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	**South Africa Wind Energy**
Date of Submission of PDD	May 2012

CME (Coordinating Managing Entity)	
Name	**Mabanaft Carbon B.V.**
Nature of partner	*Describe nature of relationship with partner:* **CME of the Wind PoA**
Organizational Category	*Select most applicable:* *National Government/ Government Agency/ provincial Government/ Municipality/ Private Company/ Non-Governmental Organisation/ Other (give details)* • **Private Company**
Legal Status (if private company)	*For example: **Privately held company**/ limited company/ limited partnership etc.* **B.V.**
Street Address	**Mabanaft Carbon B.V.** **Wilhelminakade 101 (43rd floor)** **3072 AP Rotterdam** **The Netherlands**
Postal Address (if different to	**Same as above**

Street Address)	
Website Address	**http://www.mabanaft.com**
Main Activities	*(Not more than 1 paragraph)* **Mabanaft is the trading arm of Marquard & Bahls AG, a leading independent petroleum company, privately owned.** **Mabanaft Carbon B.V. is a company based in the Netherlands and is the carbon branch of Mabanaft.**
Contact Person(s)	Name: **Alexander Savelkoul** **Senior Manager** **Global Carbon Markets**
Telephone	Work: **+31 (0) 10-290 69 43** Cell: **+31 (0) 65-494 01 47**
Fax	**+31 (0) 10 -411 07 53**
Email Address	**alexander.savelkoul@mabanaft.nl**
Project Developer of first CPA	
Name	*Name of project company/developer* *(Note: this is the name of the project owner NOT the name of any other party acting on behalf of the project owner)* **Plan 8 Infinite Energy (Pty) Ltd.**
Organizational Category	*Select most applicable:* *National Government/ Government Agency/ Provincial Government/ Municipality/ Private Company/ Non-Governmental Organisation/ Other (give details)* • **Private company**
Legal Status	*For example: Privately held company/ limited company/ limited partnership etc.* **(Pty) Ltd.**
Street Address	**100 New Church Street** **Cape Town** **8001** **South Africa**
Postal Address (if different from above)	**Same as above**
Website Address	**http://www.plan-8.co.za/**
Main Activities	*(Not more than 1 paragraph)* **Plan 8 is a specialist wind farm developer: They focus on the creation of utility-scale wind farms. Their offices manage a portfolio of international projects. They handle a complete range of services, providing everything that is needed from the inception phase to successful commissioning of wind farm projects.**
Summary of Financial Performance in last fiscal year	*Summarise financials (total assets, revenues, profits etc) in 5 lines or less* **Plan 8 is a South African company that will submit a bid to the DOE, as per the RFP, issued on 3 August 2011 to operate as an IPP by 2014.**
Contact Person(s)	**Mr. Zuben Jessa – Engineering Manager**

Telephone	Work: **+27 21 801 7272** Cell: **+27 765 922 786**
Fax	
Email Address	zuben.jessa@plan-8.co.za
Project Partners n°1 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	**ecosur america S.A.**
Nature of partner	*Describe nature of relationship with partner* **co-PDD Consultant / Carbon advisor of Plan 8**
Organizational Category	*Select most applicable:* *National Government/ Government Agency/ provincial Government/ Municipality/ Private Company/ Non-Governmental Organisation/ Other (give details)* • **Private Company**
Legal Status (if private company)	*For example: Privately held company/ limited company/ limited partnership etc.* **S.A.**
Street Address	**ecosur america S.A.** **Torre Pacific Sky, 17D, Calle Ramón H. Jurado, Ciudad de Panamá,** **República de Panamá.**
Postal Address (if different to Street Address)	**Same as above**
Website Address	**http://www.ecosur-america.com**
Main Activities	*(Not more than 1 paragraph)* **ecosur america is a leading advisory and brokerage firm operating in carbon markets worldwide.**
Contact Person(s)	**Mr. Timothée Lazaroo – Managing partner**
Telephone	Work: **+507 394 26 98** Cell: **+507 685 74 350**
Fax	**+54 (11) 6379 1992**
Email Address	**t.lazaroo@ecosur-america.com**
Project Partner n°2 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	**Perspectives GmbH**
Nature of partner	*Describe nature of relationship with partner:* ***CDM consultant of the Wind PoA***
Organizational Category	*Select most applicable:* *National Government/ Government Agency/ provincial Government/ Municipality/ Private Company/ Non-Governmental Organisation/ Other (give details)* • **Private Company**
Legal Status (if private company)	*For example: **Privately held company**/ limited company/ limited partnership etc.*

	GmbH
Street Address	**Perspectives GmbH** **Baumeisterstrasse 2** **22099 Hamburg, Germany**
Postal Address (if different to Street Address)	**Same as above**
Website Address	**http://www.perspectives.cc**
Main Activities	**Perspectives is a carbon consultancy company (CDM consultant)** *(Not more than 1 paragraph)*
Contact Person(s)	**Mr. Marc André Marr - Head of Carbon Project Services**
Telephone	Work: **+49 40 399 990 69-2** Cell: **+49 176 830 15 055**
Fax	**+49 40 399 990 69-8**
Email Address	**marr@perspectives.cc**
Contractual Arrangements	
Contractual arrangements between various entities involved	*Provide a brief description of the contractual and/or legal relationship(s) between the various key business entities including owner(s) of the future CERs. (If applicable)* **> PLAN 8 is the Project Owner of the Copperton Wind Farm (CPA1) and the owner of the related CERs.** **> Mabanaft Carbon B.V. is the CME of the Wind PoA in which the Copperton Wind Farm project is to be inserted and registered as CPA1.** **An agreement has been signed between Mabanaft Carbon B.V. and Plan 8 which governs inclusion of the Copperton Wind Farm into the PoA.** **> ecosur america is the carbon advisor of Plan 8 and the co-PDD consultant of the PoA (contracted by Mabanaft Carbon B.V.).** **> Perspectives is the CDM consultant of the PoA (contracted by Mabanaft Carbon B.V.).** **> Mabanaft Carbon B.V. will have agreements with other Project Owners, which will be subsequently included in the PoA (post-registration).**

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

Technical Summary of the project	
Objective of the Project	*Describe in less than 5 lines* **The PoA aims at building a platform to provide access to carbon revenues for wind energy projects in South Africa. By means of additional carbon cash-flow the PoA aims at increasing the feasibility of such wind projects.** **Electricity generation on the South African grid is mainly coal fired. Therefore, producing electricity from wind energy in South Africa replacing electricity from the grid results in reducing greenhouse gas (GHG) emissions.**
Project Description *Present a brief description of the project (approximately ½ page A4)*	

Technical Summary of the project

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).

All CPAs within the PoA will consist of wind energy facilities. By replacing electricity from fossil fuel based power plants, this project will directly contribute to reduce greenhouse gas (GHG) emissions.

In this scheme, the Copperton Wind Farm first CPA project will generate electricity harnessing the power of the wind, by the installation of a wind energy facility. This wind energy facility will be located on Struisbult Farm (Farm No. 103 Portions 4 and 7 and Farm No. 104 Portion 5), near Copperton in the Northern Cape. Struisbult Farm is located approximately 5 km east of Copperton and the two portions cover approximately 3,000 ha.

The proposed Copperton Wind Farm (CPA1), consists of 20 wind turbine generators (WTGs) of 2.5 MW rated capacity each, totalling to 50 MW of installed capacity. However, given the current nature of the government tender conditions, the tariff bidding process in South Africa, the local substation capacity and plans for subsequent expansion, the land available for the installation of turbines and the intent of the CPA developer, the final capacity of the proposed CPA can vary from a minimum of 30 MW up to a maximum of 140 MW. The following table provides a description of the potential scenarios:

Capacity	Description	Net electricity generation
50 MW	**"Base scenario" (based on existing substation capacity and cost estimates available for the financial analysis)**	**20 WTGs of 2.5 MW each, expected to generate 94,870 MWh/year**
30 MW	**"Minimum Scenario" (based on potentially reduced substation capacity available for CPA)**	**12 WTGs of 2.5 MW each, expected to generate 56,922 MWh/year**
140 MW	**"Maximum Scenario" (based on the intent of the CPA developer)**	**56 WTGs of 2.5 MW each, expected to generate 265,638 MWh/year**

The electricity generated in the South African Wind PoA project will be entirely injected into the national grid. Electricity generation on the South African grid is mainly coal fired. Therefore, producing electricity from wind energy in South Africa results in reducing greenhouse gas (GHG) emissions. The wind turbines that will be installed have an expected lifetime of over 20 years.

All pre-feasibility studies (namely Final Scoping Report – FSR, Wind assessment, preliminary site study, land use consent) concerning the CPA1 have been undertaken. The Copperton Wind Farm project is planned to start its operation by the end of 2014, in accordance with the RFP issued on August 3rd, 2011.

Project Constraints

Are there any constraints affecting project operations or commissioning? *(Brief description: 1 paragraph or less) Note: these may be due to energy supply, infrastructure, other resources etc.*

So far, there is no grid-connected wind farm in South Africa. The system operator views wind energy as unreliable; therefore, this can be viewed as a constraint in the project operation. The project and the first CPA could be deemed "first-of-its-kind" in South Africa. Nevertheless, this situation is expected to change in the near future as there are other wind farm projects under study.

Technical Summary of the project	
Technology to be employed	*Describe in less than 5 lines.* **The kinetic energy of the wind is transformed into mechanical rotational energy by the horizontal axis rotor of the wind turbine, transmitting that movement to the generator to produce electricity. In the case of the first CPA (Copperton Wind Farm), 20 individual wind turbines (Nordex N100) will be installed to complete a total capacity of 50 MW.** *Is the technology one that has been previously tried and tested in South Africa or internationally? If yes, provide details (1 paragraph)* **Yes, wind farms have been previously tried and tested world-wide and it has been proven that this is a sound and reliable energy supply in places where there is enough wind speed. Indeed, Global wind energy's installed power capacity is currently over 155 GW, more than 3 times the entire installed generation capacity of South Africa.** *Have the project operators had any previous experience or expertise with operating the technology?* If yes – provide brief details (1-2 lines) **The first CPA (Copperton Wind Farm) will be operated by Plan-8, who has a broad experience in developing wind farms worldwide.**
Greenhouse Gases Targeted	*Identify which greenhouse gas(es) this project will target.* *Note: CDM projects must result in a reduction of one of the following greenhouse gases: CO_2/ CH_4/N_2O/HFCs/PCFs/SF_6* **CO_2**
Emission reductions	*Indicate the expected emission reductions that will occur due to the project.* *Note: please provide annual and total emission reductions in tonnes CO2 equivalent* **Estimated annual emission reductions of the Copperton Wind Farm (CPA1) - Considering 50 MW of installed capacity (baseline scenario): 93,674 tCO_2/year.** **Total emissions reductions of the Copperton Wind Farm (CPA 1) - Considering 50 MW of installed capacity (baseline scenario), for a 7-year crediting period is: 655,529 tCO_2/year.**
Baseline & Additionality Assessment	*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.* **The additionality will be proven based on the UNFCCC "Tool for the demonstration and assessment of additionality" on the CPA level.** **An investment analysis will be carried out to demonstrate that the proposed CPAs are not the most economically or financially**

Technical Summary of the project	
	attractive choice of investment. **Moreover, due to the fact that there is currently no large-scale wind farm operating in South Africa, the projects face the following technological barriers:** • **Lack of skilled and/or properly trained labor to operate and maintain the technology;** • **Lack of infrastructure for implementation and logistics for maintenance of the wind power technology;** • **Risk of technological failure: the wind technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM-PoA project activity, as demonstrated by relevant scientific literature or technology manufacturer information.** • **Uncertainty as regards the electricity purchase price and conditions.** **Finally, the proposed CPA1 project has been designed as a CDM project from its conception. The project owner has fully considered the key role played by the CDM and has taken the necessary actions to start the CDM process, aiming to obtain the additional CERs income in order to make the project financially viable.** **Owing to the high risk factors listed above, the project owner would not build this project without the financial incentive of the CDM and the GHG reduction of this project activity would not occur either.**
Monitoring	*Describe the parameters that will be used as performance indicators that will be monitored to verify that emissions reductions are taking place.* *Note: parameters may include emissions output, energy production, energy sales, environmental impacts etc.* • **The gross and net electricity production will be monitored to verify that emissions reductions are taking place. The requirements of CDM methodology ACM0002 will be followed for the monitoring.**
Type of project/activities	*Identify which type of activity is involved in this project - and for each, provide brief details*
a. Energy Supply	*Select if applicable:* **Renewable Energy (excluding biomass)/** *Provide details (1-2 lines)* • **The PoA aims at installing grid-connected wind farms. CDM methodology ACM0002 for large-scale grid-connected renewable energy projects will be applied.**
b. Energy Demand	• **N/A**
c. Industrial Process	• **N/A**
d. Transport	• **N/A**
e. Waste Management	• **N/A**
f. Forestry/ land use	• **N/A**
g. Other	-

Technical Summary of the project	
Project Boundary Define the Project Boundary (Approximately 1 paragraph) 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. • **The project boundary proposed in the ACM002 methodology is used: *"The spatial extent of the project boundary includes the project site and all power plants connected physically to the electricity system that the CDM project power plant is connected to."***	
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* **There are not any significant and measurable GHG emissions attributable to the project outside the project boundary.**

Location of the Project	
Province	**Northern Cape (CPA 1- Copperton Wind Farm)**
Municipality	**Siyathemba (CPA 1- Copperton Wind Farm)**
Nearest city/large town	**Copperton (CPA 1- Copperton Wind Farm)**
Brief description of the location of the project site	*No more than 3-5 lines* **The Copperton Winda Farm (CPA 1) will take place on Struisbult Farm (Farm No. 103 Portions 4 and 7 and Farm No.104 Portion 5), near Copperton in the Northern Cape. Struisbult Farm is located approximately 5 km east of Copperton and the two portions cover 3,000 ha.**

Project Schedule/Timetable	
Earliest Project Start Date	*Year/month* **PoA registration and start is expected to occur by the end of 2012.** **Copperton Wind Farm (CPA 1) will start its operation by the end of 2014.**
When is the expected first year of CER delivery	*Year* **End of 2015**
Project Lifetime	*No. Years* **PoA lifetime is by default 28 years.** **20 years (for each CPA)**
Project End Date	*Year/month* **PoA end date is 2040.** **End of 2021 (for CPA1- Copperton Wind Farm)**
Crediting Period	*Has a crediting period for the project been identified?* *If yes - which option has been selected (10 years or X times 7 years, with reassessment of baseline for each 7 year renewal?* **YES. 7 years x 3 (renewable crediting period).**
Current Status or phase of the project	*Select most applicable:* *Under discussion/ planning/preparation/construction or other actions already commenced/ Other (explain)*

Project Schedule/Timetable	
	planning/preparation/construction *Please provide brief details (1-2 lines)* **As stated before, in the case of the CPA1 (Copperton Wind Farm) all pre-feasibility studies (namely Final Scoping Report - FSR, Wind assessment, preliminary site study, Eskom and Nersa applications) have been undertaken. Further CPAs are under consideration.**
DNA Approval	*Has this project been submitted to the DNA for approval previously?* **YES.** *If yes - provide date of last submission and brief details of the response from the DNA (1 paragraph)* *Provide details of any other official response by the DNA regarding this project* **The DNA issued the letter of No Objection on 27/10/2011**
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)

The project will contribute to the national economic development by supplying renewable energy to the national grid. Therefore, improving the local economy and energy security since the use of renewable energy will decrease the dependence on fossil fuels and also will diversify the sources of electricity. Moreover, the establishment of the proposed PoA will provide a number of local direct and indirect induced jobs. Additionally, the project will contribute to encourage further investments in renewable energy, especially of wind farms by setting an example in the country.

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

Please give details (1 paragraph)

The project will contribute to the social development in South Africa by supplying renewable energy to the grid, therefore, assisting in meeting the national energy demand. Additionally, the Copperton Wind Farm first CPA project will contribute to increase local employment, since it is expected that 19 persons will be hired during the construction phase. Moreover, 17 operation and maintenance jobs

will be created during (for the baseline scenario of 50 MW of installed capacity). Indirect and induced jobs will also result from the proposed project activity. This job creation will improve the living conditions and skill transfer of the people in the area. Furthermore, the project owner will be designing local social upliftment schemes that will operate throughout the life of the wind farm. They will focus on the provision of water services, education, jobs and supply of renewable energy to the SKA. Details will be furnished in the bid to be submitted to the DOE.	
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	*(1 paragraph)* **It is not envisaged that the proposed PoA will result in the disturbance of ecosystems or the loss of biological diversity. In the case of the CPA1 (Copperton Wind Farm), since the vegetation types found in the vicinity of the site is considered to be 'Least Threatened'. Therefore, it is unlikely that the animals occurring within this vegetation type would be rare or endangered, as large areas of habitat remain.**
ii) That **pollution and degradation of the environment** are avoided, or where they cannot be altogether avoided, are minimised and remedied	*(1 paragraph)* **It is not envisaged that the proposed PoA will produce any pollution or degradation of the environment. Moreover, the CPA1 project developer will implement an EMP (Environmental Management Programme) that will allow preventing any pollution or degradation of the environment.**
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	*(1 paragraph*) **It is not envisaged that the proposed PoA will produce any disturbance of landscapes and sites that constitute the nation's cultural heritage. In the case of CPA1 (Copperton Wind Farm), it is not located at a site that constitutes the nation's cultural heritage. The project's site is used for agricultural purposes, consisting mostly of sheep grazing. Therefore, no disturbance of landscape is envisaged.**
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	*(1 paragraph)* **As explained before, the CPA1 project developer will implement an EMP which will allow minimizing and avoiding waste**
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	*(1 paragraph)* **The proposed PoA does not involve the use and exploitation of non-renewable resources as it aims at producing renewable energy by the installation of wind farms.**
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.	*(1 paragraph)* **The proposed PoA aims at producing renewable energy by harnessing the power of the wind by means of the installation of wind turbines. The exploitation of this renewable resource will therefore be 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	*(1 paragraph)* **As explained before, the CPA1 project developer will implement an EMP that will take into consideration the risk averse and cautions approach.**
vii) That **negative impacts on the**	*(1 paragraph)*

environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied	**The CPA1 project developer is following the national regulations regarding Environmental Impact Assessment. An EIA has been performed to identify the possible negative impacts on the environment and on people's environmental rights. All possible negative impacts will be prevented, minimized or remedied.**

Other comments

Please provide any other comments on how this project contributes to sustainable development in South Africa (optional)

The proposed PoA will improve energy security avoiding the use of fossil fuels and the consequent pollutant emissions. Therefore, promoting South Africa's sustainable development. Moreover, the success of this project can be replicated, opening new business and social upliftment opportunities and increasing renewable energy share.

The use of wind energy remains embryonic in the country; the proposed PoA will provide a key incentive to further boost the development of wind power projects in South Africa.

As the project is a CDM Programme of Activities (PoA), it will facilitate future wind farms' CDM development and considerably reduce both cost and delays as regards the CDM process of these future projects.

The PoA will promote the development of wind energy in South Africa, which will result in the reduction of emissions of NOx, SOx, particles, soot, etcetera, since the electricity produced by the wind energy projects will replace predominantly coal fired electricity production.

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)	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) **The project will have a positive impact on air quality, as it will harness the power of wind to produce renewable energy, therefore decreasing the use of fossil fuels and the consequent pollutant emissions. It is not envisaged that the project will have an impact on water pollution and will not generate solid waste due to its nature. Therefore, the overall environmental quality will improve.**
	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	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) **The proposed PoA will have no impact on community access to natural resources or in the sustainability of use of water, mineral or other non renewable natural resources. However, it will improve the use of resource utilization by means of producing renewable energy by the installation of wind farms. Therefore, the project will have no negative impacts in the use of natural resources.**
	Impacts on biodiversity and ecosystems	• Changes in local or regional biodiversity arising from the project	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) **It is not envisaged that the proposed PoA will have any negative impact on local or regional biodiversity. Moreover, as explained before, the vegetation types found in the vicinity of Copperton Wind Farm (CPA1) project site is considered to be 'Least Threatened'. Therefore, it is unlikely that animals occurring within this vegetation types would be rare or endangered.**

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	Please comment on the economic impacts of the project. Comment specifically on the indicators of relevance which are given here. (1 paragraph) **The project will have positive economic impacts since it aims at producing renewable energy to be injected into the national grid at a competitive price. Therefore, assisting in meeting the national energy demand. Moreover, the project will result in new direct and indirect jobs, therefore, increasing the economic activity in the area.**
	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	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) **Currently, there is no large-scale wind farm in operation in South Africa. The project will therefore have a positive impact for the technology transfer and the development of local skills to manage and operate wind farms. The success of this project will encourage other investors to undertake this kind of activity, increasing the renewable energy's share in the national energy mix.**

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)	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) **The CPA1 project owner will design a community based upliftment scheme that focuses on the provision of water and education. The CPA1 project owner will also have to commit to the plan by saying how it will monitor and evaluate its implementation and progress. If the project owner does not comply, the DOE is at liberty to introduce penalties for non-compliance.**
	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	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) **The project will have a positive impact on employment levels since, as explained before, in the Copperton Wind Farm (CPA1) it is expected that 19 persons will be hired during the construction phase. Moreover, 17 operation and maintenance jobs will be created (for the baseline scenario of 50 MW of installed capacity). Indirect and induced jobs will also result from the proposed project activity. This job creation will improve the living conditions and skill transfer of the people in the area. Therefore, the project will have a positive impact on social equity and poverty alleviation.**

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?	Please comment on whether the benefits occurring from the project due to the contribution of the CDM are reasonable and fair. (1 paragraph) **As it was stated before, the CPA1 project owner will design a community based upliftment scheme that focus on the provision of water and education. This scheme will be financed using a percentage of the benefits obtained from the CERs sales.**

Part D: Finance

Project Costs	
Development Costs (R's)	
Installed Costs (R's)	
Other Costs (R's)	
Total Project Costs (R's)	**858 million R's. (for CPA1- Copperton Wind Farm- 50 MW of installed capacity)**
Sources of Finance	
Equity	*Name of Organisation(s) and amount (R's) contributed by each* **For first CPA- Copperton Wind Farm:** **30-43%**
Debt (long term)	*Name of organization(s) and amount (R's) for each* **For first CPA- Copperton Wind Farm:** **70-57%**
Debt (short term)	N*ame of organization(s) and amount (R's) for each*
Amount not identified (R's)	*Amount (R's) and a brief summary of the needs and any outstanding issues* *(1 paragraph or less)* **Debt has not been raised yet**.
Total CDM Contribution sought	*Amount (R's) and a brief summary of the needs and any outstanding issues* *(1 paragraph or less)*
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)	**The ERPA is in process of negotiation.** *Price? (R's)* *Price? (R's)* *Price? (R's)*
Indicate the **projected Internal Rate of Return** for the project with and without CER revenues.	**For first CPA- Copperton Wind Farm:** **IRR= 8.66% without CERs revenues.** *Note: Please indicate assumed price of CER as used in your calculation*

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.* **NO.**
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.* • **Yes. Please refer to Section "Project Partners".** **ERPA negotiation in process**