Clean Development Mechanism South Africa
Designated National Authority

energy
Department:
Energy
REPUBLIC OF SOUTH AFRICA

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Project Design Document (PDD)

Project reference number (office	
Date received (office use only)	

NOTES ON COMPLETING THIS PROJECT DESIGN DOCUMENT

1. Please provide this PDD in both hard-copy

Part A: Project Proponent Details

Project Name	Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa
Date of Submission of PDD	14 November 2011

Project Developer	
Name	*Allbrick Manufacturing and Marketing (Pty) Ltd*
Organizational Category	Private Company
Legal Status	Limited company
Street Address	44 13th Street Tembalethu, George Western Cape
Postal Address (if different from above)	
Website Address	Not available.
Main Activities	Produces clay bricks using clamp kiln technology.

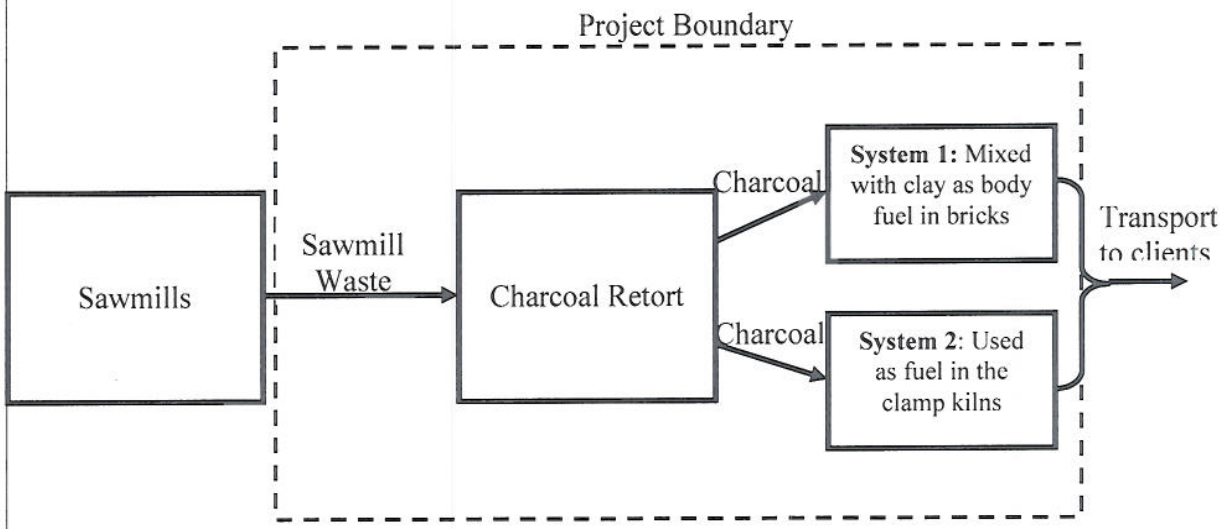
Summary of Financial Performance in last fiscal year	*Allbrick has a turnover of R25 million per year*
Contact Person(s)	Pieter Bredell
Telephone	0448840126
Fax	0866142365
Email Address	piet@webafrica.org.za
Project Partners Provide the following Information for **all** project partners (copy and paste relevant sections of the table if information is to be provided on more than one partner organisation)	
Name	Nedbank Capital
Nature of partner	*Carbon credit buyer*
Organizational Category	*Private company*
Legal Status (if private company)	*Limited company*
Street Address	135 Rivonia Road, Sandton, Johannesburg
Postal Address (if different to Street Address)	
Website Address	www.nedbank.co.za
Main Activities	Banking
Contact Person(s)	Nelis Engelbrecht
Telephone	Work:021 416 6000 Cell: 0828824593
Fax	
Email Address	NelisE@Nedbank.co.za
Contractual Arrangements	
Contractual arrangements between various entities involved	*Nedbank is the buyer of the CERS*

Part B: Project Overview (Technical Summary, Location and Schedule)

Technical Summary of the project	
Objective of the Project	The objective of the project is to reduce greenhouse gas emissions by implementing a fuel switch from coal (fossil fuel) to charcoal (renewable fuel).

Project Description

The project involves a fuel switch from coal to charcoal both in the clamp kilns and as the body fuel in the bricks. The charcoal is produced using wood waste from local sawmills. This wood waste is classified as renewable biomass.



Project Constraints

Are there any constraints affecting project operations or commissioning?

No.

Technology to be employed	It is purely a fuel-switch project; therefore there is no change in technology or equipment. The production process technology stays unchanged.

Technical Summary of the project	
Greenhouse Gases Targeted	CO_2
Emission reductions	5,604 tons CO_2e per annum
Baseline & Additionality Assessment	The baseline is the continuation of the business as usual scenario. Barriers to the project that prove additionality include: • There is no technological reference case for the production of high quality clay bricks using renewable biomass in South Africa • 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. This represents a high cost in the areas of raw material supply, labour, equipment time, factory production capacity and off specification product. • There is a significant market resistance to bricks fired with renewable fuels. • Two systems for the coal and charcoal will have to be run simultaneously. This is in opposition to a scenario where just a coal or a charcoal system is followed. The disadvantages of two parallel systems include separate storage areas, increased deliveries, increased administration and other tasks that would need to be done twice.
Monitoring	The following data will be monitored at Allbrick: • Annual net brick production • Any coal used on site at Allbrick: In the unlikely event that coal is used at Allbrick the weighted net calorific value of the coal and the weighted average CO2 emission factor will be updated to the latest IPCC values. • Quantity of LPG used to start the combustion in the charcoal retorts • Quantity of electricity consumed by the project activity: Technical transmission and distribution losses will be updated every year. The grid emission factor will be updated at the end of the crediting period. • Weight of bricks leaving clamp kilns • Brick Quality
Type of project/activities	
a. Energy Supply	Not applicable
b. Energy Demand	This is a fuel switch project which will displace coal (fossil fuel) with charcoal (renewable biomass).
c. Industrial Process	Not applicable

Technical Summary of the project	
d. Transport	Not applicable
e. Waste Management	Not applicable
f. Forestry/ land use	Not applicable
g. Other	Not applicable
Project Boundary Define the Project Boundary (Approximately 1 paragraph) The project boundary encompasses the following: • 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.	
Indicate Emissions outside the Project Boundary	Not applicable

Location of the Project	
Province	Western Province
Municipality	Thembalethu
Nearest city/large town	George
Brief description of the location of the project site	The GPS co-ordinates for the site are: 34° 00' 25 S 22° 28' 46 E

Project Schedule/Timetable	
Earliest Project Start Date	November 2011
When is the expected first year of CER delivery	November 2011
Project Lifetime	The life time of the mine exceeds the 10 year period of this project activity.
Project End Date	October 2021
Crediting Period	10
Current Status or phase of the project	Actions already commenced. The project has already been implemented.

Project Schedule/Timetable	
DNA Approval	No.
Approval by other bodies	No.

Part C: Performance Against the DNA's Sustainable Development Criteria

South Africa has identified the following sustainable development criteria and indicators against which each CDM project will be assessed. Please provide your interpretation of how this project will address each of these **criteria and indicators** where they are relevant to the project. If the space provided is not sufficient please append additional information as required.

NOTE: For all indicators which are of relevance to the project show how the performance of the project against these indicators can be objectively monitored and measured on an ongoing basis.

1. Economic: Does the project contribute to national economic development?

The project will contribute to foreign reserve earnings for South Africa via the carbon credit sales revenue. The project will also 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.

2. Social: Does the project contribute to social development in South Africa?

A move to green jobs by training employees on the benefits of switching from a coal-fired process to a charcoal-fired process.

3. Environmental: Does the project conform to the National Environmental Management Act principles of sustainable development?

Please provide **brief** comment for each of these below.

i) That the **disturbance of ecosystems and loss of biological diversity** are avoided, or where they cannot be avoided, are minimised and remedied	There is no disturbance of ecosystems and loss of biological diversity in this project.
ii) That **pollution and degradation of the environment** are avoided, or where they cannot be altogether avoided, are minimised and remedied	There are no pollution and degradation of the environment in this project.
iii) That the **disturbance of landscapes and sites that constitute the nation's cultural heritage** is avoided, or where it cannot be altogether avoided, is minimised and remedied	There will be no disturbance of landscapes and sites that constitute the nation's cultural heritage in this project.
iv) That **waste is avoided**, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a	There is no waste in this project.

responsible manner	
v) That **the use and exploitation of non-renewable resources is responsible and equitable**, and takes into account the consequences of the depletion of the resource	Coal might be used as a back-up fuel in this project, but the use thereof will be responsible and equitable.
vi) That the **development, use and exploitation of renewable resources is responsible and equitable**, and takes into account the consequences of the depletion of the resource.	Wood waste from the local sawmills is used as the raw material in charcoal production. The use of this renewable biomass resource is responsible and equitable.
vii) That **a risk averse and cautious approach** is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions	Seeing as there is no technology change on the site, the in-house knowledge is used to implement this project in a risk averse and cautious manner.
vii) That **negative impacts on the environment and on people's environmental rights** be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied	The impacts on the environment are improved by implementing this project.
Other comments **Please provide any other comments on how this project contributes to sustainable development in South Africa** (optional)	

Indicators in Support of the Project Approval Criteria			
Category		**Indicator**	**Comment**
Environmental	Impact on local environmental quality	• Impact of the project on air quality • Impact of the project on water pollution • Impact of the project on the generation or disposal of solid waste • Any other positive or negative environmental impacts of the project (such as impacts on noise, safety, visual impacts, or traffic)	• The project will improve air quality by utilising a renewable biomass fuel. • There will be no water pollution in this project • There will be no generation of solid waste, or disposal thereof in this project • The overall impact of this project on the local environmental quality is positive.
	Change in usage of natural resources	• Impact of the project on community access to natural resources • Impact of the project on the sustainability of use of water, minerals or other non renewable natural resources • Impact of the project on the efficiency of resource utilisation	• The project will reduce coal usage on site and has no impact on other natural or non renewable resources. Wood waste is utilised for the manufacturing of charcoal, thereby increasing the efficiency of resource utilisation.
	Impacts on biodiversity and ecosystems	• Changes in local or regional biodiversity arising from the project	• This project has no influence on the local or regional biodiversity.

Indicators in Support of the Project Approval Criteria			
Category		**Indicator**	**Comment**
Economic	Economic impacts	• Impact of the project on foreign exchange requirements • Impact of the project on existing economic activity in the area • Impact of the project on the cost of energy • Impact of the project on foreign direct investment	• The project will contribute to foreign reserve earnings for South Africa via the carbon credit sales revenue. • The project will increase the cost of energy at Allbrick. Carbon credits revenue will however offset the increased cost.
	Appropriate technology transfer	• Positive or negative implications for the transfer of technology to South Africa arising from the project • Impacts of the project on local skills development • Demonstration and replication potential of the project	• A move to green jobs by training employees on the benefits of switching from a coal-fired process to a charcoal-fired process will improve skills and knowledge in the local community. • This project can easily be replicated at a similar clamp kiln operation in South Africa.

Indicators in Support of the Project Approval Criteria			
Category		**Indicator**	**Comment**
Social	Alignment with national provincial and local development priorities	• How the project is aligned with provincial and national government objectives • How the project is aligned with local developmental objectives • Impact of the project on the provision of, or access to, basic services to the area • Impact of the project on the relocation of communities if applicable • Contribution of the project to a any specific sectoral objectives (for example, renewable energy targets)	• The project will increase the use of renewable energy and reduce greenhouse gas emissions. This will help reach the target the South African government committed to; the reduction of the country's emissions by 34% from business as usual.

Indicators in Support of the Project Approval Criteria			
Category		**Indicator**	**Comment**
	Social equity and poverty alleviation	• Impact of the project on employment levels? (specify the number of jobs created/lost; the duration of time employed, distribution of employment opportunities, types of employment, categories of employment changes in terms of skill levels and gender and racial equity) • Impact of the project on community social structures • Impact of the project on social heritage • Impact of the project on the provision of social amenities to the community in which the project is situated • Contribution of the project to the development of previously underdeveloped areas or specially designated development nodes	• A move to green jobs by training employees on the benefits of switching from a coal-fired process to a charcoal-fired process will improve skills and knowledge in the local community.

Indicators in Support of the Project Approval Criteria			
Category		Indicator	Comment
General	General Project Acceptability	• Are the distribution of project benefits deemed to be reasonable and fair?	• The more expensive fuel costs will be covered by the carbon credit revenue. A move to green jobs by training employees on the benefits of switching from a coal-fired process to a charcoal-fired process will improve skills and knowledge in the local community.

Part D: Finance

Project Costs	
Development Costs (R's)	Not available
Installed Costs (R's)	Not available
Other Costs (R's)	Not available
Total Project Costs (R's)	Not available
Sources of Finance	
Equity	Not available
Debt (long term)	Not available
Debt (short term)	Not available
Amount not identified (R's)	Not available
Total CDM Contribution sought	Not available
Expected Price of CER in case of a contract to purchase for: A period of 7 years A period of 10 years A period of 14 years (2x7 years)	Not available
Indicate the **projected Internal Rate of Return** for the project with and without CER revenues.	Not available
Constraints on tradability of carbon credits	*Have any commercial arrangements been made that may impact the tradability of the carbon emission reductions? If yes, please define.Note. Examples would be subjection to a mortgage, government tax etc.*
Preliminary discussions with potential purchasers	*Have you had any preliminary discussions with any potential purchasers of the carbon credits (CERs)* *If yes, please give brief details.*
