project complies with the requirements.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding	A3		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Detailed information about the person taking the decision to proceed with the project and about the authority of this person to take such decision, has to be provided in the PDD.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Evidence has been provided in the PDD. The date and persons who took the decision was provided in section B.5 of the PDD in the Milestones table. Additional documentation was also provided to TUV NORD in the form of meeting minutes of Allbrick and a letter from the Allbrick CEO.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	According to the PDD, the decision to proceed with the project was taken in March 2009 by Andre Taljaard and Gavin Jooste joint Chief Executive Officers (CEO) of Allbrick Manufacturing and Marketing (Pty) Ltd. Both are the joint CEOs from Allbrick. The authority of the persons taking this decision is credible. The requested information has been provided. Nevertheless the information is not backed-up by evidences. Hence related evidence should be provided.		
Corrective Action #2 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Additional documentation was also provided to TUV NORD in the form of meeting minutes of Allbrick and a letter from the Allbrick CEO.		
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The decision to proceed with the project was taken on 26th of February 2009 during technical meeting by shareholders. Steel for construction of retort was ordered on 2nd March 2009. On 23rd of March 2009 during the meeting of the shareholders the charcoal fuel switch was conveyed. Requested information backed by confirmation from Allbrick dated 14 May 2010 was provided/MD/. The finding is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	A4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The prior notification to UNFCCC was done in line with requirements. After the prior notification to UNFCC the EB changed the rules from "and/or" to "and" and now also the DNA has to be notified. The prior consideration of DNA has to be clarified.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	There is correspondence between Allbrick and the South African DNA dated 7 August 2009. This confirms that the DNA was aware of the project before the prior consideration was submitted to the UNFCCC on 28 September 2009. (Copy of correspondence is attached, see supporting document nr. 19)		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The provided evidences do not implicate clearly the notification to DNA about this particular project activity. According to EB 41 Annex 46 "the project participant must inform a Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status" This was done accordingly by notifying UNFCC. After the new rules were issued by EB 49 also the DNA has to be informed. The early consideration of CDM project activity, by lodging of the notification to UNFCCC, is credible. At the time of notification of UNFCCC the PP was conform to requirements as VVM stated.The lodging of prior notification to DNA was not evidenced so far, therefore further clarification is requested. The PP stated in the description of milestone of the project the lodging of the notification to UNFCCC and the DNA in August 2009. On the UNFCCC homepage the prior notification from PP was posted on 14 Aug 2009. Also the date given in the corrective action #1 seems to be different (see above). Further clarification is requested.		
Corrective Action #2	The correct evidence was provided in the form of the email that was sent to the DNA on October 2009. Also corrected the milestones in PDD section B.4 to indicate correct date that "prior notification" was submitted to DNA (October 2009)		
DOE Assessment #2	Evidence in form of email from Joslin Andrews to CDM registration and to DNA of South Africa with attached Prior Consideration Form and the information about Albrick electricity generation project was provided. The project currently validated is a fuel switch project and not an electricity generation. The provided evidence seems not to apply for this project and not to be correct. Further clarification and update of milestones as well as section B.5 and everywhere in the PDD if applicable, is requested.		
Corrective Action #3	No prior Notice of Intent was sent to the DNA seeing, as stated in the Milestones on October 2008, the DNA was informed, but referred Allbrick to the Central Energy Fund (CEF). At this stage it was not required by CDM regulations to inform the DNA on carbon projects. Proof of the email sent to the CEF has been provided in the additional documents.		

DOE Assessment #3	The prior notification to UNFCCC was done in line with requirements in August 2009. The project started in March 2009. After the project start the EB 48 on 17 July 2009 changed the requirements from "and/or" to "and" (under VVM 1.2 §101). According to the EB 48 decision both UNFCCC and the DNA must be notified. At the time of notification to UNFCCC the PP was conform to requirements. Despite information exchanged with the DNA of South Africa an official notification of DNA was not confirmed. From the provided evidences clear notification to DNA about the project activity could not be concluded. Nevertheless in the validation process a clear intention of notification about project activity by PP could be seen. Therefore in opinion of DOE the project complies with the requirements. The CL is closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	A5		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	During the onsite visit detailed information on conducted training was provided and evidenced. But no detailed information about the training and maintenance are provided in the PDD. Detailed information about maintenance and training has to be provided in the PDD.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Information about training has been provided in the PDD. Evidence of the training program was provided at validation. (Also see supporting documents nr. 5)		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Detailed description of training in charcoal production as well as in clamp kilns operation was provided in the PDD and the training register furnished to the validation team. The project complies with the requirements. The CAR is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	B1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Following issues w.r.t.chapter B.5 additionality of the PDD have been identified: • For the demonstration of additionality the "project with registration under CDM" was listed as an alternative. Clarification is requested why this scenario is listed. • Provide in the PDD references for used citations in the market barrier.		

Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The list of alternative scenarios has been appropriately corrected in the PDD. The references for the market barrier were provided at validation. The reference documents are commercially sensitive to Allbrick and therefore should not be placed in the public domain. Footnotes were made in the PDD to indicate that the reference is commercially sensitive.
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	• The list of alternatives has been corrected appropriately. • Using of direct citation for the market barrier without given reference of data used in the PDD do not allow ordinary/common reader to verify the given information. Direct citation without references cannot be approved in the PDD. The chapter has to be rewritten, or the evidences have to be provided in the PDD.
Corrective Action #2	The correct citations were provided in the PDD, and the reference document added as an Annex to the PDD.
DOE Assessment #2	Correcting action was made as requested. The references for used citation were provided in the PDD. DOE has checked the citations with the source and confirms that they are consistent and credible as demonstrated in Annex 5 in the revised PDD version 10. Therefore this CAR is closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	B2		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The emissions reduction calculation as per PDD uses formulae form different tools. The origins of formulae used have to be determined and justification of those should be provided in the PDD.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The origin of formulas used in the PDD has been clarified.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The requested information has been provided in the PDD. The project complies with the requirements. The CAR is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	B3		
Classification	☒ CAR	☐ CL	☐ FAR

Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The following issues w.r.t. the ER calculation in PDD and excel spreadsheet have been identified: 1. Units at all tables are missing and should be mentioned 2. Several inconsistencies w.r.t. the input value for coal consumption have been identified. The data should be revised according to real values. 3. The input value for future annual brick production, which is directly related to annual net production of the facility $P_{PJ,y}$, should be further substantiated. 4. For $P_{PJ,y}$ the annual net production in accordance to AMS-III.Z §10 should be applied instead of the extruded annual production. 5. The input data for ash coal from Sept 08 till Mar 09 have been inserted as tons but actual invoices and deliveries have been made based on volume in m^3. 6. Project emissions due to electricity consumption by water pumps was identified as not existing as the pumps are working by gravity. Nevertheless each retort has a flue gas fan. Hence the project emissions should be revised according to real situation. 7. The operation hours used for estimation of project emissions should be revised to actual situation and in a conservative manner. Only one retort based on one 8 hour shift during 5 days a week are used but during onsite visit it was identified that 4 retorts are operating on 7 days a week on three shifts of 8 hours only stopping for cleaning once a month for one shift. 8. As two values are provided for the transmission loss of the electricity distribution system it should be clarified and specified which of the values is the correct one and applied.
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The following corrective actions were taken: ***1.*** Units in tables inserted – put in PDD as well ***2.*** Figures revised at Allbrick. ***3.*** Letter from joint CEO of Allbrick substantiating expected future production is attached. ***4.*** Estimated future annual net production has been used in the calculations instead of the estimated yearly brick extrusion. In order to be consistent P_{Hy} was also expressed as net brick production. ***5.*** Invoices were checked at Allbrick and input ash coal volumes were amended where applicable. ***6.*** Revised in calculations ***7.*** Revised in calculations ***8.*** Clarified at validation. Specified figure was used in the calculations.
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	***1.*** Updated excel sheet has to be provided. ***2.*** Not OK. An updated Excel spreadsheet should be provided. ***3.*** The input value for future annual brick production should be further substantiated by independent and historical sources. ***4.*** OK as done ***5.*** Provide excel sheet. ***6.*** OK, as revised ***7.*** Updated conservative to maximal capacity, nevertheless see CAR B4. ***8.*** OK, as revised

Corrective Action #2	The updated spreadsheet containing all the calculations has been provided. 3. The decision was made at validation that the **net** brick production will be linked to the sales figures of Allbrick. The average annual **net** brick production over the 3 and a half years preceding project implementation was 25.3 million bricks per year. This can be seen in the "Baseline Coal used &Bricks made" tab of the spreadsheet. However, both the production and sales figures have been decreasing over the past three years, with the net production of the 2009 financial year being 18.7 million bricks per year. Implementing the calculations in the methodology the brick production can be as high as 30 million bricks per year and still be a small scale project below 15 000 tons CO2, and therefore no registration fee is payable. It is however highly unlikely that sales figures will ever go that high again. A management decision has however been taken to limit production in the future to 12 million bricks per year. **This decision of change in production capacity is not due to the implementation of the project activity, but is a decision made based on economic circumstances** (see "Allbrick CEO Letter" additional document nr. 20). Due to the nature of the baseline production process, the efficiency will not be changed by the reduced production capacity. Therefore the baseline is the same for the reduced capacity. The conservative approach as required by the CDM is therefore to use the lower figure of 12 million bricks per year. We therefore think that it is more appropriate to base the PDD on the conservative figure of 12 million bricks per year. 7. See corrections made in "Finding B.4".
DOE Assessment #2	Excel sheet was provided ***1.*** Not ok. E.g. for LPG use values do not provide related unit. Further revision requested. Check entire ER sheet and besides streamline calculation and remove unnecessary data and description. ***2.*** Updated Excel spreadsheet provided. Sheet named Tabelle 1 should be renamed. ***3.*** Ok. Sufficient explanation has been provided along with supporting evidence/Ref/. Besides according to historic brick production the value applied for ex-ante estimation of emission reduction is conservative as lower. ***4.*** Ok. Already closed in DOE assessment #1 ***5.*** Not ok. Revision was conducted in the ER spreadsheet but calculation on total annual operation hours of all electrical equipment should be clarified. The amount of motors should be separately mentioned and calculation link to this value. Ensure in the entire spreadsheet that input values are not inserted in equations but equations only link those. ***6.*** Ok. Already closed in DOE assessment #1 ***7.*** Ok. As CAR B4 is closed. ***8.*** Ok. Already closed in DOE assessment #1

Corrective Action #3	***1.*** Values were provided for LPG use ***2.*** "Tabelle 1" was renamed to "Brick and Coal Data". All the upadated figures for coal consumption appear in this sheet. ***3.*** OK. Closed ***4.*** OK. Closed ***5.*** There are 6 engines, each operating 8760 hours in a year. This has been clarified in the spreadsheet. Also see Finding B.4 for clarification on the conservative estimate of operational hours. ***6.*** OK. Closed ***7.*** OK. Closed ***8.*** OK. Closed
DOE Assessment #3	The requested changes have been made. The unit for LPG was provided. The figures in the excel sheet were corrected. The number of used engine and the operations hours were updated to the most conservative value. The findings are closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	B4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Clarify the Source of data and description of the parameter $EC_{PJ,grid,y}$.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Pictures of the retort motors are attached.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The sources of the data were provided. Six electro engines rated 7.5 kW are installed. By the assumption of maximal conservative calculation 394 MWh/year of electricity will be consumed in the project activity. Clarify the use of 261.4 MWh/year electricity in the chapter B.7.1.		
Corrective Action #2	Correction made in the spreadsheet and the PDD. The value of 394.2 MWh/year is now used.		
DOE Assessment #2	Correction to implement the most conservative electricity consumption in the project activity was used. CL is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	B5		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The use of the nominal factor of 1 mass % for coal, considering fossil fuel use during crediting period, should be specified (Section B.6.1).		

Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	As was established during validation no coal will be used in the foreseeable future at Allbrick. Therefore the nominal factor was changed to 0 mass%, but the calculations remain in the PDD in the unlikely event that emissions from coal will occur at Allbrick. Evidence for 0 mass% coal usages is that there are no coal receipts or coal stockpile onsite from June 2009 onwards.
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	No coal is planned to be used in the project activity. But the opportunity/possibility of use of coals in the project activity was explicit stated in the PDD. Therefore also the coal consumption in the project activity will be monitored. The use of nominal factor of 1 mass % for coal was clarified. The project complies with the requirements. The CAR is closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	B6		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Transportation of waste wood from saw mills to the project sites was calculated as a leakage. The calculation of the leakage has to be done in line with approved methodology and tools, this means determine, justify and provide evidences of used approach.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Paragraph 12 of AMS III. Z. requires that leakage be calculated for production/consumption and transportation of raw/additive materials used in the project case and not in the baseline. Paragraph 11 of AMS III. Z ver03. references *General guidance on leakage in biomass project activities* to calculate leakage emissions on account of diversion of biomass from competing uses. There are no competing uses as there is a surplus of waste biomass in the region as established at validation. However the general guidance defines potentially significant leakage emissions as emissions greater than 10% of the project emission reductions. The leakage emissions that were calculated *ex ante* for project validation are less than 1% of the project emission reduction. Therefore these emissions are insignificant in accordance with the *General guidance on leakage in biomass project activities* and the calculation will be omitted.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The leakage was defined in line with the applied methodology. Nevertheless the leakage calculation was removed from the updated PDD ver. 5 and the assumption about the quantity of leakage couldn't be validated. Please provide the leakage calculation for assessment.		
Corrective Action #2	A description (pg 26 of PDD) and table (pg 31 of PDD) containing the values for leakage calculations has been included in the PDD.		
DOE Assessment #2	The calculation of leakage was provided in the PDD as requested. The calculated emission are below the threshold of 10% of project emissions and therefore in line with the "General guidance on leakage in biomass project activities" negligible. The CAR is closed.		

Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	B7		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Calculation for GEF has to be provided.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Updated grid emission factor calculations provided.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The GEF calculations were provided to the DOE, has been checked against all available evidences and deemed to be correct and transparent. CAR is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	B8		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.7.1.: The description of measurement method is inconsistent with Guidance to complete SSC-CDM-PDD. Hence revision is requested.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Tables have been completed.		

DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	• Ok. Several parameters have been added to section B.7.1. w.r.t. LPG utilization as LDG is used as start-up fuel for the carbonization process. For following reason it is still not OK: • Values derived from IPCC 2006: For all values the exact source should be provided, also chapter, volume, and table etc. • "Weight of a brick leaving clamp kiln" - at frequent interval –is not precise. Further clarification is requested w.r.t. measured interval. Besides the measurement method should be further specified w.r.t. how many bricks will be used and how the weight e.g. average weight if more than one brick is used is derived. • Brick quality: Further clarification is requested w.r.t. measured interval. How often is the quality measured? Section B.7.2. states an interval of not greater than 6 months. • EC $_{PJgrid,\ y}$; see CAR B4. • $EF_{EL,grid,y}$: As section B.6.1 it is defined that the grid emission factor is calculated ex-ante and therefore fix for the crediting period this parameter is not part of monitoring but to be provided for validation and therefore should be addressed in section B.6.3 instead of B.7.1. Related revision is requested. • $TDL_{grid,y}$: the exact source of the Annual report should be provided. If available from internet then the exact link where to download. If a book the ISBN number etc.
Corrective Action #2	• All IPCC 2006 values were correctly referenced (see track changes in PDD). • On hundred bricks will be measured monthly and the numerical average will be used. Correction made in PDD section B.7.1, pg 32. • A batch of 9 bricks is sent for testing every 4 months to determine brick quality. Correction made in PDD section B.7.2, pg. 37. • See corrections made in CAR B4 • $EF_{EL,grid,y}$ has been moved from section B.7.1. to B.6.3. • Correct reference for source of $TDL_{grid,y}$ has been provided on pg. 35 of PDD.
DOE Assessment #2	The changes have been made in regards to IPCC values used, the brick measurement the electricity consumption in the project activity, the DEF and the sources of TDL value. Nevertheless the: • Brick quality measurement interval was specified in the PDD section B.7.2. Nevertheless the same has to be done in the section B.7.1.
Corrective Action #3	Changes were made to section B.7.2 in order to conform with section B.7.1. Brick quality will be monitored based on a sample of 9 bricks every 4 months.
DOE Assessment #3	Related corresponding information is now also provided in section B.7.1 and consistent with section B.7.2. The bricks are going to be tested at 4 month interval. The requested changes have been made. The finding is closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	B9

Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The monitoring plan should be revised in accordance with corresponding methodology. The parameters which have to and will be monitored should be mentioned, the procedure how they will be monitored, any measurement equipment used, if so the accuracy, related national regulations, calibration procedures, organization structure, QA/QC procedures, back-up and emergency procedures.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The description of the monitoring plan, monitoring structure and quality control procedures was improved in the PDD.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The description of the monitoring plan has to be improved due to the following: • The data handling and storage at a yearly interval doesn't prevent the data loses. The procedures have to be improved and describe in details in the MP. • The data has to be stored for at least crediting period plus two years. The procedure for this has to be described. • Further clarification is requested how the annual operation hours of the charcoal retorts is monitored. In case this could not be monitored sufficiently PP should consider whether the assumption that the electricity consuming equipment is operating 8760 hours a year at full load. • Please explain the meaning of "The other monitoring data is externally gathered and recorded or based on equipment design specifications that do not change over the lifetime of the project" in description of "Responsibility within the organization structure for monitoring". Provide the organization structure for monitoring. • Describe also the frequency of brick quality control.		
Corrective Action #2	• Corrections was made in PDD, see pg. 37 in section B.7.2 • Corrections was made in PDD, see pg. 37 in section B.7.2 • PDD and calculations was modified to 8760 operating hours per year. • Monitoring responsibilities has been more accurately described in the PDD, pg 38. • Frequency of brick control has been clarified in PDD, pg. 36		
DOE Assessment #2	The requested correction in regard to data handling and storage, management's structure and responsibility and brick quality and control. The operational hours of the charcoal retorts were updated to the most conservative value. CAR is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	C1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The project's operational lifetime exceeds the life of the project activity. Also mining licence for a period exceeding the lifetime of the project was provided. Nevertheless the evidence for the clay stock, to evidence the lifetime of the project, has to be provided.		

Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	A letter from the joint CEO of Allbrick confirming the mining plan to conserve on-site clay stock for 25 years; is attached.
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The letter as first party document from PP has to be substantiated and evidenced by independent sources.
Corrective Action #2	The onsite clay stock of 25 years as recorded in the letter from the joint CEOs is based on an in-house assessment of the remaining clay stock as measured against the planned future production rates. As this period is sufficiently long for all normal business purposes, no third party verification of this assessment has been done. A third party assessment of the clay reserve and operational life has been done in 1996. This is recorded in section 1.6.5 on pg.3 of the Environmental Management Program report dated Dec 1996, as already supplied to Tuv Nord (additional document nr 9). At this time the projected life of the operation, based on conservative assumptions, was 20 years. This takes the life of the operation to at least 2017 in terms of this assessment. Subsequent to the publication of this report, Allbrick has acquired an additional mining area of 75 hectares, which takes the life of the operation to 25 years from the current time, as mentioned above. A realistic life of the operation therefore extends to at least 2017 plus the life of operation added by the additional 75 hectares. In a conservative scenario the life of the project is therefore guaranteed up to 2017, which equals the first crediting period of 7 years. This crediting period of 7 years is renewable twice, but it is understood that in the instance of end of project life the crediting period will not be renewed.
DOE Assessment #2	A reasonable explanation in regards to the operational lifetime of the clay mine and the clay reserves was provided. Related submitted documents/ACL/ have been checked and DOE confirms that content is consistent as described. Nevertheless in the PDD version 6 is the information regarding expected operational life time of the project activity not given correctly. Please correct the information in the PDD as per Guidance.
Corrective Action #3	This was done in the PDD in section C.1.2. Also refer to the table in section B.2 where it was stated that the lifetime of the "…remaining lifetime of the existing equipment will be unchanged by the implementation of the project. This is owing to the temporary nature of the clamp kilns." As noted the lifetime of the clay reserves has been addressed.
DOE Assessment #3	Correction was done in chapter C.1.2. of PDD ver. 7. The expected lifetime of the project activity of 21 years was given. This this is not in line with the GUIDELINES FOR COMPLETING THE SIMPLIFIED PROJECT DESIGN DOCUMENT. Further correction is requested.
Corrective Action #4	The lifetime of the project activity was corrected to state "21 years and 0 months" in chapter C.1.2. of the PDD
DOE Assessment #4	The lifetime of the project activity was corrected in the PDD ver. 8. The CAR is closed.

Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

General	C2		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The starting date of crediting period should be reviewed and revised to a reasonable date at least 4 weeks in the future taking into consideration the approximate time before submission for registration.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The starting date of the crediting period was changed to 01/11/2011 in PDD version 8.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The starting date of the crediting period was corrected as per guidance. Nevertheless, caused in delay during the validation process the starting date of the crediting period has to be postponed again.		
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The starting date of the crediting period has been revised to 2012-10-01 as per PDD version 11		
DOE Assessment #3 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The starting date of the crediting period shall be reviewed.		
Corrective Action #3 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The starting date of the crediting period was changed to 01/01/2013 in PDD version 12.		
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The starting date of the crediting period has been revised to 2013-01-01 as per PDD version 12		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

General	E1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The process of identification of local stakeholders was not given. Provide clear description of identification of stakeholder and the whole process to consult them.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The stakeholders that were identified and the means of identification are listed in the PDD. Details on the process followed to consult the stakeholders are given.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The local stakeholder consultation was conducted in appropriate manner. The description of this process has been provided in section E.1 of the PDD version 8 including newspaper reference/NA/ by Allbrick Manufacturing and Marketing (Pty) inviting stakeholders for comments. The project complies with the requirements. CAR is closed.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

5 VALIDATION ASSESSMENT SUMMARY

The validation assessment summary will be issued in the course of the final validation report.

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

The host country letter of approval (HCA) has been submitted directly by the project participant. The precise title of this project is: *Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa*. Host country Approval[/HCA/] as Clean Development Mechanism project activity has been issued on 2012-08-28, vide official document by Republic of South Africa DNA, the Energy Department. The project participants are Allbrick Manufacturing and Marketing (Pty) and Nedbank Ltd, which is the contractual client. The project complies with the permission requirements and assists The Republic of South Africa (hereby referred to as South Africa) in achieving sustainable development. The approval clearly indicates that the project supports South Africa in achieving a sustainability development and that the participation is voluntary.

CAR A1 was raised and resolved upon submission of the HCA.

Project Participants

The Project Participants' names are consistent in the final PDD. Allbrick Manufacturing and Marketing (Pty) Ltd and Nedbank Ltd are the project participants for this CDM project activity. The Letter of Approval[/HCA/] has been obtained from the department of energy, South Africa, which is the recognized DNA as per the UNFCCC website. No other party is involved except South Africa.

5.1.2 Contribution to Sustainable Development

The host country South Africa letter of approval[/HCA/] confirms that the project contributes to sustainable development.

5.1.3 PDD editorial Aspects

The PDD has been prepared in the approved format (CDM –SSC-PDD) Version 03 effective from 22 December 2006. The PDD has been duly filled in accordance with

the 'Guidelines for Completing the Simplified Project Design Document (CDM-SSC-PDD)'version 05

5.1.4 Technology to be employed

The description of the project in the PDD is complete and accurate. The project involves fuel switch from coal to charcoal both in the clamp kilns and as the body fuel in the bricks. The charcoal is produced in retorts within the project premises using renewable biomass (wood waste) sourced from local sawmills. The technology employed is considered environmentally safe and sound.

5.1.5 Small Scale Projects

The project is within the corresponding thresholds for the SSC type (5,604 tCO2e annually)/PDD/XLS/. The emission reductions claimed for this project will not exceed 60 kt CO2 equivalent annually. The correct SSC methodology AMS III.Z is applied. The project is not a de-bundled part of a large scale project and has been sufficiently demonstrated as being *first-of-its-kind* in South Africa.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project applies to a valid version of a CDM Methodology AMS III.Z. ver. 03 (Fuel Switch, process improvement and energy efficiency in brick manufacture) which is approved by the executive board. By means of cross check it can be confirmed that the applied methodology and the methodological tools are directly derived from the methodologies section on the UNFCCC CDM website/unfccc/. All the applicability conditions have been met. The applied methodological tools and all methodology components referred to in the applied methodology and tools. The project activity is not expected to result in significant emissions, related both to project and leakage. Summarized it is assessed that the project applies a valid version of an approved CDM methodology and the methodology is applicable to the project. A complete list of applicability criteria from the used methodology is included in tabular form in the PDD section B.2.

Assessment of compliance with the applicability conditions of the applied methodology, AMS III.Z version 03:

The methodology AMS III Z is applicable under the following conditions:	**Assessment by the validation team**
1. The methodology comprises shift to an alternative brick production process or partial substitution of fossil fuels with renewable biomass (including solid biomass residues such as sawdust	The validation team has determined that the bricks are the same type and quality in the project and baseline cases. The bricks are produced using the same raw materials and process. The project proposes only switch

The methodology AMS III Z is applicable under the following conditions:	**Assessment by the validation team**
and food industry organic liquid residues) in existing brick production facilities. Fuel substitution and associated activities may also result in improved energy efficiency of existing facility; however project activities primarily aimed at emission reductions from energy efficiency measures shall apply AMS-II.D. Thus the methodology is applicable for the production of: (a) *Bricks that are the same in the project and baseline cases; or* (b) *Bricks that are different in the project case versus the baseline case due to a change(s) in raw materials, …*	from coal to renewable biomass fuel. The validation team carried out onsite inspection of the charcoal retorts, checked the SANS 227:2007 from the South African Bureau of Standards as well as the quality testing results done by a third party/ONSITE//SANS//IM03//PDD/.
2. *The measures may replace, modify or retrofit systems in existing facilities or be installed in a new facility.*	The project fuel switch takes place at an existing brick manufacturer. The fuel switch entails the following process modifications: The technique used in the packing of the clamp kilns is altered based on the research and development work done at Allbrick. Retorts are erected on site for the purpose of producing charcoal. This is evidenced by erected retorts, production data and site visit by the validation team/REF/ONSITE/allbrick/.
3. *New facilities (Greenfield projects) and project activities involving capacity additions compared to the baseline scenario are only eligible if they comply with the related and relevant requirements in the General Guidance for SSC methodologies.*	The Allbrick facility has been operational before the start of the project activity. This is evidenced by erected retorts, onsite production data and site visit by the validators. The DOE conducted onsite interviews/IM03/ and reviewed plant and other relevant documents/REF//CBA/EIA/CI/. A formal statement from Allbrick was also received stating that the fuel switch will not change the production capacity/ACL/.
4. The requirements concerning demonstration of the remaining lifetime of the replaced equipment shall be met as described in the General Guidance for SSC methodologies. If the remaining lifetime of the affected systems increases due to the project activity, the crediting period shall be limited to the estimated remaining lifetime, i.e., the time when the affected systems would have been replaced in the absence of the project activity.	This is evidenced by site visit by the validators to inspect equipment/ONSITE/. Formal statement from Allbrick also received stating the remaining clay reserves and equipment lifetime/ACL//MD/. Due to the nature of the equipment, its lifetime is infinite.
5. *In the case of existing facilities, this category is only applicable if it can be demonstrated, with historical data, that for at least three years prior to the project implementation, only fossil fuel (no renewable biomass) was used in the brick production systems, which are being modified*	The validation team inspected the cola consumption records/TC/, The environmental management programme and the technical installation to determine that only coal was combusted in the brick manufacturing process. Interview with Allbrick staff was also done/IM03//CBA/. The Registration Certificate

The methodology AMS III Z is applicable under the following conditions:	**Assessment by the validation team**
or retrofitted.	concerning Scheduled processes as per the atmospheric pollution prevention Act, 1965 was also inspected.
6. In the case of project activities involving changes in raw materials (including additives), it shall be demonstrated that additive materials are abundant in the country/region according to the following procedures: *Step 1: Using relevant literature and/or interviews with experts, a list of raw materials to be utilized is prepared based on the historic and/or present consumption of such raw materials.* *Step 2: The current supply situation for each type of raw material to be utilized is assessed and their availability abundance is demonstrated using one of the approaches below:* 1. *Approach 1: Demonstrate that the raw materials to be utilized, in the region of the project activity, are not fully utilized. For this purpose, demonstrate that the quantity of material is at least 25% greater than the demand for such materials or the availability of alternative materials for at least one year prior to the project implementation.* 2. *Approach 2: Demonstrate that suppliers of raw materials to be utilized, in the region of the project activity, are not able to sell all of the subject raw materials. For this purpose, project participants shall demonstrate that a representative sample of suppliers of the raw materials to be utilized, in the region, had a surplus of material (e.g., at the end of the period during which the raw material is sold), which they could not sell and which is not utilized.*	The DOE conducted interviews during the validation site visit with a local expert (saw mill owner) in the surrounding area regarding biomass supply/IM06/. Supporting documents was also obtained/SSA/ from the project implementers to indicate the current situation of biomass utilization in the area. The document 'South African Sawmilling Industry' demonstrates that there is between 1,000,000 to 1,500,000 tons of woodwaste available in South Africa for energy production.
7. This methodology is applicable under the following conditions: (a) *The service level of project brick shall be comparable to or better than the baseline brick, i.e., the bricks produced in the brick production facility during the crediting period shall meet or exceed the performance level of the baseline bricks (e.g., dry compressive strength, wet compressive strength, density). An appropriate national standard shall be used to identify the strength class of*	This is evidenced by erected retorts, production data and site visit by the validation team /ONSITE//SANS//PDD//IM03/.

The methodology AMS III Z is applicable under the following conditions:	Assessment by the validation team
the bricks, bricks that have compressive strengths lower than the lowest class bricks in the standard are not eligible under this methodology. Project bricks are tested in nationally approved laboratories at 6 months interval (at a minimum) and test certificates on compressive strength are made available for verification; (b) *The existing facilities involving modification and/or replacement shall not influence the production capacity beyond ±10% of the baseline capacity unless it is demonstrated that the baseline for the added capacity is the same as that for the existing capacity in accordance with paragraph 3;* (c) *Measures are limited to those that result in emission reductions of less than or equal to 60 kt CO_2 equivalent annually.*	
8. This methodology is not applicable if local regulations require the use of proposed technologies or raw materials for the manufacturing of bricks unless widespread non compliance (less than 50% of brick production activities comply in the country) of the local regulation evidenced.	This was confirmed with supporting documentation that was checked by the validators[/EIA/].

5.2.2 Project Boundary

The project boundary is the physical, geographic area of the brick manufacturing site (Allbrick Factory), including all clamp kilns and charcoal retorts and the electricity grid for the purpose of calculating the grid emission factor. The boundaries (geographically and related to GHG sources / sinks) are correctly given in PDD.

5.2.3 Baseline Identification

As per AMS III.Z version 03, the baseline emissions are the fossil fuel consumption related emissions (fossil fuel consumed multiplied by an emissions factor) associated with the system(s), which were or would have otherwise been used, in the brick production facility(ies) in the absence of the project activity.

The description of baseline in the PDD is transparent and verifiable. The procedure to arrive to the baseline is derived from the applied methodology. In this project

activity, the baseline scenario is determined by the average 3-year historical level of fossil fuel (coal) consumption data in the firing of the brick kilns at the project site (§

10 a) of AMS III.Z).The development of the baseline scenario has been done by the identification of plausible alternative scenarios to the project activity and barrier analysis on these alternatives. The validation team assessed that the identified baseline scenario reasonably represents what would occur in the absence of the proposed project activity and the approved methodology used is applicable to the identified baseline scenario.

5.2.4 Calculation of GHG Emission Reductions

In section B.6 of the PDD[/PDD/], a correct set of equations have been used reflecting the methodological choices.

Baseline Emissions (BE)

The baseline emissions in the project activity are a result of the production of bricks using coal. The baseline emissions were calculated using three years historical coal consumption and brick production values.

Project Emissions (PE)

The project emissions are a result of electricity consumption on the motors of the water pumps on the charcoal retorts and LPG and coal consumption. Emissions from LPG use, and diesel consumption from biomass delivery by trucks have been accounted for and sufficiently evidenced in the calculations[/XLS/].

Leakage Emissions (LE)

As per AMS III-Z leakage is applicable in the case of project activities involving change in production process or a change in type and quantity or raw and /or additive materials as compared with the baseline. The incremental emissions associated with the production/ consumption and transport of those raw materials consumed as compared to baseline, shall be calculated as leakage.

The leakage emissions calculated *ex ante* were less than 1% of the emission reductions. PP has established that there are no competing uses of biomass in the project area. Therefore, leakage emissions have been excluded as they are insignificant in accordance with the applied guidance. For the data and parameters not to be monitored throughout the crediting period (i.e. they are determined only once and thus remain fixed throughout the crediting period), it is assessed that all data sources, assumptions and calculations are correct, applicable to the project and contribute to a conservative estimate of the emission reductions.

The DOE hereby confirms that all assumptions/ data/references used in the emission reduction calculations have been determined conservatively using the stipulations of the applied methodology, as follows:-

$P_{PJ,y}$:

This is the estimated annual net production (in Kg) of the facility as monitored daily and consolidated into monthly production data. The average amount between April 2006 and March 2009 was used after positive test results and a definitive decision was taken (2009-02-26) to pursue the CDM project. The validation team assessed the baseline production records recorded and stored at Allbrick over the same period (2006-2009) during the onsite visit and determined its consistency and correctness of the values/CBP//XLS/.

$FC_{BL,i,j}$:

The figure of 6,562 tons was computed using data of the three-year average coal consumption in brick production by the Allbrick facility/CBP//XLS/. The records have been checked and calculations verified by the DOE in accordance with the VVM v1.2 and methodology requirements. Nevertheless, actual values are to be determined during monitoring.

$NCV_{,j}$:

The NCV value of 0.0258 TJ/t was derived from 2006 IPCC values for bituminous coal. This is justified as bituminous coal has similar characteristics of coal predominat in South Africa, which includes the coal used in the facility as demonstrated by lab reports compared with IPCC guidelines/LR/.and the South African Quality Reference/QR/. Hence, PP has applied the IPCC values which were cross-checked for correctness and accepted by the validation team/ipcc/.

$EF_{CO2,j}$:

The emission factor for the baseline coal 94.6 tCO2/TJ was also derived from 2006 IPCC values for bituminous coal. This is justified as bituminous coal has similar characteristics of the coal used in the facility/LR//QR/.Hence, , his is deemed correct as the applied value was cross-checked for correctness and accepted by the validation team/ipcc/.

$P_{H,y}$:

The average annual historical baseline brick production was computed from plant records (April 2000-March 2009)/CBP/ which are monitored daily and consolidated monthly. The records were verified during onsite visit and interview was carried out on the site/IM03/. This is in line with the applied methodology and VVM v1.2

$EC_{PJ,j,y}$:

The average quantity of electricity used is a monitored parameter and baseline consumption was estimated based on the three-year historical data preceding April 2009. The calculation are based on maximum operational hours (8,760/year) and hence conservative. This information was cross-checked during onsite visit and deemed conservative in the context of the project activity.

$EF_{EL,j,y}$:

The emission factor for the south African grid[/GEF/]was calculated using data from Eskom[/eskom/] by applying the *Tool to calculate the emission factor for an electricity system (v2.2.1).* The data used is in the public domain. Hence, the data used for FE_{EL} and calculations therewith were assessed as correct and transparent.

$TDL_{,j,y}$:

Average technical transmission and distribution losses for providing electricity in year is used when determining PEy. This value of 0.067 was sourced from Eskom[/eskom/], the main electricity utility in South Africa and no other public sources available. Eskom supplies 95% of electricity in South Africa and therefore a reliable source. This was cross-checked for the time of investment decision by the validation team and found to be correct.

All ex-ante parameters were verified; assumptions were found to be appropriate and calculations correct and applicable as per AMS III. Z version 03 and tools.
As explained above, the annual net production of the facility in year y (PPJ,y), quantity of fuel type i combusted in the process j during the year y (FCi,j,y) and quantity of electricity consumed by the project electricity consumption source j in year y (ECPJ,j,y) are all based on three-year historical data from the existing process and was checked by the DOE during the validation site visit and supported by documentary evidence listed in Table 7-1 of this report. The values and calculations result in conservative estimates of emission reductions.

Thus, emission reduction estimations were deemed correct, conservative and compliant with the methodology and tools.

CAR B3 and CL B4 were raised and successfully closed.

5.2.5 Additionality Determination

Consideration of CDM in decision making (if project start before validation)
The PDD was web-hosted for public comments on 2010-02-06 to 2010-03-07 i.e. after the starting date of the project activity (11-03-2009). The starting date of the project activity is when the PP purchased steel for the charcoal retort from “Steel and

Pipes for Africa[/PSD/]. This is the first significant real action associated with the CDM project.

Since the starting date of the project activity before the date of the publication of PDD for global stakeholders' consultation, the project developer needed to demonstrate the serious consideration of CDM while taking the decision to implement the project activity as required by Guidelines on the demonstration and assessment of prior consideration of the CDM version 04 as contained in Annex 13 of EB 62.

Project participant submitted evidence of decision making for validation[/CEF//MD/]. The decision to proceed with the fuel switch project was taken by joint CEOs of Allbrick and confirmed by a meeting of shareholders on 2009-03-23. From the evidence obtained by the validation team, the meeting was delayed (after the order for steel) due to the absence of one of the shareholders.

Subsequent prior consideration as confirmed from the UNFCCC website was made in September 2010[/unfccc/], which is within 6 months of project starting. PP has outlined unambiguously the list of events in section B.5.

It was also evidenced from the site visit and subsequent independent interviews by the validation team at the project site[/IM06//REF/]. From the PDD documentation and the site visit review assessors oted that there is less than two years of gap between two subsequent documents hence this was considered as serious CDM consideration.

CDM consideration can thus be assessed as serious.

Application of methodology / methodological tools

The project is a Small scale project. Project applied an approved and applicable small scale CDM methodology AMS III.Z version 3 which is a valid version. This is in line with §§ 67 (d), 94-95 of VVM version 1.2.

Alternatives

The project developer has considered the baseline in accordance with the applied methodology AMS III.Z/version 03 and the *Tool for the demonstration and assessment of additionality*' (Version 06.0.0). The PDD contains four alternatives to the project activity i.e.

1) The continued use of coal as a thermal fuel in the manufacture of clay bricks using clamp kiln technology instead of the proposed charcoal from renewable biomass.

2) Implementing the project without CDM.

3) A combination of coal and charcoal use in brick making at Allbrick.

4) The use of wood as thermal fuel in brick making at Allbrick

All the above alternatives are consistent with mandatory laws and regulations of South Africa/EMR//REF/. In Addition to host country knowledge, this was also checked by the validation team during the site visit.

This is now in line with §§ 105-107 of VVM version 1.2.

Investment analysis

The project applies barrier analysis instead of investment analysis.

Barrier analysis

Four alternative scenarios to the fuel switch project were identified. All the alternatives are consistent with related applicable laws and regulations/dna//REF/. The PDD identifies technological barriers, prevailing practice barrier and market barrier as the barriers that will prevent the implementation of three from the four presented alternatives to the baseline scenario/PDD/.

No barriers to prevent the continuation of the use of coal as the thermal fuel in brick making at Allbrick have been identified. Therefore, the project activity would not be implemented without revenues from CDM. The justifications of the barriers are supported by substantiated evidences as detailed in Annex 4 of this report.

Common practice analysis

In line with Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities, PP has sufficiently demonstrated additionality of the project activity using barrier analysis. Nevertheless, in line with step 4 of the 'Tool for the demonstration and assessment of additionality' PP has performed Common Practice Analysis to demonstrate that the use of renewable biomass fuel is not common practice in the brick industry and the host country/CBA/.

Summary

The procedure to justify the additionality of the project activity derived from the methodology or required methodological tools has been applied correctly and is transparently and sufficiently documented in the PDD.

Considering all statements above, it is confirmed that the project activity is additional because anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the project activity.

5.2.6 Monitoring Methodology

The PDD contains a monitoring plan which is in compliance with the applied monitoring methodology (AMS III.Z version 03).

5.2.7 Monitoring Plan

The monitoring parameters outlined in section B.7.1 of the final PDD have been determined as per the requirements of AMS III.Z version 03, and tool to calculate baseline, project and/or leakage emissions from electricity consumption (version 01). Also, the General guidance on leakage in biomass project activities (version 03) was also checked in the investigation of possible leakage. Through the review of the project design documents and onsite visit, the validation team determined that all necessary parameters to be monitored for emission reductions have been accounted for as listed in Section B.7.1 of the PDD.

All required parameters as per methodology and tool used have been validated: $P_{PJ,y}$, $FC_{BL,prod,coal}$, $NCV_{coal,y}$, $EF_{CO2,coal,y}$, P_{Hy}, $FC_{BL,prod,LPG}$, $NCV_{LPG,y}$, $EF_{CO2,LPG,y}$, $EC_{PJ,grid,y}$, $TDL_{grid,y}$, and weight of bricks (Kg).

No parameter has been omitted. Hence, the monitoring arrangements outlined in section B.7.1 and in the monitoring plan clearly described and are feasible within the project design.

5.2.8 Project Management Planning

The onsite monitoring as well as calibration/verification of measurement equipment will be the responsibility of Allbrick Manufacturing and Marketing (Pty) Ltd. PP has outlined roles and responsibilities for data storage, reporting, QA/QC and archiving of data for the purpose of verifying emission reductions, to the satisfactory of the validation team.

The project management planning is deemed appropriate for the purpose of the project's monitoring and operation.

5.2.9 Crediting Period

The PP has chosen fixed crediting period of ten years starting from 2013-01-01. It is unambiguously given in entire PDD. The crediting period starting date is appropriate as per VVM guidelines.

5.2.10 Environmental Impacts

An appropriate analysis of law and regulation in South Africa was conducted/NEMA/. An EIA is not required by the host country South Africa as Clay brick manufacturing is neither listed in one of these regulations/EMR/REF/ML/. An Air Pollution Permit was issued to Allbrick in terms of the Air Pollution Prevention Act of 1965/APP/. The Air Pollution Prevention Act was replaced in 2004 by the National Environmental Management: Air Quality Act. NEMAQA does not make any provision for the licensing for either brick production or the manufacture of charcoal.

5.2.11 Comments by Local Stakeholders

All relevant local stakeholders have been identified and invited to comment on the project[/LSC/]. The stakeholders were invited via English and Afrikaans notices in "George Herald Het Suid-Western" on Donderdag 12 November 2009 and in "Die Burger" on 30 October 2009. The invitation process is assessed as adequate in reaching out to all relevant stakeholders within and in the surroundings of the project site (VVM §128-130). Despite the correct stakeholder consultation process no comments were received.

6 VALIDATION OPINION

Nedbank Ltd has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the pre-validation 14 Corrective Action Requests (CARs) and 3 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (South Africa) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of South Africa vide the Letter of Approval (HCA) dated 2012-08-28
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 56,040 tCO_2e are most likely to be achieved within the fixed crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Essen, 2012-12-07

Martin Saalmann
TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2012-12-07

Rainer Winter
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/ACL/	Allbrick CEO Letter confirming mining plan to conserve on-site clay stock for 25 years, by restricting brick sales to 12 million per annum.
/APP/	Allbrick Air Pollution Permit
/CBA/	Letter from the Clay Brick Association of South Africa certifying that Allbrick is the first South African brick factory to implement fuel switch from coal to charcoal.
/CBM/	Clay Brick Manufacture
/CBP/	Amount and type of coal used and monthly brick production at Allbrick 2006&2007&2008&2009
/CEF/	Email correspondence from Central Energy Fund (CEF) interest in participation in the CDM project
/CI/	Certificate of Incorporation, Allbrick Manufacturing and Marketing (Pty) Ltd
/EIA/	• EIA - Allbrick Air Pollution Permit • Cape Environmental Assessment Practitioners
/EMP/	Environmental Management Programme Report, dated December 1996
/EMR/	• Environmental Management Programme (EMP) Report regarding mining activities at a small mine with a low environmental impact (prepared for Allbrick by PJ Lamming, Consulting Geologist, Approved by Director of Mineral Department, Western Cape 14 October 1997. • Registration Certificate Concerning Scheduled Processess authorizing Southern Cape Brick CC Trading as Allbrick giving authorization to continue ceramic processes (Certificate Number 1166/1 dated 17 August 1992) • Assessment of applicability of NEMA from Cape Environmental Assessment Practitioners (21 October 2010); result: manufacturing of charcoal does not appear to be listed in any of the legislation.
/GEF/	Calculation of the Emission Factor for the South African Grid

Reference	Document
/LAB/	Quteniqua Lab (Pty) Test Report for Compressive Strength Bricks – (SANS 227) Standard (13.01.2010)
/HCA/	Letter of Approval from the Republic South Africa DNA, dated 2012-08-28
/LR/	Lab reports for comparison to the IPCC guidelines
/LSC/	Evidence regarding local stakeholder consultations: • Notice in George Herald Het Suid-Western, Donderdag 12 November 2009. • Public Notice in Die Burger from 30 October 2009
/MB/	Evidence for market barrier: • Letter from Procurers Millers Incorporated to Allbrick market competitor Kurlandbrik • Email from Kurlandbrik claiming Allbrick produces low quality charcoal-fired bricks • Newsflash on Allbrick goes green • Newspaper article “Allbrick goes” regarding eco-friendly bricks.
/MD/	1. Letter indicating Allbrick’s decision to proceed with the fuel switch from Coal to Charcoal, dated 14.05.2010 2. Notice of Meeting to shareholders of Allbrick manufacturing and Marketing dated 23.03.2009 3. Allbrick CEO Letter confirming future brick production, dated May 10, 2010
/ML/	Mining License issued by the Department of Mineral And Energy Affairs to mine Clay and Later issued to Southern Cape Brick CC (License No. ML 39/97 dated 14 October 1997)
/PDD/	**Draft** Project Design Document named “Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa version 4 dated 03-02-2010 hosted from 06/02/2010 – 07/03/2010 **Final** Project Design Document named “Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa ver. 12 dated 2012-12-07

Reference	Document
/PSD/	Proof of Starting Date: - • Invoice for steel for retort construction from Steel & Pipes dated 11.03.2009
/QR/	SA Coal Quality Reference
/REF/	• CEF Interest In CDM Project • E-mail from DNA dated 2008-08-07 • Minerals and mines Act,Gov of South Africa, 2002-10-10 • Registration certificate (Atmospheric Pollution Prevention Act, 1965)
/SANS/	South African Bureau of Standards SANS 227:2007 Standard Detail Lab brick SANS 227 test by OUTENIQUA LAB (Pty) Ltd - Materials Testing Laboratory
/SHCP/	Stakeholder consultation process evidences: • George Herald Article • News Flash Allbrick goes Green
/SNB/	Evidence on close down of chipboard factory “Sonai Nova Board”, which previously used the waste wood of the surrounding sawmills. “UG” plant is still existing • Highlights of fly 2008 result (Sonae Industria, March 2009) • 1Q 2009 results (Sonae Industria, May 2009) • Sonae Indústria today reports its unaudited Consolidated Results for 1Q 2009 which are prepared in accordance with IFRS (International Financial Reporting (Sonae Industria, May 2009) • Standards)Activity Report and Consolidated Financial Statements (Sonae Industria, June 2009)
/SSA/	South African Sawmilling Industry
/T&M/	Training and maintenance: • Bio-char plant safe work procedure • Production trouble shooting guide • Training Register
/TEC/	Technical data sheet of spraying motor for charcoal production

Reference	Document
/TRUCK/	Evidence on emission factor of CO2 emissions per km for diesel trucks by Road Freight Association
/XLS/	Emission reduction calculation spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/IPCC/	• IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000 • Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/PDD-T/	Project Design Document Form (CDM PDD) – Version 03
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/METH/	AMS III.Z.: Fuel Switch, process improvement and energy efficiency in brick manufacture (Version 02) AMS III.Z.: Fuel Switch, process improvement and energy efficiency in brick manufacture (Version 03)
/EB 34 Annex 09/	UNFCCC: Guidelines for completing Simplified Project Design Document CDM-SSC-PDD and CDM-SSC-NM (Version 05)
/EB 66 Annex 63/	Glossary of CDM terms (Version 06)
/EB 36 Annex 27/	Compendium of guidance on the debundling for SSC project activities
/IPPC/	Draft 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Volume 2: Energy
/EB 41 Annex 11/	Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion (Version 02)

Reference	Document
/EB 50 Annex 15/	Tool to determine the remaining lifetime of equipment (Version 01)
/EB 39 Annex 7/	Tool to calculate baseline, project and/or leakage emissions from electricity consumption (Version 01)
/EB 55 Annex 1/	Validation and Verification Manual (Version 1.2, Annex 1; EB 55)
/EB 65 Annex 21/	Tool for the demonstration and assessment of additionality (Version 06.0.0)
/EB 50 Annex 13/	Guidelines for objective demonstration and assessment of barriers (version 01)
/NA/	Newspaper Article (George Herald Het Suid-Western), dated 12 November 2009 Newspaper Announcement (*Die Burger)* dated 30/10/2009
/NEMA/	List of Activities and Competent Authorities identified in Terms of Sections 24 and 24D of The National Environmental Management Act, 1998 (No. R. 386 and 387 21 April 2006)
/ONSITE/	Onsite visit on 2010-02-08 to 2010-02-10
/TOOL/	• Tool for the demonstration and assessment of additionality (v6.0.0) • Tool to calculate the emission factor for an electricity system (v2.2.1) • Tool to calculate baseline, project and/or leakage emissions from electricity consumption (Version 01)
/VVM/	Validation and Verification Manual (Version 01.2, Annex 1, EB 55)

Table 7-3: Websites used

Reference	Link	Organisation
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/dna/	http://www.dme.gov.za/dna/index.stm	Department of Minerals and Energy, (DNA of the Republic of South Africa)

Reference	Link	Organisation
/allbrick/	http://www.allbrickgeorge.co.za/	Allbrick Manufacturing & Marketing (Pry) Ltd
/cba/	http://www.claybrick.org.za/news.php	Claybrick Association of South Africa
/cef/	http://www.cef.org.za/index.php?option=com_content&view=article&id=1&Itemid=2	Central Energy Fund
/eskom/	www.eskom.co.za/	Eskom
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	MoI[1]		Name	Organisation / Function
/IM01/	V	☒ Mr. ☐ Ms	R.L Louw	Promethium, Consultant
/IM02/	V	☐ Mr. ☒ Ms.	Rosalind Dos Santos	Promethium, Consultant
/IM03/	V	☒ Mr. ☐ Ms.	Gavin Jooste	Allbrick Manufacturers and Marketing (Pty) Ltd
/IM04/	V	☒ Mr. ☐ Ms.	Seppie S. Janse	A.W.C.
/IM05/	V	☐ Mr. ☒ Ms.	Andre Tal Faard	Allbrick Manufacturers and Marketing (Pty) Ltd
/IM06/	V	☒ Mr. ☐ Ms	Paul Sagy	George Timber & Pallet CC (local sawmill owner)

[1)] Means of Interview: (**T**elephone, **E**-Mail, **V**isit)

ANNEX

A1: Validation Protocol

A2: Assessment of Baseline Identification

A3: Assessment of Financial Parameters

A4: Assessment of Barrier analysis

A5: Outcome of the GSCP

A6: Appointment certificates of the team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
A. General Description of Project Activity				
A.1. Approval *The written approval of the parties involved is a mandatory requirement*				
A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44) *Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.* *Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA*	*Description:* HCA from the host country and Annex I DNA were pending at the time of on-site validation. *Justification of evidences:* *Conclusion:* HCA is pending and has to be provided therefore CAR A1 has been raised.	/HCA/	~~CAR A1~~	OK
A.1.2. Are the approvals issued from orgainsations listed as DNAs on the UNFCCC CDM website? (EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53) *Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted*	*Description:* see A.1.1. *Justification of evidences:* *Conclusion:*		~~CAR A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
the LoA for validation.				
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (EB 55 Annex 1, § 45(a))	*Description:* see A.1.1. *Justification of evidences:* *Conclusion:*		~~CAR A1~~	OK
A.1.4. Do the written approvals confirm that the participation is voluntary? (EB 55 Annex 1, § 45(b))	*Description:* see A.1.1. *Justification of evidences:* *Conclusion:*		~~CAR A1~~	OK
A.1.5. Does the written approval from the host country confirm7 that the project contributes to the sustainable development in the country? (EB 55 Annex 1, § 45(c))	*Description:* see A.1.1. *Justification of evidences:* *Conclusion:*		~~CAR A1~~	OK
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration or an additional specification of the project activity, e.g. PDD version number? (EB 55 Annex 1, §§ 45(d), 50)	*Description:* see A.1.1. *Justification of evidences:*		~~CAR A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion:			
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 55 Annex 1, § 46)	*Description:* see A.1.1. *Justification of evidences:* *Conclusion:*		~~CAR A1~~	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other? (EB 55 Annex 1, § 51)	*Description:* In the section A.3 and in the Annex 1 of the draft PDD, two entities Allbrick Manufacturing and Marketing (Pty) Ltd and Nedbank Ltd are listed. *Justification of evidences:* By means of PDD check. *Conclusion:* The information provided as per section A.3 is consistent with Annex 1.	/PDD/	OK	OK
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) *Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.* *Describe the means of validation employed to draw this conclusion.*	*Description:* see A.1.1.awaiting HCA *Justification of evidences:* *Conclusion:*		~~CAR A1~~	OK
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)	*Description:* see A.1.1. *Justification of evidences:*		~~CAR A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion:			
A.1.11. Does the DoE have a direct contractual relationship with the PP? (EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) *Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.*	*Description:* DOE has a direct contractual relationship with Nedbank Ltd, one of the PPs. *Justification of evidences:* Checked validation project proposal and PDD. *Conclusion:* OK	/PDD/ ~~CAR A1~~	OK	OK
A.2. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development? (EB 55 Annex 1, §§ 125–127) *Contains a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.*	*Description:* See A.1.1. *Justification of evidences:* *Conclusion:* Will be resolved upon closure of CAR A1	/HCA/	~~CAR A1~~	OK
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? (EB 55 Annex 1, §§ 125–127) *Describe the other positive aspects not related to GHG emission reduction on the environment.*	*Description:* The project activity will contribute to the following sustainable economic environment and social development other than GHG emissions: **Economic:** • The project will contribute to foreign reserve earnings for South	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Africa via the carbon credit sales revenue. • The project will result in the first clay bricks produced with renewable fuels in South Africa. A new standard in renewable building practices could be set with the use of bricks from Allbrick. **Environmental:** • The project reduces the amount of wood waste that is stockpiled thereby reducing the risk of fires. • The use of the stockpiled wood waste avoids methane emissions generated during the anaerobic decomposition of the biomass. **Social:** • A move to green jobs by training employees on the benefits of switching from a coal-fired process to a charcoal-fired process. *Justification of evidences:* By means of PDD. *Conclusion:* The description of the environmental or social benefits of the project is clear and comprehensible, hence OK.			
A.3. PDD editorial aspects *The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.*				
A.3.1. Has the latest version of the PDD form been applied? (EB 55 Annex 1, § 55)	*Description:* The revised PDD form version 03 from 22 December 2006 for SSC project was used. *Justification of evidences:* By means of PDD, EB 55 Annex 1 and unfccc webpage. According to EB 55 Annex 1, §55 "The PDD used as a basis for validation shall be prepared in accordance with the	/PDD/ /VVM/ /unfccc/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website." *Conclusion:* The latest PDD form version 03 from 22 December 2006 was used which is latest version available and therefore this point is ok.			
A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)	*Description:* The PDD has been filled in accordance with the latest guidance(s) as stated in version 03 of (CDM-SSC-PDD). *Justification of evidences:* According to the latest guidance for completing Simplified Project Design Document (CDM-SSC-PDD) and the Form for proposed new Small Scale Methodologies (version 05). The valid template was used and filled. *Conclusion:* However CAR B8 was raised.	/PDD/ /EB 34 Annex 09/	~~CAR B8~~	OK
A.4. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.*				
A.4.1. Does the PDD contain a clear, accurate and complete project description? (EB 55 Annex 1, §§ 58–59, 64) *The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.*	*Description:* The project activity will switch from use of coal in the brick manufacturing to use of charcoal from renewable sources produced by 6 retorts manufactured by Allbrick and located at the project premises. In the chapter A.2 a detailed description of the purpose and the goals of the project activity are provided. In chapter A.4.2 the technical details of the project are given and the chapter A.4.3 provides tabular estimation of the emission reduction during the	/PDD/ /EB 34 Annex 09/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
Pl. consider esp. chapters *A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.* *§64 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.* *§64 (b) Contain the DOE's opinion on the accuracy and completeness of the project description.*	crediting period. *Justification of evidences:* By means of PDD, SSC Guidance and onsite visit. *Conclusion:* The project description is clear, accurate, understandable and complete.			
A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?	*Description:* The description of the project activity is clear understandable, the technology for producing charcoal by wood is well known. The capacity to implement the project activity is in place. *Justification of evidences:* By means of PDD and onsite visit as well as conducted interviews. *Conclusion:* As assessed during onsite visit 6 retorts have been purchased, installed and are operating. Renewable material (wood) is used as input material to produce charcoal. The charcoal is used for the brick production and substituting fossil fuel (coal). Therefore the description of the project activity is in accordance with the real situation.	/PDD/ /IM02/ /IM03/ /IM04/ /IM05/	OK	OK
A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation? (EB 55 Annex 1, §§ 63–64)	*Description:* The project has added four efficient retorts to the existing two onsite to boost the production of charcoal as a thermal fuel for clay bricks production and for the South African market. The project involves a fuel switch from coal to renewable charcoal both in the clamp kilns and as the body fuel in the production of clay bricks. The process does not change but the clamp kilns are slightly modified to limit air flow in order to extend the time the charcoal burns since it burns hotter and for a shorter period of time	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
Describe the steps taken to validate this issue.	than coal. *Justification of evidences:* By means of PDD and onsite visit. *Conclusion:* The description in the PDD is clear.			
A.4.4. Does the project design engineering reflect current good practices? *Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.*	*Description:* The technology used for charcoal production is well known. Nevertheless the project owner has improved the process of manufacturing charcoal using own-designed charcoal retorts. *Justification of evidences:* The project design is simple and well known. The change from coal to charcoal reflects a use of new technology and can be seen as a good practice. *Conclusion:* The project activity reflects good practices.	/PDD/	OK	OK
A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country? *Describe the process undertaken to assess the state of the art technology.*	*Description:* The charcoal fired technology used in the project activity leads to replacement of coal as a thermal fuel inn an efficient fuel utilization manner. This new technology does not change the process from the business as usual scenario but the modifications lead to better charcoal burning efficiency than existing technologies in South Africa. *Justification of evidences:* The Clay Brick Association of South Africa has confirmed that this kind of switch from coal to charcoal is the first time applied in South Africa's brick manufactirung industry. *Conclusion:* The project activity use innovative technology in South	/PDD/ /CBA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Africa.			
A.4.6. Does the project make provisions for meeting training and maintenance needs? *Describe the process undertaken to assess the maintenance and training needs.*	*Description:* The training of employees was mentioned in the PDD and records of training were provided during the onsite visit.. *Justification of evidences:* By means of PDD, Bio-char plant safe work procedure, Production trouble shooting guide and Training Register. *Conclusion:* No detailed information about the training and maintenance are provided in the PDD. During the onsite visit detailed information on training conducted was provided and evidenced. Hence CAR A5 was raised. Detailed information about maintenance and training has to be provided in the PDD.	/PDD/ /T&M/	~~CAR A5~~	OK
A.5. Small scale project activity *It is assessed whether the project qualifies as small-scale CDM project activity*				
A.5.1. Does the project qualify as a small scale CDM	*Description:* The project activity is of Type III small-scale project activities. In accordance with paragraph 28 decision -/CMP.2 Type	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
project activity as defined in decision 4 / CMP.1 annex II? (EB 55 Annex 1, §§ 135–136 (a))	III small scale project activities are those that result in emission reductions of less or equal to 60 kt CO2e/year. *Justification of evidences:* By means of PDD, methodology, glossary of terms and history of coal consumption. *Conclusion:* According to the emissions reduction calculation and the record of coal used in the baseline, project activity will not exceed the direct emissions limits of 60 kt CO2e/year. Even by calculation of increased production capacity, the project will not reach the limit for small scale project. The proposed project activity meets the small-scale limits for Type III SSC projects.	/METH/ /unfccc/		
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein? (EB 55 Annex 1, § 136 (b)) *Check, if applicable the expiry dates of the applied methodology. Further, take into consideration the general guidance to the methodologies[1], which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.*	*Description:* The valid methodology AMS-III.Z, version 03, the Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 2.2, the tool to calculate project or leakage CO2 emissions from fossil fuel combustion version 2 and the Tool for the demonstration and assessment of additionality version 06.0.0 were used. *Justification of evidences:* By means of PDD, related methodology and tools. *Conclusion:* Project complies with requirements	/PDD/ /METH/ /TOOL/ /EB 41 Annex 7/	OK	OK
A.5.3. Is the small scale project activity not a debundled	*Description:* The proposed small-scale project activity is not a debundled component of a large-scale project since it is the only	/PDD/	OK	OK

[1] http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
component of a larger project activity? (EB 55 Annex 1, § 136 (c)) *Describe the steps taken to validate this issue. PI refer to the Compendium of guidance on debundling (EB 54, Annex 13).*	clay charcoal fired brick producer in South Africa. *Justification of evidences:* By means of PDD and onsite visit the project is not a debundled part of a large scale project. *Conclusion:* Project complies with requirements	/EB 36 Annex 27/		
A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party? (EB 55 Annex 1, § 136 (d))	*Description:* In accordance with the National Environmental Management Act, a basic assessment is required for all activities listed in regulation 386 of 21 April 2006 in 24 Section 24 and 24 D and, and a full EIA for all activities listed in regulation 387 of 21 April 2006. But brick manufacturing is neither listed in one of these regulations. An Air Pollution Permit was issued to Allbrick. An Environmental Management Programme Report for mining activity was prepared for Allbrick. This is related to baseline and to project activity as well. *Justification of evidences:* Original evidences (Air Pollution Permit/ Environmental Management Programme Report) have been provided. *Conclusion:* According to provided evidences the project complies with regulation.	/PDD/ /NEMA/	OK	OK
B. Project Baseline, Additionality and Monitoring Plan				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.1. Application of the Methodology				
B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof? (EB 55 Annex 1, § 65) *Describe the steps taken to validate this issue.*	*Description:* The valid methodology AMS-III Z, version 03 was used. *Justification of evidences:* This is the correct/valid version of the AMS-III.Z published by UNFCCC. This methodology is applicable to this type of the project. *Conclusion:* OK	/PDD/ /METH/	OK	OK
B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website? (EB 55 Annex 1, §§ 65, 70) *Describe the steps taken to validate this issue.*	*Description:* See B.1.1. *Justification of evidences:* *Conclusion:*	/PDD/ /METH/	OK	OK
B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled? (EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76) *Describe for <u>each</u> applicability criterion listed in the selected approved methodology the steps taken to assess the*	*Description:* The correct and valid methodology and its applicability conditions were used in section B.2 of the PDD as follows: *1.* Bricks that are the same quality in the project and baseline cases The bricks are the same in the project activity and baseline	/PDD/ /METH/ /CBA/ /IM02/ /IM03/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
information contained in the PDD.	cases. The bricks are produced using the same raw materials and process. It is only the fuel that has changed. This is evidenced by erected retorts, production data and site visit *2.* The measures may replace, modify or retrofit systems in existing facilities or be installed in a new facility. The project takes place at an existing brick manufacturer. The fuel switch entails the following process modifications: The technique used in the packing of the clamp kilns is altered based on the research and development work done at Allbrick. Retorts are erected on site for the purpose of producing charcoal. *3.* No renewable biomass has been used in the existing project facility during the last three years prior to the start of the project Coal consumption records at the Allbrick facility are available for three years prior to project implementation. The records show that only coal and no biomass was used in the two systems modified by the project activity, i.e. body fuel and clamp kiln firing systems. *Justification of evidences:* The applicability criteria are presented in clear manner. References on using standard were provided. Confirmation from Clay Brick Association of South Africa that	/IM04/ /IM05/ /SNB/		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Allbrick in the only manufacturer in South Africa using this methodology was provided. References related to waste wood production and sale in the area as well as the interview carried out during the onsite visit in saw mill George Timber & Pallet CC justify the definition of used removable biomass. *Conclusion:* The project complies with the requirements.			
B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines? (EB 55 Annex 1, §§ 72–75)	*Description:* See B.1.3. *Justification of evidences:* *Conclusion:*	/METH/ /PDD/ /XLS/	OK	OK
B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances for approved methodologies provided by the CDM EB? (EB 55 Annex 1, § 69, 71) *Describe the steps taken to check whether the proposed project activity meets <u>all the other possible stipulations and /or limitations</u> mentioned in all sections of the approved*	*Description:* The project complies with all requirements from the methodology. *Justification of evidences:* The approved methodology was applied. *Conclusion:* Requirements fulfilled	/PDD/ /METH/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
methodology selected.				
B.2. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project*				
B.2.1. Are the project's spatial boundaries (geographical) clearly defined? (EB 55 Annex 1, §§ 67(a), 78–80) *Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.*	*Description:* According to the PDD, "The project boundary will therefore be the brick manufacturing sites, the transportation of raw material and the electricity grid". Also in the section A.4.1.1 project areas are defined, GPS coordinates of plant location are provided. *Justification of evidences:* The boundary was defined and delineated. Additional to the boundary defined per methodology the electricity grid were delineated. By means of onsite visit. *Conclusion:* OK as according to methodology the project boundary is the physical, geographical site where the brick production takes place (brick manufacturing site) during baseline and crediting period. The GPS coordinates have been confirmed using google maps.	/PDD/ /METH/	OK	OK
B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology? (EB 55 Annex 1, §§ 67(a), 78–80) *Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.*	*Description:* There is no description in the methodology which allows the choice of a source and/or gases are to be included. However the PDD has considered project emissions from electricity consumption and continuous coal consumption and determined leakage emissions to be zero. *Justification of evidences:* Sources of GHG are clear defined in the PDD	/PDD/ /METH/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion: As there is no description in the methodology which allows the choice of a source and/or gases, the Project boundary mentioned in the PDD also complies with the same.			
B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified? (EB 55 Annex 1, §§ 67(a), 78–80) *Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.*	*Description:* N/A *Justification of evidences:* *Conclusion:*	/METH/ /TOOL/	OK	OK
B.3. Baseline Identification *The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.*				
B.3.1. What possible baseline scenarios have been considered? (EB 55 Annex 1, §§ 67(b), 83) *Fill in all alternatives in table A-2.*	*Description:* According to the methodology, the baseline emissions are the fossil fuel consumption related emissions associated with the system(s), which were or would have otherwise been used, in the brick production facility(ies) in the absence of the project activity. The identified baseline scenario is the continuation of coal use as	/PDD/ /METH/ /unfccc/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
	the thermal fuel for the brick production. *Justification of evidences:* According to the guidelines for Simplified modalities and procedures for small scale clean development mechanism project activities only three approaches are applicable: • Existing actual or historical emissions, as applicable; or • Emission from a technology that represents an economically attractive course of action, taking into account barriers to investment, or 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. *Conclusion:* The consideration of the baseline has been made in line with the methodology*:*			
B.3.2. Is the list of alternatives complete? (EB 55 Annex 1, §§ 67(b), 83) *Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration*	☒ All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted. ☐ The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued	/PDD/ /METH/	OK	OK
B.3.3. What has been identified as the baseline scenario? (EB 55 Annex 1, §§ 81–82, 86)	*Description:* Continuation of coal use was identified as the plausible baseline scenario.	/PDD/ /METH/ /TOOL/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
Describe the chosen BL scenario, taking into consideration the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.	*Justification of evidences:* The use of coal is not prevented by the barriers outlined in the methodology and is consistent with the laws of South Africa. Use of call is also the common practice in South Africa. By means of onsite visit besides conducted interviews. *Conclusion:* The baseline scenario is the use of coal as the thermal fuel of choice, consistent with South African laws and is the preferred common practice in South Africa	/IM02/ /IM03/ /IM04/ /IM05/		
B.3.4. Has the baseline scenario been determined according to the methodology? (EB 55 Annex 1, §§ 82, 87(e)) *Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.*	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. ☒ The determination has been carried out as per the procedure contained in the applied methodology. ☐ The following CARs / CLs have been identified with respect to the selection of the baseline scenario:	/PDD/ /METH/ /TOOL/	OK	OK
B.3.5. Has any plausible alternative scenario been excluded? (EB 55 Annex 1, § 83) *Describe how it is validated that no plausible alternative scenario has been excluded.*	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. ☒ No plausible baseline scenario has been excluded. ☐ The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:	/PDD/ /METH/	OK	OK
B.3.6. Is the identified baseline scenario reasonable and has the baseline scenario been determined using conservative assumptions where possible,	☒ The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above.	/PDD/ /METH/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
including relevant references and sources? (EB 55 Annex 1, §§ 84–86(a)–(c)) *Describe whether the choice of the identified baseline scenario is reasonable by validating the key assumptions, calculations and rationales used in the PDD. Describe whether these are listed, relevant and conservatively interpreted in the PDD.*	☐ The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative.	/EB 39 Annex 7/		
B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? (EB 55 Annex 1, §§ 85, 87(d)) *Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).*	*Description:* The Allbrick fuel switch project activity is the first of its kind in South Africa. *Justification of evidences:* Refer to Letter from Clay Brick Association of South Africa. *Conclusion:* OK	/PDD/ /CBA/	OK	OK
B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced? (EB 55 Annex 1, § 87(a)–(c)) *Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.*	*Description:* The baseline scenario determination is compatible with the available data. *Justification of evidences:* The record data for coal use were presented. *Conclusion:* The baseline scenario was presented in clear credible way.	/PDD/ /CBP/	OK	OK
B.3.9. Does the PDD contain a *verifiable* description of the identified baseline scenario, including a description of the technology that would be	*Description:* PDD contains a verifiable description of the identified baseline and a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity. See B.3.8.	/PDD/ /METH/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
employed and/or the activities that would take place in the absence of the proposed CDM project activity. (EB 55 Annex 1, § 86)	*Justification of evidences:* By means od PDD and EB 47 Scope 4 *Conclusion:* PDD filled as per requirements			
B.4. Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*				
B.4.1. Methodology				
B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools? (EB 55 Annex 1, §§ 67(d), 94–95) *Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.*	*Description:* The Tool to demonstrate additionality was used. Investment analysis was not conducted. Four alternative baseline scenarios are listed. Barrier analysis was conducted: technological barrier, prevailing practice barrier, market barrier, and common practice barrier were identified. *Justification of evidences:* By means of PDD and tool. *Conclusion:* Allbrick is the first brick manufacturing company in South Africa using charcoal as confirmed by the CBA letter. The lack of a reference case and the high risk of technological failure have been used to justify the technological barrier, common practice barrier and prevailing practice barriers. Reference document for market resistance barrier was also availed to the DOE Nevertheless correction has to be made in the PDD to provide references for used citations in the market barrier therefore CAR B1	/PDD/ /TOOL/	~~CAR B1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	was raised.			
B.4.2. Consideration of CDM before project start				
B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms? (EB 55 Annex 1, § 104(a)) *Assess why the chosen starting date can be considered as the earliest date at which either the implementation or construction or real action of a project has begun or will begin.* *Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity.*	*Description:* The project starting date 11 March 2009 was chosen. On this day the steel for additional retorts was purchased/REF/. *Justification of evidences:* Invoices for justification of the chosen starting date were provided. *Conclusion:* According to the CDM glossary of terms "the starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins"....shall be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity". The project starting date is in line with the requirements.	/PDD/ /CDM-Glos-05/ /PSD/ /REF/	OK	OK
B.4.2.2. In case the project start date is on or after 2nd August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status? (EB 55 Annex 1, §§ 99–101) *Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the CDM was not seriously considered.*	*Description:* The prior notification was lodged to UNFCCC on 14 August 2009 and according to project participants also DNA was informed. Allbrick was in contact with the South African DNA to discuss possible carbon project at the factory from October 2008. *Justification of evidences:* The prior consideration was assessed on the homepage of UNFCCC. Evidence of prior consideration to the DNA is pending. *Conclusion:* The prior notification to UNFCCC was done in line with requirements. After the prior notification to UNFCCC, the EB changed the rules from "and/or" to "and". The prior consideration of	/PDD/ /unfccc/	~~CL A4~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	DNA has to be clarified. Therefore CL A4 has been raised.			
B.4.2.3. In case the project start date is before commencing of validation and 2nd August 2008, was the incentive from the CDM seriously considered and are details given in the PDD? (EB 55 Annex 1, §§ 100, 102) *Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.*	*Description:* N/A *Justification of evidences:* *Conclusion:*	/PDD/	OK	OK
B.4.2.4. How and when was the decision to proceed with the project taken? *Describe the steps taken to validate the starting date.*	*Description:* In February 2009 test production was conducted for the fuel switch project activity and once the initial tests were successful an order to build the additional charcoal retort was placed in March 2009. A meeting of Allbrick shareholders was held on March 23, 2009 and the minutes approving the purchase of further charcoal retorts in addition to the first two test retorts have been evidenced. *Justification of evidences:* Invoice for material to build the retorts and expand the production of charcoal. *Conclusion:* OK	/PDD/ /PSD/ /MD/	OK	OK
B.4.2.5. Is the project start date consistent with the available evidences? (EB 55 Annex 1, § 102) *Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.*	*Description:* The project starting date is indicated with 11 March 2009. On this day the steel for additional retorts was purchased/PSD/. *Justification of evidences:* For evidence records of coal use was provided during the on-site visit. Additionally the Invoice for material to build the additional retorts was provided.	/PDD/ /CBP/ /PSD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion: The project starting date is consistent with available evidences.			
B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so? (EB 55 Annex 1, § 102(a) *Describe the steps taken to validate this issue.*	*Description:* The information w.r.t who took the decision to proceed with the project was not provided in the PDD. *Justification of evidences:* PDD *Conclusion:* information related who took the decision to proceed with the project has to be provided in the PDD. Hence CAR A3 was raised.	/PDD/	~~CAR A3~~	OK
B.4.2.7. How was the CDM involved in the decision making process? (EB 55 Annex 1, § 102) *Describe why CDM was a decisive factor in the decision making process.*	*Description:* Section B.5 of the published PDD shows that the PP was aware of the CDM benefits in their decision to start the project activity. This includes inter alia; initial correspondence with the host country DNA, email correspondences with the Central Energy fund i October 2008, and prior consideration lodged to UNFCCC on 14 August 2009. *Justification of evidences:* The PDD version 4 has been checked and the documents provided by PP, which includes emails from CEF, shareholders meetings ad letter from the CEO. UNFCCC website was checked for prior consideration. *Conclusion:* The PP has demonstrated with evidences continuous and real actions towards CDM registration	/PDD/ /unfccc/ /MD/ /REF/	OK	OK
B.4.2.8. Do the evidences provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status? (EB 55 Annex 1, § 102; EB 49 Annex 22 § 7)	*Description:* Yes, the evidences provided prove that that continuous and real actions were taken to secure CDM status. *Justification of evidences:* See B.4.2.7 above *Conclusion:* complies with EB 55 Annex 1 § 102	/PDD/ /unfccc/ /MD/ /VVM/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for substantiating the action taken, credible, reliable and complete? (EB 49 Annex 22 § 8)	*Description:* Project started on 11 March 2009. *Justification of evidences:* See above (B.4.2.7.) *Conclusion: OK*	/PDD/ /unfccc/ /PSD/	OK	OK
B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM? (EB 62 Annex 5, § 7) *Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.*	*Description:* N/A *Justification of evidences:* *Conclusion:*	/PDD/	OK	OK
B.4.2.11. Can the CDM involvement in the decision assessed as serious? (EB 55 Annex 1, § 104(b)–(c)) *Describe whether or not the project would have been undertaken without the incentive of the CDM.*	*Description:* Section B.5 of the PDD outlines the milestones in the CDM project development. CDM consideration was considered from the beginning including communication with the host country, the Carbon energy fund. All relevant evidences have been provided to the validation team and deemed sufficient. *Justification of evidences:* PDD *Conclusion:* CDM involvement can be assessed as serious.	/PDD/ /unfccc/ /VVM/ /REF/	OK	OK
B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2 if appropriate)				
B.4.3.1. Does the list of alternatives contain the	*Description:* Yes, the list of alternatives contains the continuation of the business as usual, the project without CDM, partial fuel switch	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
status-quo situation, the project not undertaken as a CDM project as well as all other viable means of supplying the outputs or sevices that are to be supplied by the proposed CDM project activity? (EB 55 Annex 1, §§ 105–107) *Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.*	as well as direct use of renewable biomass *Justification of evidences:* PDD *Conclusion:* The list of realistic alternatives to the project activity is sufficiently provided in the PDD.	/METH/ /cba/		
B.4.3.2. Have all realistic alternatives been identified to the project? (EB 55 Annex 1, §§ 105–107) *Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives are realistic.*	*Description:* N/A *Justification of evidences:* *Conclusion:*	/PDD/ /METH/	OK	OK
B.4.3.3. Do all identified alternatives comply with enforced legislations? (EB 55 Annex 1, §§ 106(c)) *Describe the steps taken to validate this issue. Refer to the legislations.*	*Description:* Yes, all alternatives conform to the country laws and regulations. There is no legislation forbidding the use of any of the alternatives for brick manufacturing in South Africa *Justification of evidences:* The PDD was checked, the CBA website as well as interviews with officials and stakeholders. *Conclusion:* Requirements fulfilled	/PDD/ /IM01/ /IM03/ /IM04/ /IM06/	OK	OK
B.4.4. Investment analysis Step 2 *In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide*				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
additonal details of the the calculation parameters..				
B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasable without the revenues from the sale of CERs? (EB 55 Annex 1, § 108)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? (EB 55 Annex 1, § 108; EB 39 Annex 10) *Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 55 Annex 1, § 110; EB 51, Annex 58, §8) *Describe the steps taken to validate this issue.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.4. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment	*Description:* N/A *Justification of evidences:*		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
analysis period (as a cash inflow) included? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 3 – 4) *Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.*	*Conclusion:*			
B.4.4.5. Is the (remaining) technical lifetime of existing or project equipment defined in accordance with the guidance of the *Tool to determine the remaining lifetime of equipment*? (EB 50 Annex 15)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 4) *State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?	*Description:* N/A *Justification of evidences:*		OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
(EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)	*Conclusion:*			
B.4.4.8. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.9. Is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.10. Were the input values used in the investment analysis valid and applicable at the time of the investment decision? (EB 55 Annex 1, § 109,112; EB 62 Annex 5, § 6) *In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.11. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that	*Description:* N/A		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	*Justification of evidences:* *Conclusion:*			
B.4.4.12. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 9)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.13. In cases where a post-tax benchmark is applied please ensure that actual interest payable is taken into account in the calculation of income tax. (EB 62 Annex 5, § 11) *As per the guidance it is recommended to select a pre tax benchmark in order to Describe the steps taken in assessing this requirment.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.14. In case of equity IRR: Is the part of the investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 10)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.15. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local	*Description:* N/A		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)? (EB 55 Annex 1, § 111; EB 62 Annex 5, §§12 – 15) *In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering the project type and market situation.*	*Justification of evidences:* *Conclusion:*			
B.4.4.16. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark? (EB 55 Annex 1, § 109; EB 62 Annex 5, §§13 – 15) *Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.17. Is it ensured that the project cannot be developed by other developers than the PP? (EB 55 Annex 1 § 109; EB 62 Annex 5, §§ 13 – 14) *Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behaviour of the entity during at least the last 3 years in relation to similar projects.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.18. Was the benchmark consistently used in the past for similar projects with similar risks? (EB 55 Annex 1, § 112(c))	*Description:* N/A *Justification of evidences:*		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion:			
B.4.4.19. Does the PDD and related spreadsheets contain a sensitivity analyis and does the same contain variation of parameters which may vary throughout the project lifetime, (EB 55 Annex 1, §§ 109–110(e); EB 62 Annex 5, § 17–18) *Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.20. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 17)	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.4.21. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 17) *Describe whether those parameters are considered in the sensitivity analysis?*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.4.22. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 18) *Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.*	*Description:* N/A *Justification of evidences:* *Conclusion:*		OK	OK
B.4.5. **Barrier analysis Step 3 or SSC additionality assessment**				
B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project? (EB 55 Annex 1, §§ 115, 134, 137) *In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5.*	*Description:* Technological barrier, prevailing practices and market barriers were presented in the PDD. *Justification of evidences:* By means of the letter from the South African Clay Brick Association, PDD. *Conclusion:* As the project is the first of its kind in the whole of South Africa. the lack of technological reference case, risk of technological failure and market resistance barriers as presented were assessed as real and in the event of their occurrence it is expected that they would impact on the financial returns of the project	/PDD/ /TOOL/ /CBA/ /CBM/	OK	OK
B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)?	*Description:* The barriers present risks related to possible poor revenues due to perception of the new fuel and technology by Allbrick. The risk of technological failure is minimized through training and research, but perception of failure poses a significant	/PDD/ /MB/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 116, 134, 137) *Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?*	rist to adoption of renewable biomass. *Justification of evidences:* By means of the evidenced market, prevailing practices and technology barriers. *Conclusion: OK*			
B.4.5.3. Has the unavailabilty of means of finance for the proejct been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM? (EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)	*Description:* The additionality of the project is demonstrated using barrier analysis and common practice analysis. *Justification of evidences:*. PDD *Conclusion:* Barrier analysis has been applied to show that in the absence of CDM, the barriers faced in the realization of the projects	/PDD/ /TOOL/	OK	OK
B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real? (EB 55 Annex 1, § 116(a))	*Description:* Technological, prevailing practices and market barrier were presented and discussed as follows: *1. Continuation of the use of coal as the thermal fuel in brick making at Allbrick* There are no barriers to this scenario. This is common operation or BAU at Allbrick. *2. Allbrick fuel switch project undertaken without registration as a CDM project* There are three significant barriers to the implementation of this project: • There is no technological reference case for the production of high quality clay bricks using renewable biomass in South Africa. • There is a significant market resistance to bricks fired with renewable fuels. • A fuel switch of this nature carries a significant risk of technical failure that can have negative effects on the financial performance	/PDD/ /CBA/ /MB/ /CBM/ /cba/	~~CL B1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	of Allbrick. *3. A combination of coal and charcoal use in brick making at Allbrick* There are four significant barriers to the implementation of this project: • Lack of technological reference in South Africa • Significant market resistance to bricks fired with renewable fuels. • A fuel switch of this nature carries a significant risk of technical failure that can have negative effects on the financial performance of Allbrick. • Two systems for the coal and charcoal will have to be run simultaneously. The disadvantages of two parallel systems include separate storage areas, increased deliveries, increased administration and other tasks that would need to be done twice. *4. The use of wood as thermal fuel in brick making at Allbrick* This option was judged to be technically infeasible for a number of technical reasons relating to the quality of the fuel (consistency, moisture content, fixed carbon content and combustion rates), and its interaction with the complex system of clay firing. It is the expert opinion of Allbrick's technologists that the challenges in using wood as thermal fuel will be insurmountable. *Justification of evidences:* The project is the first of its kind in South Africa according to PDD, the Letter from the Clay Brick Association, newspaper article and E-mail from clients Proline Plett. *Conclusion:* Based on provided references, sectoral and local			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	knowledge, on site visit and interviews, the barriers presented can be assessed as real.			
B.4.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives? (EB 55 Annex 1, § 116(b))	*Description:* See B.4.5.4 *Justification of evidences:* The provided evidence of market barrier /MB/, as well as the prevailing common technology. *Conclusion:* The implementation of the project activity, the first fuel switch from coal to charcoal, as the first such project meets real barriers that have to be overcome. Only the use of coal which is business as usual on the market is not affected by the barriers.	/PDD/ /CBA/	OK	OK
B.4.5.6. Does the review of relevant background information on the nature of the company(ies) and entitiy(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)	*Description:* According to the PDD Allbrick had to invest in Research and Development as the technology was first of its kind and it faced real market barriers. *Justification of evidences:* Letter from Clay Brick Association confirming Allbrick as the first fuel switch from coal to charcoal and the evidence of email from brick market competitor discrediting the Allbrick charcoal-fired brick. *Conclusion:* The barriers have been sufficiently justified as described and supported.	/PDD/ /CBA/ /MB/	OK	OK
B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	*Description:* see B.4.5.5. PDD section B.5 states the following for the alternative "project with registration under the CDM", scenario 5 that - The positive image of the project as a greenhouse gas mitigation project is required to redress the market perception of charcoal fired bricks - The revenue from carbon credits will balance the risk of technological failure and the potential impact thereof on the finances of Allbrick.	/PDD/ /MB/ /CBA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Justification of evidences: By means of PDD, Letter from Clay Brick Association confirming Allbrick as the first fuel switch from coal to charcoal and the evidence of email from brick market competitor discrediting the Allbrick charcoal-fired brick. *Conclusion:* The revenue generated from the project activity will cushion the PP from potential low returns attributable to poor market perception.			
B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated? (EB 50 Annex 13, § 7) *Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an investment analysis is inappropriate. .*	*Description:* Yes, it is expected that CDM will mitigate all the barriers demonstrated and ensure the financial viability of the fuelswitch project . *Justification of evidences:* PDD check, interviews as well as public sources. *Conclusion:* Additional financing would alleviate the barriers.	/PDD/ /MB/ /CBA/ /cba/	OK	OK
B.4.6. Common practice analysis Step 4 (in case of SSC projects skip this step)				
B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type? (EB 55 Annex 1, § 120(a)) *Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.*	*Description:* The entire country of South Africa has been defined for the common practice analysis. Brick and ceramic manufacturing by use of coal is common in South Africa and the availability of coal is sufficient and cost effective compared to alternative fuels. *Justification of evidences:* By means of PDD and letter from Clay Brick Association of South Africa. *Conclusion:* The entire host country has been appropriately chosen for common practice analysis.	/PDD/ /CBA/ /IM06/ /cba/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.6.2. To what extent similar projects have been undertaken in the relevant region? (EB 55 Annex 1, § 120(b))	*Description:* No other projects similar projects with or without application as a CDM projects have been undertaken in the host country. *Justification of evidences:* By means of PDD and letter from Clay Brick Association of South Africa. *Conclusion:* The project is first of its kind.	/PDD/ /CBA/ /cba/	OK	OK
B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed? (EB 55 Annex 1, § 120(c))	*Description and Conclusion:* N/A, as no similar projects are identified. *Justification of evidences:* By means of PDD and letter from Clay Brick Association of South Africa.	/PDD/ /CBA/ /cba/	OK	OK
B.5. Ex-Ante Calculation of GHG Emission Reductions *It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.*				
B.5.1. Are the equations applied correctly according to the applied approved methodology? (EB 55 Annex 1, §§ 67(c), 89–90, 92) *Describe clearly the steps taken to assess whether the*	☐ The equations applied for calculation are correctly applied according to the approved methodology. ☒ The following mistakes have been identified in this context: *Description:* Formulae from different tools were used.	/PDD/ /METH/	~~CAR B6~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.	Transportation of waste wood from saw mills to the project sites was calculated as a leakage. *Justification of evidences:* For the calculation of leakage the Methodology AMS III E and not the tool recommended by the methodology was used. *Conclusion*: The origin of formulae used and the justification of use of the formulae have to be provided in the PDD. The calculation of the leakage has to be done in line with approved methodology and tools. Hence CAR B6 was			
B.5.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)? (EB 55 Annex 1, §§ 90–91) *Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.*	*Description:* The methodology does not allow for different methodological choices in the ER estimations *Justification of evidences:* The applied and applicable methodology was checked. *Conclusion:* requirements are fulfilled	/PDD/ /METH/	~~CAR B6~~	OK
B.5.3. Have conservative assumptions been used when calculating the project emissions? (EB 55 Annex 1, §§ 90–91)	*Description:* According to the applied methodology, *project emissions consist of those emissions associated with the use of electricity or fossil fuel or both and are calculated in accordance with the Tool to calculate baseline, project and/or leakage emissions from electricity consumption and/or Tool to calculate*	/PDD/ /METH/ /TOOL/	~~CAR B6~~	OK

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Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.	*project or leakage CO 2 emissions from fossil fuel combustion(tCO2e)* In this project activity emissions are accounted for electricity consumption in motors, LPG for lighting of kilns and possible coal consumption. The grid emission factor is determined correctly as per relevant tool, and relevant parameters to determine LPG and possible coal emissions were identified but a few errors were noted. *Justification of evidences:* The PDD and methodology and tools were checked *Conclusion:* CAR B3 was raised in the course of validation for minor errors.			
B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology? (EB 55 Annex 1, § 77)	*Description:* In line with the applied methodology §13, project emissions are a result of electricity consumption, diesel consumption as a result of biomass procurement by trucks, and possible coal consumption. However, the coal consumption in the project activity was described as unlikely. The formulae to calculate the possible project emission were correctly included and applied. *Justification of evidences:* The use of electricity has been assessed during the onsite visit. The use of LPG for kiln lighting was also assessed. PDD as well as corresponding methodology and tools have been checked. *Conclusion:* The project emissions were calculated in conservative manner and are expected to contribute more than 1% of the overall expected average annual emission reductions, are considered in the emission reduction calculation in accordance with the corresponding methodologies and tools and equations are correctly applied.	/PDD/ /METH/ /EB 41 Annex 11/ /TOOL/ /XLS/ /TRUCK/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination of baseline emissions? (EB 48 Annex 11, §§ 1, 3–4) *Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both cases the PLF may be different.*	*Description:* No PLF required. *Justification of evidences:* *Conclusion:* OK	/PDD/ /METH/	OK	OK
B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions? (EB 55 Annex 1, § 91) *Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.*	*Description:* All data sources used have been verified as correct in the context of determining emission reductions. Where applicable, IPCC and historical values were used as required by the methodology. Nevertheless, during the on-site visit errors in the historical values were found. The values from UNFCCC were assessed as correct. *Justification of evidences:* By means of PDD, onsite visit, historical records and methodology. *Conclusion:* CAR B3 was raised to correct the presented historical data.	/PDD/ /METH/ /unfccc/ /CBP/ /IPCC/	~~CAR B3~~	OK
B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? (EB 55 Annex 1, § 91) *Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable,*	☐ All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. ☒ The following mistakes have been identified in this context: The use of the nominal factor of 1 mass % for coal, considering fossil fuel use during crediting period is unclear and therefore CAR	/PDD/ /METH/	~~CAR B5~~ ~~CAR B7~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
applicable and conservative in the context of the project activity	B5 has been raised. Calculation for GEF has to be provided hence CAR B7 was raised.			
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. *Describe the steps taken to validate this issue.*	*Description:* The emission reduction calculation was presented. Determination of the baseline was done as per methodology. Historical coal consumption was used as the basis for determing emission reductions. Leakage as well as project emissions were determined as per meth and tools *Justification of evidences:* By the mean of PDD, Methodology and the record of coal consumption. *Conclusion:* The expected emission reductions are assessed as real, measurable and would mitigate climate change.	/PDD/ /METH/ /CBP/ /TOOL/ /TEC/	OK	OK
B.6. Monitoring of Emission Reductions *It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.*				
B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan? (EB 55 Annex 1, §§ 67(e), 121, 123(a), 124) *Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.* *Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.*	*Description:* All the required parameters are provided but some of the values are inconsistent with the methodology. *Justification of evidences:* By means of PDD check, methodology and corresponding tools. *Conclusion:* CAR B6 was raised.	/PDD/ /METH/ /EB 41 Annex 11/	~~CAR B6~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.				
B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology? (EB 55 Annex 1, § 123(a)–(b), 124) *Assess whether the provided information for all parameters w.r.t.* *a) Label (name of the data / parameter)* *b) data unit* c) *description* d) *source of data* e) *measurement equipment / method / procedure* f) *monitoring frequency* g) *QA/QC procedures* *are appropriately described and in compliance with the requirements of the methodology..*	*Description:* Values are provided in tabular form. The values and information as per requirement of the methodology AMS-III.Z. and corresponding tools are provided. *Justification of evidences:* By means of PDD, methodology and corresponding tools. *Conclusion:* The monitoring plan has to be improved in line with methodology. The description of the measurements methods and the QA/QC are not always provided. Hence CARs B8 and B9 were raised.	/PDD/ /METH/ /TOOL/ /EB 41 Annex 11/ /EB 50 Annex 15/	~~CAR B9~~ ~~CAR B8~~	OK
Are all parameters presented as per international standards? *a) Format: Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).* *b) Units: Values shall be directly given in SI units – or*	Standard formats have been used In this context the following additional findings have been identified:	/PDD/ /XLS/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
additionally to original units transferred to SI. *c) Short scale naming system: (Only) million = 106 and billion 109 shall be used.* *Please refer to the International System of Units (SI) as published within Guidance 11/08.*	N/A			
B.6.3. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology? (EB 55 Annex 1, §§ 123(b), 124) *Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.* *Please consider that additional equations might be necessary to calculate auxiliary parameters.*	*Description:* The monitoring as well as calibration of measurement will be the responsibility of Allbrick. All monitoring requirements conform to the applied methodology and tools. During the on-site visit it was assessed that Allbrick has a well-developed management structure and the capacity for monitoring. Nevertheless detailed information about quality, control procedures and monitoring structure were not provided in the PDD: *Justification of evidences:* By means of PDD, methodology and corresponding tools. *Conclusion:* The description of the monitoring plan has to be improved. Hence CAR B9 was raised.	/PDD/ /unfccc/	~~CAR B9~~	OK
B.6.4. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity? (EB 55 Annex 1, § 124(c)) *Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.*	*Description:* The monitoring management structure was briefly mentioned. *Justification of evidences:* By means of PDD the monitoring structure is not clear. *Conclusion:* The data collection and backup is not precise See CAR B9. above	/PDD/ /unfcc/ /TOOL/	~~CAR B9~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
B.6.5. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activit can be reported ex-post and verified? (EB 55 Annex 1, § 124(b)) *Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.*	*Description:* QA/QC procedures are only partly described. *Justification of evidences:* By means of PDD, methodology and corresponding tools. *Conclusion:* Describe QA/QC procedures for each parameter. See CAR B9.	/PDD/ /unfccc/	~~CAR B9~~	OK
B.6.6. Are procedures identified for data management? (EB 55 Annex 1, § 124(b)) *Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation* *Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.*	*Description:* See B.6.4 above *Justification of evidences:* Onsite visit, PDD check *Conclusion:* see CAR B9. above	/PDD/ /onsite/	~~CAR B9~~	OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*				

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
C.1. Is the project's starting date clearly defined and evidenced? (EB 55 Annex 1, § 99) *Check whether the starting date is correct. Apply the definition of the project starting date as per the "Glossary of CDM terms".*	*Description:* The project starting date is indicated as 11 March 2009 . The invoice for steel to build additional retort for charcoal production for the project activity was provided. The production of bio charcoal in the pre project phase was evidenced. *Justification of evidences:* According to the CDM glossary of terms "the starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins...shall be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity". *Conclusion:* The project starting date was evidenced by the provided Invoice for steel for retort construction, from Steel&Pipes for Africa dated 11.03.2009 which is when real action of project activity begins.	/PDD/ /CDM-Glos-05/ /PSD/ /MD/	OK	OK
C.2. Is the project's operational lifetime clearly defined and evidenced? *Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).* *Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.*	*Description:* Project operation lifetime of 21 years exceeds the 10-year fixed crediting period.. *Justification of evidences:* The used equipment in the project activity exceeds the project lifetime. Mining licence for a period exceeding the lifetime of the project was provided. Assuming the brick production is kept at the same level, the clay stock will exceed the lifetime of the project. *Conclusion:* The project's operational lifetime exceeds the life of the project activity. Nevertheless evidence for the clay stock has to be provided. Also the operational lifetime is not clearly defined as required by Guidelines for completing the simplified project design document. Hence CAR C1 was raised.	/PDD/ /ML/ /EB 50 Annex 15/	~~CAR C1~~	OK
C.3. Is the start of the crediting period clearly defined	*Description:* Starting date on 1 November 2010 (not prior to CDM registration) was chosen.	/PDD/	~~CAR C2~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
and reasonable? *Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.*	*Justification of evidences:* By means of PDD. *Conclusion:* CAR C2 was raised.			
D. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.*				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133) *Check the host party regulations, regarding EIA.*	*Description:* An Environmental Impact Assessment is not required. *Justification of evidences:* Clay brick manufacturing is not listed in the Environmental Management Act. The Air Pollution Permit was provided. *Conclusion:* The EIA is not required for brick manufacturing as per Environmental Management Act of South Africa. The project complies with the requirements.	/PDD/ /EMR/ /NEMA/ /APP/	OK	OK
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? (EB 55 Annex 1, §§ 131–133) *Check the EIA and its approval, if applicable.*	*Description:* See D.1.1. *Justification of evidences:* *Conclusion:*	/PDD/ /EMR/ /NEMA/ /APP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation? (EB 55 Annex 1, §§ 130–132) *Check the PDD (section D). Check whether the project will create any adverse environmental effects.* *Check the relevant national environmental legislation.*	*Description:* See D.1.1. *Justification of evidences:* *Conclusion:*	/PDD/ /EMR/ /NEMA/ /APP/	OK	OK
D.1.4. Are transboundary environmental impacts considered in the analysis? (EB 55 Annex 1, §§ 131–133) *Check the documents and local official sources / expertise regarding transboundary environmental impacts.*	*Description:* No trans-boundary environmental impacts considered. *Justification of evidences:* By means of onsite visit and of PDD. *Conclusion:* The switch from coal to charcoal means improvement of te environmental situation.	/PDD/ /EMR/ /APP/	OK	OK
E. Stakeholder Comments *The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.*				
E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD? (EB 55 Annex 1, § 128) *Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation*	*Description:* An advertisement about the project was published but no comments were received. *Justification of evidences:* PDD	/PDD/ /LSC/	~~CAR E1~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
process has been carried out.	*Conclusion:* The process of identification of local stakeholders was not given. CAR E 1 was raised.			
E.2. Can the local stakeholder consultation process be assessed as adequate? (EB 55 Annex 1, § 129(a)–(c)) *Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.* *Please consider the following requirements in this context:* *(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;* *(b) The summary of the comments received as provided in the PDD is complete;* *(c) The project participants have taken due account of any comments received and have described this process in the PDD.*	*Description:* The local stakeholder consultation process was adequately conducted. PP published notices on the two biggest newspapers in the area in both English and Afrikaans. Individuals and communities identified as likely to be affected by the project activity were invited through newspaper notices as well as display notices in the George library. *Justification of evidences:* PDD *Conclusion:* No comments were received. However, CAR E1 was raised for further information on the identification process of stakeholders.	/PDD/ /LSC/ /IM03/ /IM05/	~~CAR E1~~	OK

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification (EB 55 Annex 1 §§83 – 86)

☒	Baseline is not identified by methodology
☐	Assessment of baseline see below

Baseline identified	Inline with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
Continuation of the use of coal as the thermal fuel in brick making at Allbrick	☒	☐	This is the BAU situation at Allbrick in the absence of the project activity and the common practice in South Africa.	/CBA/ /CPB/ /METH/ /cba/	☐	On-site visit and assessment of evidences confirming to first of its kind for the project activity. This is further substantiated by the coal invoices which show that the only fuel source prior to the implementation of the proposed project activity was fossil fuel. Therefore the DOE considers the continuation of the use of fossil fuel (coal) is a reasonable and plausible baseline alternative.

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113,)

☒	No financial parameters are used for additionality justification
☐	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
					☐	

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis (EB 55 Annex 1, §118)

☐	No barrier parameters are used for additionality justification
☒	Assessment of barriers see below

Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
Technological Barrier	There is no technology reference case for production of high quality clay bricks using renewable biomass or combinations thereof with fossil fuels anywhere in South Africa.	/CBA/ /cba/ /IM01/ /IM03/ /T&M/	☒	To establish the efficacy of the fuel switch, PP had to undertake test trials for use of charcoal fuel body bricks (initial tests in February 2009). The nature of clay brick making technology in clamp kilns does not allow for small scale tests. Industrial large scale tests had to be performed in order to prove the performance of the clamp kilns with biomass which involves high costs in terms of raw material supply, labour, equipment, time, and factory production capacity. The factory workers had to undergo further training and a training register/T&M/ has been furnished to DOE. The project activity has technological risk in the absence of any existing reference case. PP has explained/IM03/IM05/ appropriate measures taken to contain the risks involved in the fuel switch. Hence, due to the nature of the technology, CDM will alleviate the perceived risk of untried technology and risk of damage mitigated through extra training, as per guideline 5 in the *Guidelines for objective demonstration and Assessment of Barriers* (EB 50, Annex 13).

Prevailing Practice Barrier	This is the first of its kind project in South Africa. Brick manufacturing in South Africa is predominantly fired by coal which is abundant and cheaper than other fossil fuels (oil & Gas)	/CBA/ /IM01/ /IM04/ /cba/	☒	This is a credible barrier as demonstrated by the letter from the Clay Brick Association and further desktop research and interviews by the validation team. Hence, in accordance with Guideline 3 (EB 50, Annex 13), adoption of the biomass fuel/technology in the brick manufacturing sector in the Republic of South Africa is 0% (i.e, below 10%) and can thus be considered in the realm of *first of its kind* status in the Republic of South Africa/CBA/. Furthermore, the validation team crosschecked the CBA member websites and has established that a number of the clay brick manufactures were predominantly concerned about fuel efficiency than fuel switch from coal to any renewable sources. Hence, it can be demonstrated that there is little to no effort to change from coal to renewable energy due to the associated risks and costs of switching.
Market Barrier	Negative market perception of bricks produced using charcoal. Charcoal-fired bricks are perceived to be of lower quality than fossil fuel alternatives.	/MB/ /PDD/	☒	The PDD Annex 5 has presented credible evidence demonstrating the attitudes towards bricks manufactured via renewable charcoal. Moreover, on-site visit confirmed negative publicity in the media from brick market competitors. It is credible that this effort would create potential market suppression/MB/ against the bricks produced using charcoal (renewable biomass). Market barrier would have a potential direct impact on sales and hence project barrier can be mitigated by CDM revenues.
Common Practice Analysis	The project can be considered first of its kind in South Africa	/CBA/ /cba/ /CBM/ /IM03/ /IM06/	☒	The CBA letter confirms the project activity as the first fuel switch from coal to charcoal – and also confirms coal as the common practice in clay brick making in South Africa/CBA/. The letter from CBA is from an independent source and based on data obtained from its membership. The validation team has also checked the CBA website as well as some of the brick manufactures' corporate websites in South Africa. It has been established that coal is the preferred and leading thermal fuel in brick firing (as well as in the mining industry) in South Africa, followed to a small scale by oil and gas fuel/CBM//cba/. No brick producers were found to involve renewable biomass.

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process

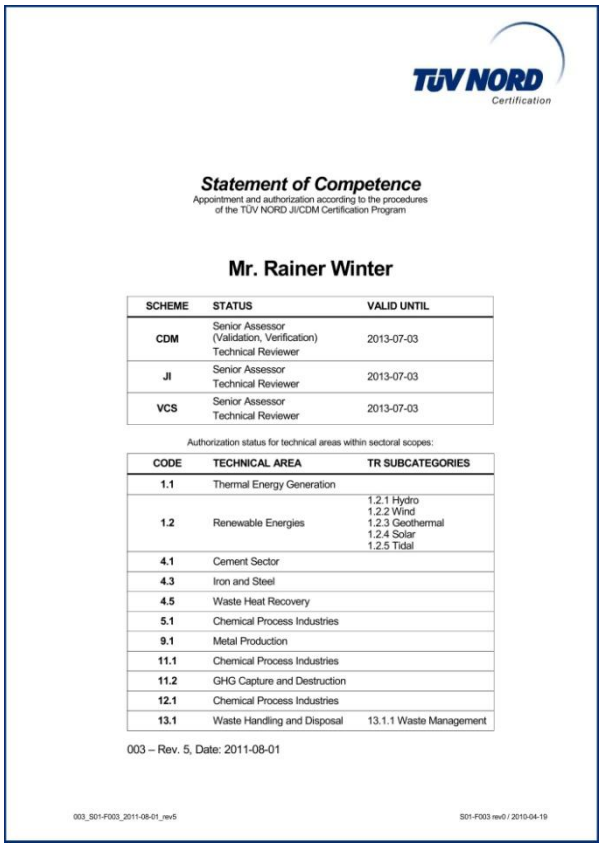
(§§ 40-42, VVM Version 1.2)

☒	No comments were received during the global stakeholder consultation period
☐	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:

Comment No.:	Comment by:	Inserted on:	Subject	Comment *)	Action taken by the validation team to take due account on the comment *)	Conclusion (incl. CARs CLs or FARs)

*) In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Rainer Winter

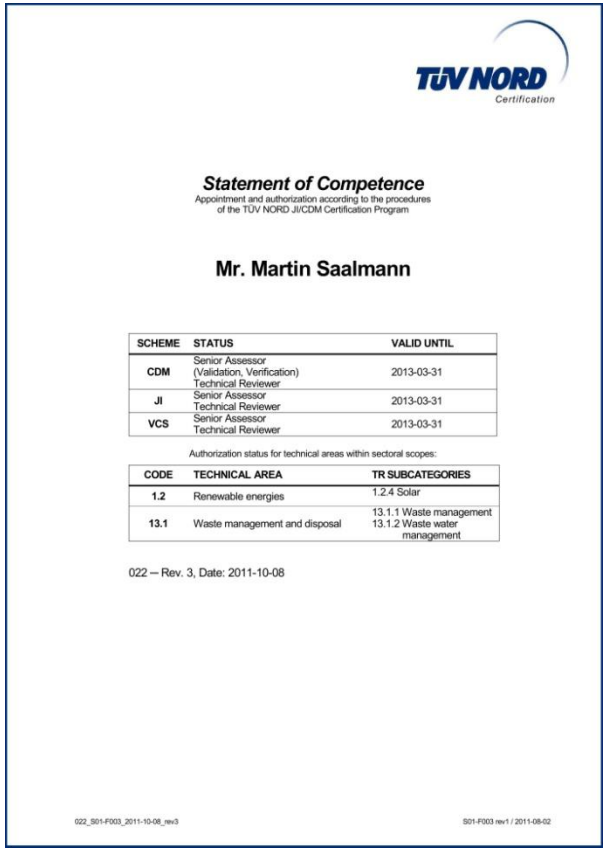
SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2013-07-03
JI	Senior Assessor Technical Reviewer	2013-07-03
VCS	Senior Assessor Technical Reviewer	2013-07-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal Energy Generation	
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
4.1	Cement Sector	
4.3	Iron and Steel	
4.5	Waste Heat Recovery	
5.1	Chemical Process Industries	
9.1	Metal Production	
11.1	Chemical Process Industries	
11.2	GHG Capture and Destruction	
12.1	Chemical Process Industries	
13.1	Waste Handling and Disposal	13.1.1 Waste Management

003 – Rev. 5, Date: 2011-08-01

003_S01-F003_2011-08-01_rev5 S01-F003 rev0 / 2010-04-19



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Martin Saalmann

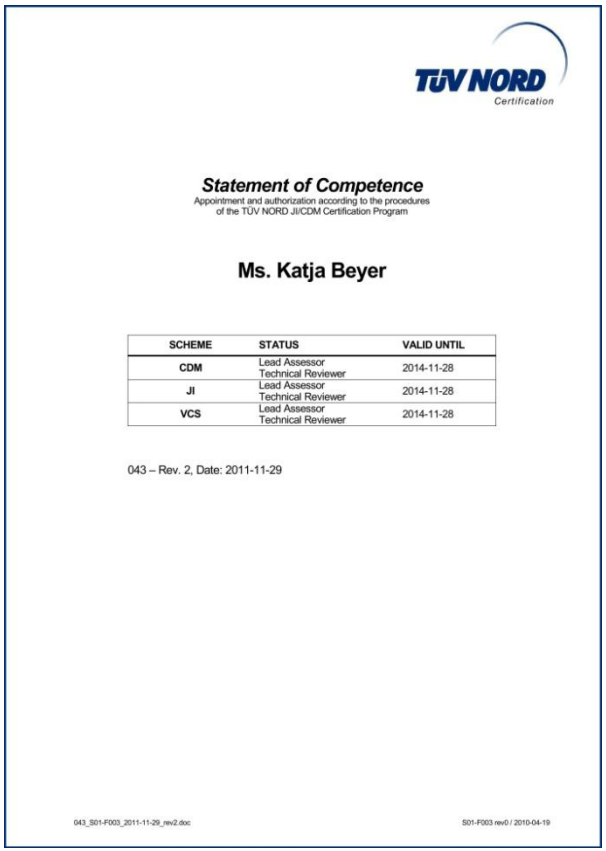
SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2013-03-31
JI	Senior Assessor Technical Reviewer	2013-03-31
VCS	Senior Assessor Technical Reviewer	2013-03-31

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable energies	1.2.4 Solar
13.1	Waste management and disposal	13.1.1 Waste management 13.1.2 Waste water management

022 – Rev. 3, Date: 2011-10-08

022_S01-F003_2011-10-08_rev3 S01-F003 rev1 / 2011-08-02



TÜV NORD Certification

Statement of Competence

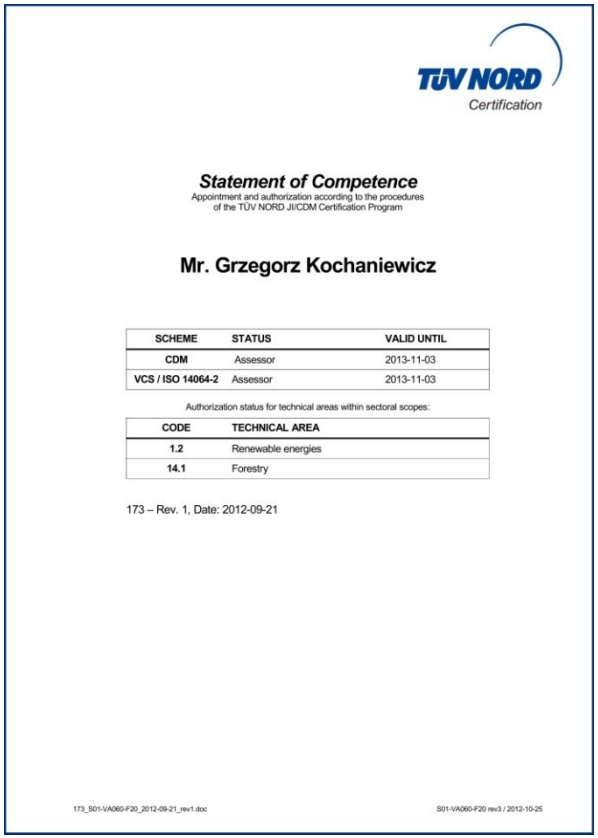
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Ms. Katja Beyer

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor Technical Reviewer	2014-11-28
JI	Lead Assessor Technical Reviewer	2014-11-28
VCS	Lead Assessor Technical Reviewer	2014-11-28

043 – Rev. 2, Date: 2011-11-29

043_S01-F003_2011-11-29_rev2.doc S01-F003 rev0 / 2010-04-19



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Grzegorz Kochaniewicz

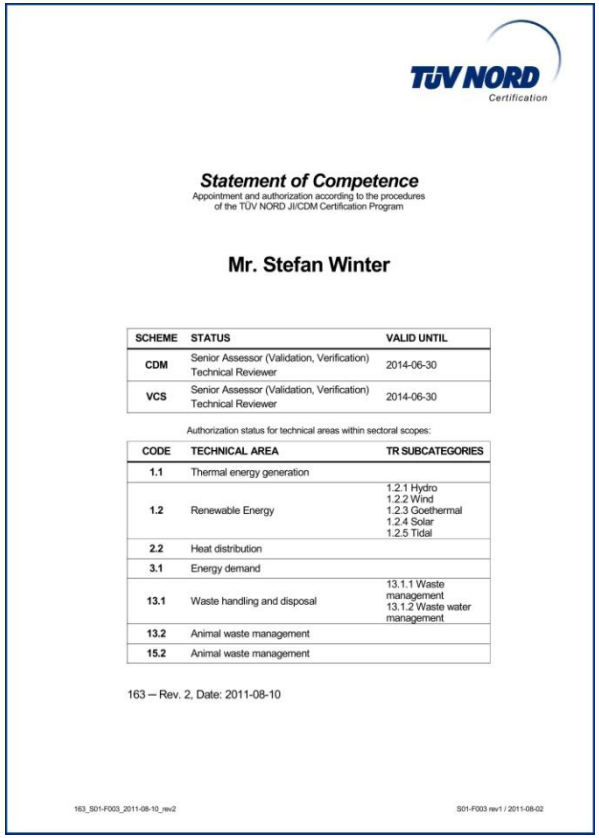
SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2013-11-03
VCS / ISO 14064-2	Assessor	2013-11-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable energies
14.1	Forestry

173 – Rev. 1, Date: 2012-09-21

173_S01-VA060-F20_2012-09-21_rev1.doc S01-VA060-F20 rev3 / 2012-10-25



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Stefan Winter

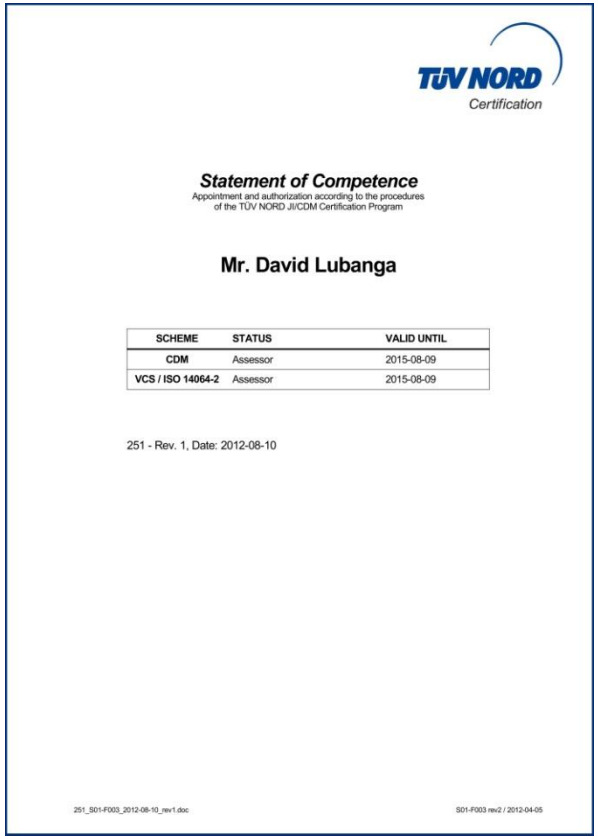
SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-06-30
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2014-06-30

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal energy generation	
1.2	Renewable Energy	1.2.1 Hydro 1.2.2 Wind 1.2.3 Goethermal 1.2.4 Solar 1.2.5 Tidal
2.2	Heat distribution	
3.1	Energy demand	
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management
13.2	Animal waste management	
15.2	Animal waste management	

163 – Rev. 2, Date: 2011-08-10

163_S01-F003_2011-08-10_rev2 S01-F003 rev1 / 2011-08-02



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2015-08-09
VCS / ISO 14064-2	Assessor	2015-08-09

251 - Rev. 1, Date: 2012-08-10

251_S01-F003_2012-08-10_rev1.doc S01-F003 rev2 / 2012-04-05