Clean Development Mechanism South Africa
Designated National Authority

Private Ba 5133
Private I 980

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	For Stoves Programme of Activities
Date of Submission of PDD	02/10/2012

Project Developer	
Name	CME For Stoves Ltd
Organizational Category	Private Limited, not for Profit.
Legal Status	Private Limited firm, not for profit.
Street Address	6, Templar Mews, Black Jack Street.
Postal Address (if different from above)	Cirencester , Gloucestershire , UK, GL7 2AA
Website Address	www.forstoves.com
Main Activities	CME For Stoves Ltd is a not for profit company registered in UK. It has been set up to be the coordinating/managing entity of the For Stoves Progamme of Activities.
Summary of Financial Performance in last fiscal year	New company – Established in September 2012.
Contact Person(s)	Nicola Steen
Telephone	Work:+44 7881 952983

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Fax	
Email Address	nicola@nicolasteen.com
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	Nova Institute
Nature of partner	CPA developer
Organizational Category	Not-for-profit company
Legal Status (if private company)	Not-for-profit company
Street Address	**The Nova Institute** 13 Beuke Place The Willows Pretoria 0041
Postal Address (if different to Street Address)	*as above*
Website Address	www.nova.org.za
Main Activities	Nova is an independent, non-profit organisation that aims to improve the functioning of low-income households through participatory action research. The Nova Institutes's vision is "A healthy household culture in Southern Africa". Nova was founded in 1994 as a not for profit company under Section 21 of the Companies Act. Nova pursues this vision by engaging in participatory action research to bridge the gap between services and products provided by outside institutions to poor households and the perceptions and responses of those households. Nova focuses its research and projects on the low-income household and is active in the field of domestic energy, energy efficient housing, health, income generation for the unemployed and sustainable agriculture.
Contact Person(s)	Dr. Christiaan J Pauw
Telephone	Cell: +27 82 557 4328
Fax	086 538 7958
Email Address	chistiaan.pauw@nova.org.za
Contractual Arrangements	

Contractual arrangements between various entities involved	CME For Stoves Ltd and Nova Institute have agreed a declaration of intent.

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

Technical Summary of the project	
Objective of the Project	The goal of the proposed PoA is to utilize the financial mechanism such as carbon finance so that the efficient cook stoves are accessible to the communities. The stated goal of the PoA is to make energy efficient cook stoves available to households that use firewood/charcoal produced from woody biomass for cooking. The investors such as corporates, manufacturers etc into this programme will facilitate a combination of manufacturing, installation, distribution, capacity building, operation and maintenance to ensure efficient usage of improved cook stoves by the households

Project Description

The CPA involves the construction and distribution of efficient stoves with 25% efficiency in the households where people are currently using inefficient three stone stoves for cooking purposes with biomass as fuel in these stoves.

The stove that will be used for this CPA in South Africa will be chosen following local trials. We will consider one that has been designed by the International Collaborative for Science, Education and the Environment (ICSEE), working with in Maasai Stoves and Solar Project. The stove draws smoke out of their homes while efficiently providing heat for cooking and household comfort. The stove successfully harmonises the need to remove smoke while keeping flame and after-burning smoke and gases engaged in the cooking process as long as possible. High combustion efficiency and clear household air have been attained, reducing local deforestation and carbon emissions by 60% and relieving smoke in the houses by 90%.

The stove, fire box and chimney are made from materials purchased from local businesses, and include bricks, metal sheets and bars for baffles and grates, mortar and clay. The CPA will enable a factory to be built to scale up manufacture of the stoves.

In each Maasai village teams of women are taught to how to make and repair the stoves and to teach the men and women in each household how to use, clean and maintain the effectiveness of their stove. A similar installation model would be considered in the Limpopo Province. The Nova Institute have a track record in developing efficient cooking projects and would manage the project on the ground, ensuring it was appropriate to local conditions.

Project Constraints

Are there any constraints affecting project operations or commissioning? Nil

Technical Summary of the project	
Technology to be employed	Appliances such as high efficiency biomass cookstoves involving the efficiency improvements in the thermal applications of non-renewable biomass that can be used to reduce the emissions from cooking using wood or charcoal as a fuel. It introduces newer energy efficient cooking technology with efficiency of greater than 25% compared to baseline technology with efficiency 10% which reduces indoor pollution through efficient combustion and hence reduces fuel wood consumption. The stove that is likely to be used for this CPA has been designed by the International Collaborative for Science, Education and the Environment (ICSEE). The stove draws smoke out of homes while efficiently providing heat for cooking and household comfort. The stove successfully harmonises the need to remove smoke while keeping flame and after-burning smoke and gases engaged in the cooking process as long as possible. High combustion efficiency and clear household air have been attained, reducing local deforestation and carbon emissions by 60% and relieving smoke in the houses by 90%.
Greenhouse Gases Targeted	CO_2
Emission reductions	62,623 tonnes of CO_2e/ Annum 626,238 tonnes of CO_2e over crediting period of 10 years.
Baseline & Additionality Assessment	As per the methodology AMS. II.G. it is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs. The usage of fuel in the cook stoves, being used in the baseline, depends on the availability of biomass or fossil fuel in the region. Hence the usage of fuel will vary for each CPA; this will be determined by conducting the baseline survey in each CPA. There are no laws/regulation in host country where a CPA will take place which mandates the installation of efficient cook stoves. Hence this PoA is the voluntary coordinated action by the CME. The voluntary coordinated action implemented by the CME would not occur in absence of the PoA. The action is not financially viable without the support of revenues from the sale of CERs. Financial support from the CDM is required in order to develop, disseminate, and ensure continued operation of the activity proposed under the PoA. The demonstration of additionality will follow Standard for Demonstration of Additionality, Development of Eligibility Criteria and Application of Multiple Methodologies for Programme Activities, Annex 3, EB 65 which states that

Technical Summary of the project	
	PoAs that consist of one or more micro scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of the Guidelines for demonstrating additionality of micro scale project activities.
Monitoring	1.η new, Efficiency of operational stoves 2.B_{old}Quantity of woody biomass used in the absence of the project activity in tonnes by: a.Nyi No of stoves in operation b.Quantity of annual average consumption of woody biomass per appliance 3.BysavingsQuantity of woody biomass that is saved in tonnes 4.fNRB Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass
Type of project/activities	*Identify which type of activity is involved in this project – and for each, provide brief details*
a. Energy Supply	-
b. Energy Demand	Type II energy Efficiency Improvement Project AMS II.G Energy efficiency measures in thermal applications of non renewable biomass.
c. Industrial Process	-
d. Transport	-
e. Waste Management	-
f. Forestry/ land use	-
g. Other	-
Project Boundary The South African CPA is planned for the Limpopo Province in South Africa. Implementation will start in the Greater Tzaneen district Municipality but will then be extended rural communities who are dependent on wood for cooking locates in the Mopani District Municipality and elsewhere in the province.	
Indicate Emissions outside the Project Boundary	Not applicable

Location of the Project	
Province	Limpopo
Municipality	Greater Tzaneen
Nearest city/large town	Letsitele
Brief description of the location of the project site	Implementation will start in Molati village in the Greater Tzaneen district Municipality but will then be extended adjacent rural communities who are dependent on wood for cooking locates in the

	Mopani District Municipality and elsewhere in the province.

Project Schedule/Timetable	
Earliest Project Start Date	2012/09
When is the expected first year of CER delivery	01/01/2014
Project Lifetime	10 years
Project End Date	2022/09
Crediting Period	10 years
Current Status or phase of the project	Preparation phase The CDM project activity is in the validation stage. The distribution of the stoves will begin
DNA Approval	Yet to be received.
Approval by other bodies	Not applicable

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 reduces time for collection of fuel wood resulting in productive engagement of time in alternative livelihood activities or engagement with community. Where fuel is purchased, will reduce expenditure on purchase of fuel wood and alternate fuels thus increasing levels of income and simultaneously their standard of living.It Creates alternative livelihood for those participating in manufacturing and install the stoves,

monitoring the usage of stoves and maintenance of stoves.

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

- Reduces drudgery to women (due to reduced fuel wood use) who spend about longhours and travel long distances to collect fuel wood.
- Improves women and children's overall health by reducing smoke in the kitchen, thus reducing
- health hazards from indoor air pollution.
- Improves cooking time – the materials used in the improved cook stove enables effective transmission of heat i.e. effective utilization of heat for cooking by minimizing conventional losses, improved combustion efficiency, minimizing soot formation and deposition on vessel surface (i.e. heat transfer barrier) togetherhelpin cooking the food faster
- Improves cooking environment due to less smoke and carbon residue in the kitchen

Improves quality of life – the women have more free time to spend on other activities

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	It improves the local environment by reducing the rate of degradation of forests and deforestation in the project area.
ii) That **pollution and degradation of the environment** are avoided, or where they cannot be altogether avoided, are minimised and remedied	The project Reduces indoor air pollution – Improved cook stove emits less smoke and reduces both morbidity from respiratory diseases and other health hazards, as well as the medical expenditure involved. A resource-poor household would need to spend limited available finances on medicines, further exacerbated by loss of wages, or time for other activities such as farming, from both not being able to work and having to look after the sick person. • Reduces global and local environmental pollution and environmental degradation by reduction in use of non-renewable biomass thus leading to reduction in greenhouse gas (GHG) emissions.

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	- Not applicable
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 responsible manner	• Utilises less water and efforts needed for cleaning of vessels as the cooking process is relatively smoke free.
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	Project reduces global and local environmental pollution and environmental degradation by reduction in use of non-renewable biomass thus leading to reduction in greenhouse gas (GHG) emissions The project results in reduction of usage of Non Renewable Biomass because of better combustion efficiency. Hence it results in better utilization of non –renewable resources.
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.	Results in resource conservation due to increased efficiency in combustion.
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	- Not applicable
vii) That **negative impacts on the environment and on people's environmental rights** be anticipated	The project has better combustion efficiency and hence it uses less fuel when compared to conventional stove. This results in lesser deforestation hence reducing negative impact. National and global

and prevented, and where they cannot be altogether prevented, are minimised and remedied	environmental and economic benefits through reducing the wood that's cut and the CO2 that's emitted, and through communities having healthier lives. The stove draws smoke out of their homes while efficiently providing heat for cooking and household comfort. The stove successfully harmonises the need to remove smoke while keeping flame and after-burning smoke and gases engaged in the cooking process as long as possible
Other comments **Please provide any other comments on how this project contributes to sustainable development in South Africa (**optional) - Not applicable	

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)	Project results in better indoor air quality and results in reduction of CO_2 emissions. Project has no effect on the water quality. The project has no impact on such factors.
	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	Reduced fuel wood use result in lesser work for women who spend long hours and travel long distances to collect fuel wood. Hence providing better community access. The project results in reduction of usage of Non Renewable Biomass (NRB) because of better combustion efficiency. Hence it results in better utilization of non –renewable resources. Better combustion efficiency results in limited usage of NRB.
	Impacts on biodiversity and ecosystems	• Changes in local or regional biodiversity arising from the project	Improves the local environment by reducing the rate of degradation of forests and deforestation in the project area.

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	Project reduces time for collection of fuel wood resulting in productive engagement of time in alternative livelihood activities or engagement with community. It creates alternative livelihood for those participating in manufacturing and install the stoves, monitoring the usage of stoves and maintenance of stoves.
	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	The technology employed will be locally developed and there is no technology transfer in the project activity other than potentially the experience from the project in Tanzania.

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 activity will help in the conservation of the biomass and also help in the improvement of the health of rural households. Thereby the project helps in achieving the developmental goals of the host country.

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	It creates alternative livelihood for those participating in manufacturing and install the stoves, monitoring the usage of stoves and maintenance of stoves

Indicators in Support of the Project Approval Criteria			
Category		**Indicator**	**Comment**
General	General Project Acceptability	• Are the distributions of project benefits deemed to be reasonable and fair?	During the stakeholder's consultation, the project activity has received a positive feedback. Since the distribution of the stoves is targeted towards the poor households, the benefits are deemed to be fair. The projects would not be financially viable without the aggregated and sale of the emission reductions.

Part D: Finance

Project Costs	
Development Costs (R's)	2.6mR ($300k)
Installed Costs (R's)	-
Other Costs (R's)	-
Total Project Costs (R's)	30.3mR ($3.5m)
Sources of Finance	
Equity	Personal equity from two directors, Robert Lange and Nicola Steen, of c216.5k R ($25k).
Debt (long term)	The UN has provided a loan to the project for part of the development costs. (Amount is confidential.)
Debt (short term)	Not Applicable
Amount not identified (R's)	Not Applicable
Total CDM Contribution sought	Over 25mR ($3m) is needed for the project. We are in discussions with two funds who are very interested in investing in the project and the registration of the project with the UN will help cement their investment.
Expected Price of CER in case of a contract to purchase for: A period of 7 years	The project has a high IRR and we can work to market prices. We will sell into either the EU ETS or the voluntary market, wherever the price and conditions suit. Prices in the voluntary market for good quality ERs, with sustainable qualities are reaching €7/tCO2e, where this project would work. If prices are higher in the compliance market, we will sell there. -

A period of 10 years A period of 14 years (2x7 years)	78R (€7/$9) -
Indicate the **projected Internal Rate of Return** for the project with and without CER revenues.	If we assume 78R/tCO2e (€7 or $9) the project IRR is 50.7%. Without CER revenues the project does not have an IRR; it loses money. The two sources of income are purchases of the stove and the CER revenue; the project needs both to be viable.
Constraints on tradability of carbon credits	The market prices of the carbon credits are constantly decreasing which is the primary constraint for this project activity.
Preliminary discussions with potential purchasers	We have a letter of interest and a letter of intent from two European CER buyers for the CERs from the first project with the Maasai. We anticipate these and other buyers would be interested in similar quality CERs from the project in South Africa.