

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 (one copy) and electronic formats (MSWord)

Part A: Project Proponent Details

Project Name	Lomati Biomass Power Generation Project in Mpumalanga Province, South Africa
Date of Submission of PDD	20 th April 2012

Project Developer	
Name	<i>Lomati Energy (Pty) Ltd (Note: this is the name of the project owner NOT the name of any other party acting on behalf of the project owner)</i>
Organizational Category	<i>Private Company</i>
Legal Status	<i>Limited company</i>
Street Address	48 Ameshoff Street Braamfontein Gauteng 2001 - South Africa
Postal Address (if different from above)	As above
Website Address	na

Main Activities	<i>Independent power producer</i>
Summary of Financial Performance in last fiscal year	<i>Summarise financials (total assets, revenues, profits etc) in 5 lines or less Lomati Energy (Pty) Ltd is a Special Purpose Vehicle (SPV) established to raise the required funds to develop the Lomati Biomass Power Generation Project</i>
Contact Person(s)	Johan Myburgh
Telephone	Work: +27 (0)11 407 8123 Cell: +27 (0)83 655 9303
Fax	+27 (0)11 339 6869
Email Address	Johan.Myburgh@sappi.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	<i>Sappi Southern Africa (Pty) Ltd</i>
Nature of partner	<i>Shareholder</i>
Organizational Category	<i>Private company</i>
Legal Status (if private company)	<i>Limited company</i>
Street Address	48 Ameshoff Street Braamfontein 2001 SOUTH AFRICA
Postal Address (if different to Street Address)	As above
Website Address	www.sappi.com
Main Activities	<i>Sappi is a global company focused on providing chemical cellulose, paper-pulp and paper based solutions to its direct and indirect customer base across more than 100 countries. Sappi has previously registered the Tugela CDM project with the UNFCCC. (Not more than 1 paragraph)</i>
Contact Person(s)	Johan Myburgh
Telephone	Work: +27 (0)11 407 8123 Cell: +27 (0)83 655 9303
Fax	+27 (0)11 339 6869
Email Address	Johan.Myburgh@sappi.com
Name	
	Actom (Pty) Limited
Nature of partner	
	Shareholder
Organizational Category	
	Private company
Legal Status (if private company)	
	Limited company

Street Address	2 Magnet Road, Knights, Boksburg, 1413
Postal Address (if different to Street Address)	PO Box 13024, Knights, 1413
Website Address	www.actom.co.za
Main Activities	ACTOM (Pty) Ltd is the largest manufacturer, repairer and distributor of electro-mechanical equipment and turnkey solutions in Southern Africa, employing about 7 500 people with an annual order intake in excess of R7.5bn. It is a black empowered company with 42 operating units, 43 production, service and repair facilities, and 36 distribution outlets throughout Southern Africa. <i>(Not more than 1 paragraph)</i>
Contact Person(s)	Theo Lotter
Telephone	Work: +27 (0)21 959 8479 Cell: +27 (0)82 892 5697
Fax	+27 (0)21 959 8537
Email Address	Theo.lotter@actom.co.za
Name	Lomati Energy Community Trust
Nature of partner	Shareholder
Organizational Category	Private Community Trust
Legal Status (if private company)	Trust
Street Address	48 Ameshoff Street Braamfontein Gauteng 2001 South Africa
Postal Address (if different to Street Address)	As above
Website Address	na
Main Activities	
Contact Person(s)	Tyrone Hawkes
Telephone	Work: +27 (0)11 407 8111 Cell: +27 (0)82 329 5152
Fax	
Email Address	Tyrone.hawkes@sappi.com
Name	IDC – Industrial Development Corporation
Nature of partner	Shareholder
Organizational Category	<i>Governmental agency</i>
Legal Status (if private company)	Financial institution
Street Address	19 Fredman Drive, Sandown PO Box 784055

	Sandton, 2146
Postal Address (if different to Street Address)	As above
Website Address	www.idc.co.za
Main Activities	Established in 1940 as a national development finance institution promoting economic growth and industrial development, IDC is owned by the South African government under the supervision of the Economic Development department. The IDC's primary objectives are to create a balanced, sustainable economic growth in South Africa and on the rest of the continent, and to promote entrepreneurship through the building of competitive industries and enterprises based on sound business principles. <i>(Not more than 1 paragraph)</i>
Contact Person(s)	Raoul Goosen
Telephone	Work: +27 (0)11 269 3000 Cell: +27 (0)82 458 1969
Fax	+27 (0)11 269 3116
Email Address	raoulg@idc.co.za
Contractual Arrangements	
Name	<i>John Thompson (Pty) Limited</i>
Nature of partner	<i>EPCM contractor and O&M contractor</i>
Organizational Category	<i>Private company</i>
Legal Status (if private company)	<i>Limited company</i>
Street Address	<i>Sacks Circle, Bellville South 7530</i>
Postal Address (if different to Street Address)	<i>P.O. Box 129, Bellville 7535</i>
Website Address	www.johnthompson.co.za
Main Activities	<i>John Thompson is a division of ACTOM (Pty) Ltd with its principal focus on being the best boiler and environmental solutions company serving the power generation and industrial markets, both locally and internationally, with innovation and enthusiastic response. (Not more than 1 paragraph)</i>
Contact Person(s)	Theo Lotter
Telephone	Work: +27 (0)21 959 8479 Cell: +27 (0)82 892 5697
Fax	+27 (0)21 959 8537
Email Address	theo@johntompson.co.za
Contractual arrangements between various entities involved	<i>Sappi, ACTOM, IDC and Barberton BBBEE will invest in Lomati Energy (Pty) Ltd, which will be the owner of the project and of the generated CERs. The investors will have a shareholding agreement. As per CDM rules, an ANNEX I country is indicated in the PDD (ESBI Contracting Ltd.) as future CER offtaker. Lomati Energy (Pty) Ltd will have several contractual agreements related to the specific services required by the project, including</i>

	<p>biomass supply, steam sale, O&M, land lease, equipment lease, loan contract etc.</p> <p>Electricity will be sold to the South African Central Buyer (the grid operator) via PPA (Power Purchase Agreement). Steam will be sold to Lomati sawmill.</p>
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Part B: Project Overview (Technical Summary, Location and Schedule)

Technical Summary of the project	
Objective of the Project	<p>Lomati Energy (Pty) Ltd will invest and operate a new biomass cogeneration independent power plant with a gross generating capacity of 10.1 MWe at Barberton, Mpumalanga, South Africa. Electricity will be sold to the national grid and steam will be sold to a nearby sawmill. Biomass will be sourced from the sawmill and other suppliers in the area (<200 km).</p>
Project Description	<p>Present a brief description of the project (approximately ½ page A4)</p> <p>Identify the main processes and activities involved in the project. A flow diagram showing the processes/materials and/or products involved may be used to complement the description (over and above the ½ page A4).</p> <p>The new biomass cogeneration independent power plant will consist of a fuel handling system, a 50 TPH superheated steam boiler, a steam turbine generator (TG) set with gross generating capacity of 10.1 MWe, a cooling tower and a high voltage (HV) electrical system.</p> <p>The plant will consume ca. 15 TPH of biomass residues as fuel feedstock. Part of the biomass fuel requirement will be sourced from the existing adjacent Lomati sawmill in the form of saw dust and shavings that are produced at wet and dry mill stages as well as stripped bark. The remainder of fuel requirement will be obtained from other sources such as forest slash, a residue from log harvesting in forests. Lomati sawmill will manage fuel collection from all sources and fuel handling..</p> <p>The plant will supply up to 70,956 MWh/y of renewable electricity to the grid, resulting in annual carbon emission reductions of up to 64712 tCO₂e/y. Also, up to 14 TPH of saturated steam at 3 bar(a) will be provided to the adjacent saw mill as process steam to run existing drying kilns.</p> <p>The project will contribute to sustainable development by replacing fossil-fuel based power with clean, renewable energy, by creating jobs in the construction and operation phases, especially for the collection and transport of biomass, and by supporting the social initiatives of the BBBEE.</p>
	<pre> graph LR BS[Biomass supplier] -- biomass --> PCPP[Project cogeneration power plant] SR[Steam recipient] -- steam --> PCPP PCPP -- electricity --> G[grid] PCPP -- condensate --> SR </pre>
Project	<p>Are there any constraints affecting project operations or commissioning? (Brief description: 1</p>

Technical Summary of the project	
<p>paragraph or less) <i>Note: these may be due to energy supply, infrastructure, other resources etc.</i></p> <p>None.</p>	
<i>Technology to be employed</i>	<p><i>Describe in less than 5 lines.</i> <i>Main equipment will include: a 50 TPH superheated steam boiler, a 10.1 MWe steam turbine generator (TG), a cooling tower and a high voltage (HV) electrical system.</i></p> <p><i>Is the technology one that has been previously tried and tested in South Africa or internationally? If yes, provide details (1 paragraph)</i></p> <p><i>The technology is well known internationally. In South Africa, sawmills commonly adopt low pressure boilers, while in the present project high pressure ones are used..</i></p> <p><i>Have the project operators had any previous experience or expertise with operating the technology?</i> <i>If yes – provide brief details (1-2 lines)</i></p> <p><i>John Thompson brings more than 20 years experience in boilers design, manufacturing and operation, globally.</i></p>
Greenhouse Gases Targeted	<p><i>Identify which greenhouse gas(es) this project will target.</i></p> <p>CO₂</p> <p><i>Note: CDM projects must result in a reduction of one of the following greenhouse gases: CO₂/ CH₄/N₂O/HFCs/PCFs/SF₆</i></p>
Emission reductions	<p><i>Indicate the expected emission reductions that will occur due to the project.</i></p> <p><i>Up to 64712 tCO₂e/y for a crediting period of 10 years, resulting in 647120 tCO₂e total.</i></p> <p><i>Note: please provide annual and total emission reductions in tonnes CO₂ equivalent</i></p>
Baseline & Additionality Assessment	<p><i>Provide an indication of the baseline and additionality approach to be used, with a brief explanation of why the project is additional as defined under the Kyoto Protocol.</i></p> <p><i>In the baseline scenario, the plant would not be built, due to its low financial attractiveness, and equivalent amount of electricity would be provided by the grid, where fossil fuel firing power plants prevail. For the steam production, no emission reduction are claimed so identification of a specific baseline is not required.</i></p> <p><i>Additionality is confirmed via investment analysis, which shows the equity IRR of the project being below the benchmark for the power sector in the host country. E- approach is also applied.</i></p>
Monitoring	<i>Describe the parameters that will be used as performance indicators</i>

Technical Summary of the project	
	<p><i>that will be monitored to verify that emissions reductions are taking place.</i></p> <p><i>Basically, emission reductions are proportional to the net electricity export to the grid. Therefore, monitoring will focus on the electricity output (and, if any, electricity input from the grid, so that net export can be calculated).</i></p> <p><i>An energy balance of the power plant (taking into account the biomass input) will also be performed, to ensure that only biomass is used in the project.</i></p> <p><i>Note: parameters may include emissions output, energy production, energy sales, environmental impacts etc.</i></p>
Type of project/activities	<i>Identify which type of activity is involved in this project – and for each, provide brief details</i>
a. Energy Supply	<p><i>YES, energy supply is the main project activity. In terms of energy source, residual biomass will be the input, and, in terms of output, since electricity and steam will be provided to users, the plant qualifies as a cogeneration plant.</i></p> <p><i>Select if applicable: Renewable Energy (excluding biomass)/ Biomass/ Cogeneration/ Improving energy efficiency by replacing existing equipment/minimization of transport and distribution/ fuel switch/ other</i></p> <p><i>Provide details (1-2 lines)</i></p>
b. Energy Demand	<p><i>not applicable</i></p> <p><i>Provide details (1-2 lines)</i></p>
c. Industrial Process	<p><i>not applicable</i></p> <p><i>Provide details (1-2 lines)</i></p>
d. Transport	<p><i>not applicable</i></p> <p><i>Provide details (1-2 lines)</i></p>
e. Waste Management	<p><i>The power plant contributes to make use of waste streams for energy purpose. However, this is not the main goal of the plant.</i></p> <p><i>Provide details (1-2 lines)</i></p>
f. Forestry/ land use	<p><i>Indirectly, the project promotes sustainable use of forestry and optimization of natural resources (biomass)</i></p> <p><i>Provide details (1-2 lines)</i></p>
g. Other	<p><i>not applicable Select if applicable: More efficient engines for transport/ modal shift/ fuel switch/ other</i></p> <p><i>Provide details (1-2 lines)</i></p>
<p>Project Boundary Define the Project Boundary (Approximately 1 paragraph) <i>Note: a project boundary refers to all emissions which are under the control or directly affected by the project activity. Such a boundary can encompass equipment, processes and process flows.</i></p> <p><i>According to the CDM requirements, the project boundary must encompass the spatial extent of the cogeneration plant and all power plants connected physically to the South African electricity grid system (solely for the purpose of calculating the grid emission factor – no direct monitoring of the grid power plants is required, once the grid emission factor is fixed).</i></p>	

Technical Summary of the project

Indicate Emissions outside the Project Boundary

Note: Significant and measurable net emissions of GHG that are attributable to the project outside of the project boundary

Since the project will source biomass waste that would be produced anyways and is made available on the local market, there are no emissions caused by the new biomass demand of the power plant. Transportation emissions are negligible since the biomass will be sourced in an area of less than 200 km radius from the plant (likely even lower). Biomass processing emissions will be included in the project emissions, and anyway will be zero, since renewable electricity will be used of operating the involved equipment (mainly a chipping machine).

Location of the Project

Province	Mpumalanga
Municipality	Umjindi
Nearest city/large town	Barberton
Brief description of the location of the project site	Approximately 43 km south of Nelspruit. GPS coordinates of the project location are: 25° 46' 16.25" S and 31° 02' 19.91" E. <i>No more than 3-5 lines</i>

Project Schedule/Timetable

Earliest Project Start Date	2012/09 (expected time for signature of EPC contract and/or fuel supply agreement) <i>Year/month</i>
When is the expected first year of CER delivery	2016 <i>Year</i>
Project Lifetime	20 years <i>No. Years</i>
Project End Date	2034/12 <i>Year/month</i>
Crediting Period	<i>10 years (fixed)</i>
Current Status or phase of the project	<i>The Joint Development Agreement among shareholders and a draft Shareholder Agreement has been prepared, a full technical feasibility has been completed. Aiming at financial closure.</i> <i>Please provide brief details (1-2 lines)</i>
DNA Approval	<i>Has this project been submitted to the DNA for approval previously?</i> NO <i>If yes – provide date of last submission and brief details of the response from the DNA (1 paragraph)</i> <i>Provide details of any other official response by the DNA regarding this project</i>

Project Schedule/Timetable

Approval by other bodies

Has this project (or any elements of the project) been submitted to any other national, provincial or local government departments or agencies for regulatory or legal approval (excluding EIA process – see Part C). If so – provide brief details.

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?

Please give details (1 paragraph)

YES

- The project will set a pilot example for using woody biomass residues for independent grid-connected power generation in South Africa, as no similar initiative is currently operating in the country.
- The project will improve the availability of electricity in the South African grid, thus helping to secure the future energy supply for the South African economy.

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

Please give details (1 paragraph)

YES

- Lomati Energy (Pty) Ltd will finance restoration of a water extraction station at Queens River, which will improve water supply to the municipality. Lomati Energy (Pty) Ltd will facilitate the supply of water which will supplement the existing capacity of the Lomati dam. This will help to stabilise the water level of the dam and in turn stabilise municipal water prices which depend on the water level of the dam.
- The project will create job opportunities with regard to construction works, the employment of skilled personnel to maintain the plant as well as job creation in the surrounding formal and informal sectors for the collection and transport of biomass and removal and disposal of ash.
- The project will contribute to Black Economic Empowerment (BEE) through a Broad Based Black Economic Empowerment (BBBEE) initiative. The Proposed Lomati Community Trust will be a BBBEE shareholder in the project on behalf of the community, where benefits from the trust will contribute to development programmes identified in the Municipal Integrated Development Plan (IDP).
- In addition, a share of the project turnover is to be spent on economic and enterprise development which will result in more support to SMMEs (Small, Medium and Micro Enterprises), investment into community health, education and infrastructure development, and general improvement in the economy of the Umjindi Municipality.

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

(1 paragraph)

According to the National Environmental Management Waste Act, the

avoided, are minimised and remedied	<p><i>projects requires only a Basic Assessment (BA), rather than a full scale EIA, due to its smaller scale, fo which impacts are generally known and can be easily managed.</i></p> <p><i>According to the BA, no significant disturbance of ecosystems or loss of biological diversity will be caused by the project.</i></p>
ii) That pollution and degradation of the environment are avoided, or where they cannot be altogether avoided, are minimised and remedied	<p><i>(1 paragraph)</i></p> <p><i>According to the BA, pollution will be kept under control by applying the requested technical measures on gaseous and liquid emissions.</i></p> <p><i>No degradation of the environment will be caused by the project.</i></p>
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	<p><i>(1 paragraph)</i></p> <p><i>The project site is not included in any "protected areas" or areas earmarked for heritage status. and, given its small size, will not create disturbance of landscapes.</i></p>
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	<p><i>(1 paragraph)</i></p> <p><i>The project will actually help in proper disposal of biomass residues. Itself it will produce ashes which will disposed according to the national regulations.</i></p>
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	<p><i>(1 paragraph)</i></p> <p><i>The project will only use renewable biomass, so there will be no exploitation of non-renewable resources.</i></p>
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.	<p><i>(1 paragraph)</i></p> <p><i>The project exploits renewable resources, but does it in view of providing a clean energy source to the country, that will boost economic development. Since the project will also bring social benefits to the local community, it can be deemed to use natural resources in a responsible way.</i></p>
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	<p><i>(1 paragraph)</i></p> <p><i>Heat and power generation from biomass is a mature and well-know technology, world wide (despite not applied by private independent entities in South Africa). Therefore, the risks of the projects are rather financial (cost of the supply and revenues for the outputs), for which the investors of the project are prepared and sufficiently cautious, in line with normal practice of entrepreneurial initiatives.</i></p>
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	<p><i>(1 paragraph)</i></p> <p><i>The BA does not identify any noteworthy impact on the environment or on people's rights , and it demonstrates that the project will follow all applicable environmental regulations.</i></p>
<p>Other comments Please provide any other comments on how this project contributes to sustainable development in South Africa (optional)</p>	

Indicators in Support of the Project Approval Criteria

Category	Indicator	Comment	
Environmental	Impact on local environmental quality	<ul style="list-style-type: none"> • 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) 	<p style="color: green;">Please comment on the impact of the project on local environmental quality. Comment specifically on the indicators of relevance which are given here. (1 paragraph)</p> <p>Air quality: the project will generate gaseous emissions from the combustion of the biomass, but fumes will be treated according to the current regulations.</p> <p>Water quality: the project will treat the liquid residues (mainly steam blow-down) before discharging it into a recipient body. Quality of the discharge will be compliant with the current regulations</p> <p>Solid waste: the project will mainly produces ashes from the combustion of the biomass. Such waste will be handled according to the current regulations.</p> <p>Visual impact of the project is very limited, due to its small size. Noise and traffic will be limited to the construction phase, during which common good engineering and construction practice will be put in place to minimize impacts.</p>
	Change in usage of natural resources	<ul style="list-style-type: none"> • 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 	<p style="color: green;">Please comment on the impact of the project on the usage of natural resources. Comment specifically on the indicators of relevance which are given here. (1 paragraph)</p> <p>Since the project will only use biomass residues, no impact on the community access to natural resources, not use of water, minerals or other non-renewable resources will be generated.</p> <p>In contrast, the project will use efficiently biomass residues to co-generate power and heat.</p>
	Impacts on biodiversity and ecosystems	<ul style="list-style-type: none"> • Changes in local or regional biodiversity arising from the project 	<p style="color: green;">Please comment on the impact of the project on biodiversity and ecosystems. Comment specifically on the indicators of relevance which are given here. (1 paragraph)</p> <p>The project will have no impact on biodiversity and ecosystems.</p>

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
Economic	<ul style="list-style-type: none"> 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 	<p>Please comment on the economic impacts of the project. Comment specifically on the indicators of relevance which are given here. (1 paragraph)</p> <p>The project will source some equipment for abroad (e.g. the turbo generator set) so it will imply expenditures in a foreign currency. In contrast, it will also foster the local economic activity, both providing jobs for the construction and operation of the plant and for the biomass sourcing. The project will sell electricity to the national grid and therefore increase the availability and reliability of electricity supply. Grid electricity cost is not under control of the project. 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 production. Carbon credits revenue will however offset the increased cost.</p>
	<ul style="list-style-type: none"> 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 	<p>Please comment on the impacts of the project on appropriate technology transfer. Comment specifically on the indicators of relevance which are given here. (1 paragraph)</p> <p>The project will facilitate the introduction of new, more advanced equipment in South Africa, and facilitate the development of related skills in the local staff. Definitely, once proven successful, the project can be taken as a model for independent power production from biomass, which would greatly benefit the economic development of the country.</p>

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment

Indicators in Support of the Project Approval Criteria

Category		Indicator	Comment
Social	Alignment with national provincial and local development priorities	<ul style="list-style-type: none"> • 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) 	<p>Please comment on how the project is aligned with national, provincial and local development priorities. Comment specifically the indicators of relevance to the project which are given here. (1 paragraph)</p> <p>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.</p>
	Social equity and poverty alleviation	<ul style="list-style-type: none"> • 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 	<p>Please comment on the impact of the project on social equity and poverty alleviation. Comment specifically on the indicators of relevance which are given here. (1 paragraph)</p> <p>The project will create jobs in the construction and operations phases. During construction it is estimated that 74 workers with various skill levels will be required. In addition, the community will benefit through both critical infrastructure and social upliftment through the creation of a dedicated community trust. The trust will directly hold a stake in the proposed project, the proceeds (dividends) derived from this stake will be channelled into pre-identified projects to enable sustainable job creation for the planned duration (20 years) of the project.</p>

Indicators in Support of the Project Approval Criteria

	Category	Indicator	Comment
General	General Project Acceptability	<ul style="list-style-type: none"> • Are the distribution of project benefits deemed to be reasonable and fair? 	<p style="color: green;">Please comment on whether the benefits occurring from the project due to the contribution of the CDM are reasonable and fair. (1 paragraph)</p> <p>The project is structured in a way to maximize participation and fair sharing of the benefits. In particular, being the Broad Based Black Economic Empowerment (BBBEE) entity one of the shareholders, it will be possible to transfer part of the project benefits to the community, and implement the development programs identified in the Municipal Integrated Development Plan (IDP).</p>

Part D: Finance

Project Costs	
Development Costs (R's)	Not currently available
Installed Costs (R's)	Not currently available
Other Costs (R's)	Not currently available
Total Project Costs (R's)	Not currently available
Sources of Finance	
Equity	Not currently available
Debt (long term)	Not currently available
Debt (short term)	Not currently available
Amount not identified (R's)	Not currently available
Total CDM Contribution sought	Not currently 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 currently available
Indicate the projected Internal Rate of Return for the project with and without CER revenues.	Not currently available
Constraints on tradability of carbon credits	<p><i>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.</i></p> <p>None</p>
Preliminary discussions with potential purchasers	<p><i>Have you had any preliminary discussions with any potential purchasers of the carbon credits (CERs) If yes, please give brief details.</i></p> <p>This is confidential, however only preliminary discussions were undertaken.</p>