

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)
2. The information submitted to the DNA in this PIN will remain confidential.
3. Please ensure that all fields are filled in as far as possible to allow for proper consideration of the proposed project. Please indicate if information is not available for any particular item and reasons for the unavailability of information.

### Part A: Project Proponent Details

<b>Project Name</b>	Title of the PoA: Wind and solar PoA in South Africa Title of the CPA: Wind and solar PoA in South Africa - Solar - Kakamas
<b>Date of Submission of PDD</b>	25/04/2012

Project Developer	
<b>Name</b>	Project participant at PoA level: Inca Energy (Pty) Limited Entity responsible for the CPA: Inca Kakamas Solar (Pty) Limited
<b>Organizational Category</b>	Private Company
<b>Legal Status</b>	Limited company
<b>Street Address</b>	1 Melrose Boulevard, Melrose Arch Unit 1, Ground Floor Johannesburg Gauteng 2193 South Africa
<b>Postal Address (if different from above)</b>	Same
<b>Website Address</b>	<a href="http://inca-energy.com/">http://inca-energy.com/</a>

<b>Main Activities</b>	<p>iNca Energy is a South African based company that aims at developing Renewable Energy projects as an Independent Power Producer in South Africa.</p> <p>iNca Energy's main area of focus is to develop and operate Wind and Solar energy projects in South Africa. Its strategy is to take projects from the inception stage and carry them over the value chain, securing all agreements (land acquisition or lease, construction permit, IPP license) thereby delivering a complete package to renewable energy investors.</p>
<b>Summary of Financial Performance in last fiscal year</b>	<p>Investment cost: 260 M ZAR</p> <p>Expected revenues:  Sale of electricity: 36 M ZAR / year  Average 18,256 MWh / year @ 1950 ZAR / MWh</p> <p>Carbon finance: 960 k ZAR / year  Average 18,855 tCO<sub>2</sub> per year @ 51 ZAR / CER (assumption CER 5 EUR)</p>
<b>Contact Person(s)</b>	Benoit Garrivier
<b>Telephone</b>	+27 (0)11 684 1179 (work)
<b>Fax</b>	+27 (0)11 684 1076
<b>Email Address</b>	<a href="mailto:benoit.garrivier@inca-energy.com">benoit.garrivier@inca-energy.com</a>
<b>Project Partners</b>	
Provide the following Information for <b>all</b> project partners (copy and paste relevant sections of the table if information is to be provided on more than one partner organization)	
<b>Name</b>	CDC Climat Asset Management
<b>Nature of partner</b>	Coordinating / Managing Entity of the PoA
<b>Organizational Category</b>	Private Company with shareholders CDC Climat and Proparco both held by public financial institutions
<b>Legal Status (if private company)</b>	French legal status " <i>Société Anonyme</i> " = Limited Company
<b>Street Address</b>	47 rue de la Victoire, 75009 Paris, FRANCE
<b>Postal Address (if different to Street Address)</b>	Same
<b>Website Address</b>	<a href="http://www.cdclimat-am.com/">http://www.cdclimat-am.com/</a>
<b>Main Activities</b>	Carbon Asset Manager, accredited as a French portfolio management company by the French regulator, the <i>Autorité des Marchés Financiers</i> (AMF)
<b>Contact Person(s)</b>	Guido Schmidt-Traub

Telephone	+33 1 5850 9295 (work)
Fax	+33 1 5850 0411
Email Address	<a href="mailto:operations@cdcclimat-am.com">operations@cdcclimat-am.com</a>
<b>Contractual Arrangements</b>	
Contractual arrangements between various entities involved	Emission Reduction Purchase Agreement between CDC Climat Asset Management and Inca Energy (Pty) Ltd

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

Technical Summary of the project	
Objective of the Project	<p>The proposed project is the first CDM programme of Activity (CPA) included in the Programme of Activities (PoA) for the installation of wind and solar projects generating electricity into the national grid across South Africa.</p> <p>The proposed project (CPA) consists in the installation of a solar power plant of 10 MW on a site located in Kakamas in the Northern Cape Province.</p> <p>The objective is to export renewable electricity to the national grid. The proposed project represents an investment in clean, renewable energy in South Africa, where electricity generation relies mostly on coal fired power stations.</p>
<p><b>Project Description</b></p> <p>The proposed project is a green field project. The power plant will use photovoltaic (PV) panel arrays, with a technical lifetime of 25 years and will have an installed capacity of 10 MW. The power plant is expected to be operational by 01/07/2013. It is expected to generate approximately 18 GWh per year during the first 10 years.</p> <p>The equipment to be installed in the proposed project includes a solar power generation facility with the following characteristics:</p> <ul style="list-style-type: none"> <li>• Rated capacity: 10 MW (expected exact capacity 10,241 kW)</li> <li>• Type of technology: photovoltaic panels manufactured by Tenesol. The most likely module model to be installed is TE245 -60M+</li> <li>• Expected performance ratio: 79.8%</li> <li>• Lifetime of equipment: 25 years</li> <li>• Orientation: 25° tilt</li> <li>• Anchorage to support PV panels</li> <li>• Electricity meter(s)</li> <li>• Cabling between the project components, to be laid underground where practical</li> <li>• On-site generator transformer and a small substation to facilitate the connection between the renewable energy facility and the Eskom electricity grid</li> </ul>	

<b>Technical Summary of the project</b>	
<ul style="list-style-type: none"> <li>• An overhead power line (22 kV) feeding into the Eskom electricity network at the existing Taaiput Substation</li> <li>• Internal access roads</li> <li>• Workshop area for maintenance and storage</li> <li>• Security fencing with access control will surround the plant</li> </ul> <p>The equipment to be installed is manufactured in South Africa by a French company (Tenesol).</p>	
<b>Project Constraints</b> It is not expected that any constraint will affect the project operations or commissioning.	
<b>Technology to be employed</b>	<p>The equipment will be able to generate electricity from solar radiation. The power plant will use photovoltaic (PV) panel arrays, with a technical lifetime of 25 years and will have an installed capacity of 10 MW.</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>The solar panels that will be installed conform to the international standard ISO 9001 and ISO 14001. The equipment to be installed is manufactured in South Africa by a French company (Tenesol).</p> <p><i>Have the project operators had any previous experience or expertise with operating the technology?</i></p> <p>The manufacturer of the photovoltaic panels (Tenesol) will also be in charge of operations and maintenance of the project (<a href="http://www.tenesol.co.za/">http://www.tenesol.co.za/</a>).</p>
<b>Greenhouse Gases Targeted</b>	The proposed project targets the CO <sub>2</sub> emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.
<b>Emission reductions</b>	The annual and total expected emission reductions that will occur due to the project are respectively 18,855 tonnes of CO <sub>2</sub> e and 188,553 tonnes of CO <sub>2</sub> e.
<b>Baseline &amp; Additionality Assessment</b>	<p><b>Pre-project scenario</b>  The proposed project is a green field project. Currently, there are no solar power plants installed on the project site. The scenario existing prior to the implementation of the project is the same as the baseline scenario: electricity is produced by grid-connected power plants.</p> <p><b>Baseline scenario</b>  The baseline scenario is that electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”. The emission source is identified as CO<sub>2</sub> emissions from the grid.</p> <p>The proposed project activity is in line with mandatory laws and regulations:</p> <ul style="list-style-type: none"> <li>• There are no laws or regulations preventing the continued use of fossil fuels for the generation of energy.</li> </ul>

Technical Summary of the project	
	<ul style="list-style-type: none"> <li>• There are no laws preventing the development of wind or solar plants</li> <li>• There are currently no mandatory regulations requiring the partial or full use of energy from renewable sources</li> </ul> <p>The proposed project falls below the small scale thresholds (&lt; 15 MW), hence the additionality can be demonstrated using <i>Attachment A of Appendix B of the “Simplified modalities and procedures for small-scale CDM project activities” version 8.</i></p> <p>The proposed project is a 10 MW solar, grid connected electricity plant and thus meets the criteria of the positive list contained in the <i>Attachment A to Appendix B version 8</i> and is therefore automatically additional without further documentation of barriers.</p>
<b>Monitoring</b>	<p>The main data for calculating emission reductions is the net electricity generation supplied by the project to the grid by the power plant/ unit.</p> <p>This data will be monitored by electricity meter(s) and will be cross-checked against the relevant electricity sale receipts (and purchases) and/or records from the grid.</p>
<b>Type of project/activities</b>	<i>Identify which type of activity is involved in this project - and for each, provide brief details</i>
a. Energy Supply	The proposed project (CPA) will produce renewable energy with the solar power radiation and export it to the grid. The renewable electricity generated by the project will be replacing the electricity produced by grid-connected power plants from the national grid in South Africa.
b. Energy Demand	NA
c. Industrial Process	NA
d. Transport	NA
e. Waste Management	NA
f. Forestry/ land use	NA
g. Other	NA
<p><b>Project Boundary</b></p> <p>The only source of emissions directly affected by the project activity is the CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The project boundary is defined in the scheme below:</p> <pre> graph LR     Sun((Sun)) --&gt; ProjectBoundary     subgraph ProjectBoundary [Project boundary]         P1[Power plants connected to the grid]         P2[Proposed CPA]     end     P1 --&gt; Grid[Grid]     P2 --&gt; Grid   </pre>	
Indicate Emissions outside the Project Boundary	There is no emission outside the project boundary.

<b>Location of the Project</b>	
Province	Northern Cape Province
Municipality	Kakamas
Nearest city/large town	Upington
Brief description of the location of the project site	The geographical coordinates of the site is 28° 46'S 20° 35'E (same as -28.7667, 20.5833).

<b>Project Schedule/Timetable</b>	
Earliest Project Start Date	14/12/2012: start of construction 01/07/2013: start of operations
When is the expected first year of CER delivery	CER are expected to be generated in 2013. The first year of CER delivery would then be in 2014 (production + verification + issuance will take at least one year)
Project Lifetime	20 Years (as per the duration of the PPA)
Project End Date	30/06/2033 (20 years after start of operation)
Crediting Period	The crediting period of the project is 10 years. The starting date of the crediting period is 01/07/2013.
Current Status or phase of the project	The project has bidden for the 2 <sup>nd</sup> round of the RFP and is currently waiting to be awarded as a preferred bidder.
DNA Approval	The project has never been submitted to the DNA for approval previously.
Approval by other bodies	<i>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.</i>  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 economic benefits of the project are:

- The project diversifies sources of electricity generation that are necessary to meet a growing demand for energy and facilitates the transition away from fossil fuel electricity generation. On a long-term, the reduction of fossil-fuel dependence will contribute to a reduction of cost of energy
- There will be an opportunity to improve skills levels as the need for local labour to operate and maintain the installations grows.
- The implementation of the solar PV plant will be a demonstration that renewable energies are a good opportunity for the country and will encourage replication of this kind of project.

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

The social benefits of the project are:

- Temporary and permanent jobs will be created in the construction and operation phases of the project;
- There will be some employment opportunities in the area where the CPA is located, leading to a general increase in local-community income.
- The proposed project has no negative impacts on community social structure and heritage.

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

A Environmental Impact Assessment was undertaken in accordance with the legal requirements and it was submitted to the National Department of Environmental Affairs (DEA).

The environmental analysis for the project was conducted by Savannah Environmental Pty Ltd (Ref # 12/12/20/2179). Impacts were identified as follows:

- Impact on biodiversity
- Impact on heritage resources
- Geology, soil and erosion / agricultural potential
- Visual impacts on sensitive visual receptors near the facility

In all cases the impacts together with suggested mitigation measures were found to be acceptable and the DEA granted an environmental authorization on 31/10/2011.

i) That the **disturbance of ecosystems and loss of biological diversity** are avoided, or where they cannot be avoided, are minimised and remedied

Concerning the impacts on biodiversity (flora and fauna), the natural vegetation across the site is not considered to have high conservation status. The current site is situated between existing cultivated areas and it is therefore considered unlikely that the development of the site will compromise ecological connectivity within this corridor area. Some loss of natural habitat will occur but this will be insignificant in comparison to the total area of the vegetation type concerned.

	<p>Vegetation on site is very spare and offers little cover for individual birds. It is therefore considered that the site does not constitute important habitats for birds and it is very unlikely that birds would be found on site. Therefore the EIA concludes that there will be no impacts on population of any species.</p>
<p>ii) That <b>pollution and degradation of the environment</b> are avoided, or where they cannot be altogether avoided, are minimised and remedied</p>	<p>The activity will generate no use water; panels will be cleaned with compressed air and distilled water (min. twice a year) that is purchased and transported to site. The activity does not require a water use permit from the Department of Water Affairs.</p> <p>The agricultural potential in the area is very low due to climatic and soil conditions; crop production is only possible with very intensive preparation and if water is supplied by irrigation. Erosion, impacts from vehicles and dust generation must be managed, mitigated and minimized on the site during the construction phase.</p>
<p>iii) That the <b>disturbance of landscapes and sites that constitute the nation's cultural heritage</b> is avoided, or where it cannot be altogether avoided, is minimised and remedied</p>	<p>The project will not cause any disturbances of landscapes as the area of the project was an agricultural land-use that has been left fallow and unused for at least five years.</p> <p>The land-use of surrounding area will not be impacted by the project. There are no cultural or historical elements that will be affected by the project. No structure older than 60 years will be affected by the project. From a heritage point of view, no features, objects of cultural heritage were identified; therefore there is no impact resulting from the proposed project.</p>
<p>iv) That <b>waste is avoided</b>, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner</p>	<p>The activity will produce solid construction waste during the construction phase that will be disposed at an appropriately licensed waste facility. The project will not produce solid waste during its operational phase; therefore no hazardous solid waste will be produced.</p> <p>The activity will not produce effluent, other than normal sewage, that will be disposed of in the municipal sewage system. The activity will not produce effluent that will be disposed of on site, or at another facility.</p>
<p>v) That the <b>use and exploitation of non-renewable resources is responsible and equitable</b>, and takes into account the consequences of the depletion of the resource</p>	<p>The activity will not release emissions into the atmosphere. PV facilities operate by converting solar energy into electricity. This is characterized as a non-consumptive use of natural resource and consumes no fuel for its continuing operation. The operational phase of a solar facility does not produce carbon dioxide, sulphur dioxide, mercury, particulates, or any type of air pollution.</p>
<p>vi) That the <b>development, use and exploitation of renewable resources is responsible and equitable</b>, and takes into account the consequences of the depletion of the resource.</p>	<p>The proposed facility will use renewable/alternative technology. Its development, use and exploitation will be responsible and equitable.</p>
<p>vii) That a <b>risk averse and cautious approach</b> is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions</p>	<p>A cautious approach will be applied as per the EIA study.</p>

<p>vii) That <b>negative impacts on the environment and on people's environmental rights</b> be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied</p>	<p>Limited noise will be generated during the construction phase of the development. The operation phase will generate no noise. The overall impact significance of visual impacts is considered moderate.</p>
<p><b>Other comments</b> Please provide any other comments on how this project contributes to sustainable development in South Africa (optional)</p> <p>In conclusion, the proposed project is strongly supported at a national, provincial and local level in terms of relevant policy and planning documents for the area.</p> <p>The key social issues associated with the construction phase include:</p> <ul style="list-style-type: none"> <li>• Positive impacts: creation of employment (40 new employment opportunities created during the development phase) and business opportunities and the opportunities for skills development and on-site training.</li> <li>• Negative impacts: influx of construction workers employed for the project; impact of heavy vehicles, including noise and dust, loss of agricultural land associated with construction related activities.</li> </ul> <p>The key social issues associated with the operational phase include:</p> <ul style="list-style-type: none"> <li>• Positive impacts: creation of employment (25 new employment opportunities created during the operational phase) and business opportunities and the opportunities for skills development and training and the establishment of infrastructure to generate renewable energy.</li> <li>• Negatives impacts: The visual impacts and associated impact on sense of place and the landscape, and the potential impact on tourism.</li> </ul> <p>As part of the environmental Management Programme (EMP), mitigations measures will be proposed to manage and mitigate these potential impacts.</p>	

## Indicators in Support of the Project Approval Criteria

	Category	Indicator	Comment
Environmental	Impact on local environmental quality	<ul style="list-style-type: none"> <li>• Impact of the project on air quality</li> <li>• Impact of the project on water pollution</li> <li>• Impact of the project on the generation or disposal of solid waste</li> <li>• Any other positive or negative environmental impacts of the project (such as impacts on noise, safety, visual impacts, or traffic)</li> </ul>	<ul style="list-style-type: none"> <li>• The solar facility does not produce carbon dioxide, sulphur dioxide, mercury, particulates, or any type of air pollution. There the project does not have impact on air quality.</li> <li>• The activity will generate no use water ; panels will be cleaned with compressed air and distilled water (min. twice a year) that is purchased and transported to site. The activity will not produce effluent, other than normal sewage, that will be disposed of in the municipal sewage system. The activity will not produce effluent that will be disposed of on site, or at another facility. Therefore the project will have no negative impact on water resources, on the contrary, it will displace the use of coal-fired power plants which have extensive use of water.</li> <li>• The activity will produce solid construction waste during the construction phase that will be disposed at an appropriately licensed waste facility. The project will not produce solid waste during its operational phase; therefore no hazardous solid waste will be produced.</li> <li>• Limited noise will be generated during the construction phase of the development. The operation phase will generate no noise. Impacts in terms of visual impacts are considered moderate.</li> </ul>
	Change in usage of natural resources	<ul style="list-style-type: none"> <li>• Impact of the project on community access to natural resources</li> <li>• Impact of the project on the sustainability of use of water, minerals or other non renewable natural resources</li> <li>• Impact of the project on the efficiency of resource utilisation</li> </ul>	<ul style="list-style-type: none"> <li>• The project will not cause any disturbances of landscapes as the area of the project was an agricultural land-use that has been left fallow and unused for at least five years.</li> <li>• The project implies the construction of a solar PV plant that will replace energy generated from fossil fuels, a non-renewable natural resource, and will therefore reduce emissions of pollutants including greenhouse gas emissions.</li> <li>• The proposed facility will use renewable/alternative technology; therefore the impact of the project on the efficiency of resource utilisation is not relevant.</li> </ul>

**Indicators in Support of the Project Approval Criteria**

Category	Indicator	Comment
	<p align="center">Impacts on biodiversity and ecosystems</p>	<ul style="list-style-type: none"> <li>• Changes in local or regional biodiversity arising from the project</li> </ul> <p>The project which implies renewable energy production contributes to natural resource conservation.</p> <p>Concerning the impacts on biodiversity (flora and fauna), the natural vegetation across the site is not considered to have high conservation status. The current site is situated between existing cultivated areas and it is therefore considered unlikely that the development of the site will compromise ecological connectivity within this corridor area. Some loss of natural habitat will occur but this will be insignificant in comparison to the total area of the vegetation type concerned.</p> <p>Vegetation on site is very spare and offers little cover for individual birds. It is therefore considered that the site does not constitute important habitats for birds and it is very unlikely that birds would be found on site. Therefore the EIA concludes that there will be no impacts on population of any species.</p>

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
Economic	Economic impacts	<ul style="list-style-type: none"> <li>• Impact of the project on foreign exchange requirements</li> <li>• Impact of the project on existing economic activity in the area</li> <li>• Impact of the project on the cost of energy</li> <li>• Impact of the project on foreign direct investment</li> </ul> <p>The project diversifies sources of electricity generation that are necessary to meet a growing demand for energy and facilitates the transition away from fossil fuel electricity generation. On a long-term, the reduction of fossil-fuel dependence will contribute to a reduction of cost of energy.</p>
	Appropriate technology transfer	<ul style="list-style-type: none"> <li>• Positive or negative implications for the transfer of technology to South Africa arising from the project</li> <li>• Impacts of the project on local skills development</li> <li>• Demonstration and replication potential of the project</li> </ul> <p>The implementation of the solar PV plant will be a demonstration that renewable energies are a good opportunity for the country and will encourage replication of this kind of project.</p> <p>The equipment to be installed is manufactured in South Africa by a French company (Tenesol)</p>

### Indicators in Support of the Project Approval Criteria

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
<b>Social</b>	Alignment with national provincial and local development priorities	<ul style="list-style-type: none"> <li>• How the project is aligned with provincial and national government objectives</li> <li>• How the project is aligned with local developmental objectives</li> <li>• Impact of the project on the provision of, or access to, basic services to the area</li> <li>• Impact of the project on the relocation of communities if applicable</li> <li>• Contribution of the project to any specific sectoral objectives (for example, renewable energy targets)</li> </ul> <p>As per the EIA study, the proposed project is strongly supported at a national, provincial and local level in terms of relevant policy and planning documents for the area: i.e. The National Energy Act(2008), The White Paper on the Energy Policy of the Republic of South Africa (December 1998), the White Paper on Renewable Energy (November 2003), Northern Cape Provincial Growth and Development Strategy (2004-2014), The Kai! Garib Local Municipality Integrated Development Plan (2009).</p>
	Social equity and poverty alleviation	<ul style="list-style-type: none"> <li>• 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)</li> <li>• Impact of the project on community social structures</li> <li>• Impact of the project on social heritage</li> <li>• Impact of the project on the provision of social amenities to the community in which the project is situated</li> <li>• Contribution of the project to the development of previously underdeveloped areas or specially designated development nodes</li> </ul> <p>Temporary and permanent jobs will be created in the construction and operation phases of the project, thus having a positive impact on employment.</p> <ul style="list-style-type: none"> <li>• During the construction phase, the project will allow the creation of 40 new employment opportunities, new business opportunities and the opportunities for skills development and on -site training.</li> <li>• During the operational phase, the project will allow the creation of 25 new employment opportunities (10 security guards, 10 maintenance workers, 4 basic electrical maintenance, 1 site manager), new business opportunities and the opportunities for skills development and training and the establishment of infrastructure to generate renewable energy.</li> <li>• 80% of the job creation will accrue to previously disadvantaged individuals.</li> </ul> <p>The proposed project has no negative impacts on community social structure and social heritage.</p>

### Indicators in Support of the Project Approval Criteria

Category	Indicator	Comment
General	General Project Acceptability <ul style="list-style-type: none"><li>• Are the distribution of project benefits deemed to be reasonable and fair?</li></ul>	A public consultation was organized as part of the EIA exercise as well as focus group meetings in May 2011. Overall there is a general project acceptability by the community. Main concern was on protected trees. Stakeholder commented that impacts must be avoided and where it cannot be avoided, suitable mitigation are required. They also commented that the developer must take note that protected trees may not be disturbed or removed without a Forest Act License.

## Part D: Finance

<b>Project Costs</b>	
Development Costs (R's )	10 M ZAR
Installed Costs (R's)	225 M ZAR
Other Costs (R's)	Including banking fees, interests during constructions: 25 M ZAR
Total Project Costs (R's)	260 M ZAR (ex VAT)
<b>Sources of Finance</b>	
Equity	52 M ZAR: iNca Energy/Fotowattio (31 M ZAR); Nu Age Energy (20 M ZAR) and Local Community Trust (1 M ZAR). Nu Age Energy and the Trust equity participation is financed by Development Bank of South Africa ("DBSA").
Debt (long term)	Rand Merchant Bank ("RMB"): 195 M ZAR
Sub Debt	RMB: 13 M ZAR
Amount not identified (R's)	There is no amount not identified and not financed
Total CDM Contribution sought	188,553 CER over 10 years CER price assumption 5 EUR Total CDM contribution: 942,765 EUR
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)	Floating price until 2020 (indexed on EU-ETS stock price at issuance)
Indicate the projected Internal Rate of Return for the project with and without CER revenues.	CER price assumption 5 EUR Project IRR without CER: 13.75% Project IRR with CER: 14.25%
Constraints on tradability of carbon credits	<i>Have any commercial arrangements been made that may impact the tradability of the carbon emission reductions? If yes, please define.</i>  NO
Preliminary discussions with potential purchasers	<i>Have you had any preliminary discussions with any potential purchasers of the carbon credits (CERs) If yes, please give brief details.</i>  Yes, an ERPA has been signed between Inca Energy (Pty) Ltd and CDC Climat Asset Management on 22/12/2011.