
Tony Barbour

ENVIRONMENTAL CONSULTING AND RESEARCH

10 First Avenue, 7708, South Africa

(Tel) 27-21-761 2355 - (Fax) 27-761 2355- (Cell) 082 600 8266

(E-Mail) tbarbour@telkomsa.net

ADDENDUM REPORT

SOCIAL IMPACT ASSESSMENT

FOR

**PART 2 AMENDMENT - HARTEBEESTHOEK EAST
(SAN KRAAL SPLIT 2)**

JUNE 2019

Prepared for

**ARCUS CONSULTANCY SERVICES SOUTH AFRICA (PTY)
LTD**

By

Tony Barbour

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1. INTRODUCTION AND BACKGROUND TO REPORT

Arcus Consultancy Services South Africa (Pty) Ltd (hereafter referred to as Arcus) was appointed as the lead consultant to manage the Environmental Impact Assessment (EIA) process for the proposed 390 MW San Kraal Wind Energy Facility (WEF). The study area is located ~ 6 km south-east of the town of Noupoort in the Umsobomvu Local Municipality (ULM), which falls within the Northern Cape Province. A small section of the site is also located in the Inxuba Yethemba Local Municipality (IYLM), which falls within the Eastern Cape Province. The IYLM falls within the Chris Hani District Municipality (CHDM). Tony Barbour was appointed by Arcus to undertake a specialist Social Impact Assessment (SIA) as part of the EIA process. The SIA Report was finalised in January 2018 (Barbour and van der Merwe, January 2018).

The San Kraal WEF was authorised for a maximum generation capacity of 390 MW, with a total of up to 78 turbines with an individual rating of between 3 and 5 MW, with a rotor diameter of 150 m, hub height of 150 m and a blade length of 75 m. In terms of the Part 2 Amendment, the San Kraal Project has been split into two sections, namely:

- Hartebeesthoek East (San Kraal Split 2);
- San Kraal Split 1.

The Amendment Report covers the Hartebeesthoek East (San Kraal Split 2), which consists of:

- 20 wind turbines with a hub height of 137 m and a rotor diameter of 175 m. The turbines are located in areas outside the constraints areas identified by the relevant specialists. One new access point has been added;
- The turbine output will be up to 6.2 MW per turbine;
- The total project output will be 124 MW.

From a social perspective, the only material change to the previous project design is the reduction in the number of wind turbines from 78 to 20 and the changes to the technical specifications for the wind turbines. The relocation of some wind turbines to ensure that they fall outside of the constraints areas will not impact on the findings of the SIA undertaken in 2017-2018.

The wind turbines are located on properties owned by three landowners, namely:

- Umsobomvu Local Municipality-9 wind turbines;
- Mr Erasmus-6 wind turbines; and
- Mr Taljard-5 wind turbines.

The location and layout of the wind turbines associated with the Hartebeesthoek East (San Kraal Split 2) are illustrated in Figure 1.

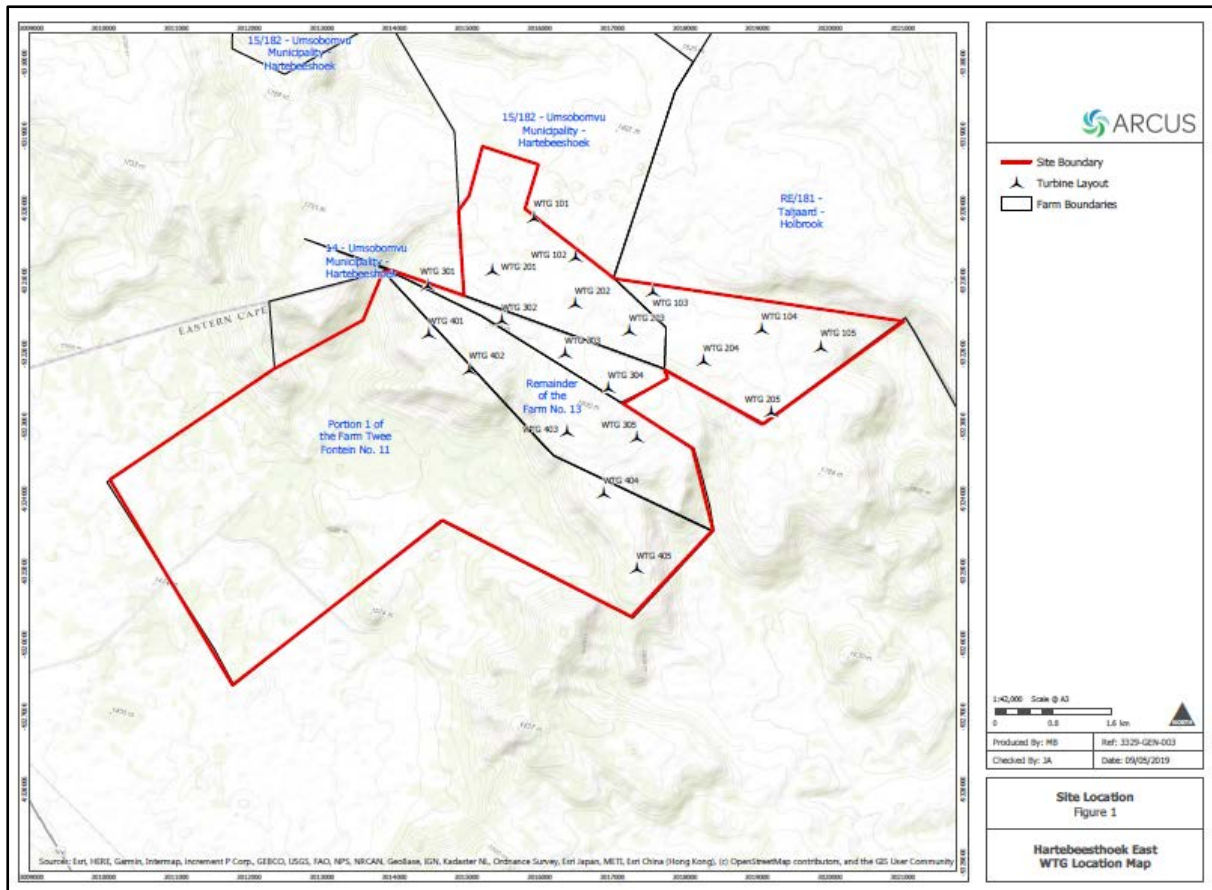


Figure 1: Location of Hartebeesthoek East (San Kraal Split 2) and location of wind turbines

2. APPROACH TO STUDY

The approach to preparing the Addendum Report is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (DEADP, 2007). These guidelines are based on international best practice. The key activities included:

- Reviewing and updating key policy and land use planning documents for the study area;
- Site visit and interviews with the affected landowners. Annexure A contains a list of the affected landowners interviewed; and
- A review of the findings of the SIA undertaken in 2018 (Barbour and van der Merwe, 2018) and comment on the findings of the SIA in relation to the proposed changes to the technical specifications listed above.

3. ASSUMPTIONS AND LIMITATIONS

3.1 Assumptions

Findings of SIA undertaken in 2018

It is assumed that the key findings of the 2018 SIA (Barbour and van der Merwe) remain valid.

Socio-economic baseline data

The baseline socio-economic data included in the 2018 SIA is based on the 2011 Census data. This data is sufficient for the purposes of assessing the potential impact of the Part 2 Amendment for the Hartebeesthoek East project.

Fit with planning and policy requirements

Legislation and policies reflect societal norms and values. The legislative and policy context, therefore, plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard, a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents. As such, if the findings of the study indicate that the proposed development in its current format does not conform to the spatial principles and guidelines contained in the relevant legislation and planning documents, and there are no significant or unique opportunities created by the development, the development cannot be supported.

However, the study recognises the strategic importance of wind energy and the technical, spatial and land use constraints required for wind energy facilities.

3.2 Limitations

Limitations

Based on the experience of the consultant, there are no limitations that have a material bearing on the findings of the study.

4. SPECIALIST DETAILS

Tony Barbour is an independent specialist with 26 years' experience in the field of environmental management. In terms of SIA experience, Tony Barbour has undertaken in the region of 230 SIAs and is the author of the Guidelines for Social Impact Assessments for EIA's adopted by the Department of Environmental Affairs and Development Planning (DEA&DP) in the Western Cape in 2007. Annexure B contains a copy of Mr Barbour's CV.

5. DECLARATION OF INDEPENDENCE

This confirms that Tony Barbour, the specialist consultant responsible for undertaking the study and preparing the Addendum Report, is independent and does not have any vested or financial interests in the proposed WEF being either approved or rejected. A signed declaration is contained in Annexure C.

6. UPDATED KEY POLICY AND LAND USE PLANS

As part of the amendment a review of relevant policy and land use planning documents, specifically the Integrated Development Plans (IDPs) for the area, was undertaken to ensure that the most recent documents are referred to in the amendment application. A review of the following documents was undertaken:

- Umsobomvu Municipality Integrated Development Plan (2017-2022); and
- Inxuba Yethemba Municipality Integrated Development Plan (2017-2022).

Annexure D contains a summary of these two documents.

7. COMMENT ON FINDINGS OF SOCIAL IMPACT ASSESSMENT

As indicated above, Tony Barbour was appointed by Arcus to undertake the specialist Social Impact Assessment (SIA) as part of the EIA process for the San Kraal 390 MW WEF. The findings of the SIA were based on the potential social and socio-economic impact of a 390 MW WEF consisting of 78 wind turbines. The Part 2 Amendment for the Hartebeesthoek East (San Kraal Split 2) consists of 20 wind turbines with a total project output of 124 MW. The significance ratings for a 20 turbine, 124 MW WEF may therefore potentially differ due to the reduced number of turbines and the associated implications in terms of capital expenditure, employment (construction and operational phase), and the impact of construction workers. In terms of the Community Trust, the potential changes would be linked to the reduced revenue associated with the lower generation capacity (MWs). Where applicable the revised findings are summarised below.

8. REVISED SOCIAL IMPACT ASSESSMENT FINDINGS

8.1 Introduction

The key findings of the 2018 SIA (Barbour and van der Merwe) were summarised under the following sections:

- Fit with policy and planning;
- Construction phase impacts;
- Operational phase impacts;
- Cumulative Impacts;
- Decommissioning phase impacts; and
- No-development option.

The type of social impacts identified in the 2018 SIA remains the same. However, as indicated above, the significance ratings for a 20 turbine, 124 MW WEF may potentially differ to those associated with the 390 MW, 78 turbine WEF, which was assessed in 2018. These potential changes relate to the impacts associated with the construction and operational phase. There are also potential implications for the cumulative impacts. A summary of the assessment findings compared to the significance ratings from the 2018 SIA is provided below. The assessment is based on the methodology used for the 2018 SIA. A copy of the methodology is contained in Annexure E.

8.2 Fit with policy and planning

The findings of the review undertaken in 2018 indicated that renewable energy is strongly supported at a national, provincial and local level. These findings still apply. The provincial and local policy and planning documents also refer to the importance of tourism and the region's natural resources. Care, therefore, needs to be taken to ensure that the development of large renewable energy projects, such as the proposed facility, does not impact on the region's natural resources and the tourism potential of the area.

8.3 Construction phase impacts

The key social issues associated with the construction phase include:

Potential positive impacts

- Creation of employment and business opportunities, and opportunity for skills development and on-site training; and
- Benefits associated with providing technical advice on wind energy to local farmers and municipalities.

Potential negative impacts

- Impacts associated with the presence of construction workers on local communities;
- Impacts related to the potential influx of jobseekers;
- Increased risks to livestock and farming infrastructure associated with the construction related activities and presence of construction workers on the site;
- Increased risk of grass fires associated with construction-related activities; and
- Noise, dust, waste and safety impacts of construction-related activities and vehicles.

Table 1 compares the significance ratings for the construction phase of the Part 2 Amendment Hartebeesthoek East (San Kraal Split 2) with the findings of the 2018 SIA. The mitigation measures listed in the 2018 SIA still apply to the proposed Part 2 Amendment.

Table 1: Summary of social impacts during construction phase

	78 turbine assessment (2018)	Part 2 Amendment-20 turbine assessment (2019)
Impact	Significance With Mitigation/ Enhancement	Significance With Mitigation/ Enhancement
Creation of employment and business opportunities	High (+)	High (+)
Presence of construction workers and potential impacts on family structures and social networks	Low (-)	Low (-)
Influx of job seekers	Low (-)	Low (-)
Increased risks to livestock and farming infrastructure associated with the construction related activities and presence of construction workers on the site	Low (-)	Low (-)
Increased fire risk	Low (-)	Low (-)
Impact of heavy vehicles and construction activities	Low (-)	Low (-)
Impact on farming activities	Low (-)	Low (-)

Based on the findings of the review, all of the assessment ratings from the 2018 SIA remain unchanged. Despite the reduction in the number of workers from 350 to 150, the significance rating for the benefit associated with employment and business opportunities remain High Positive. This is due to the extent being High. The assessment table is provided below (Table 2). A discussion on the change in the number of employment opportunities and implications in terms of the wage bill is provided below.

Based on the 2018 SIA, the establishment of a 390 MW WEF would take approximately 2 years to construct and create approximately ~ 350 (full-time equivalent) employment opportunities, of which approximately 55% of the employment opportunities will be available to low skilled workers (construction labourers, security staff etc.), 30% to semi-skilled workers (drivers, equipment operators etc.) and 15% for skilled personnel (engineers, land surveyors, project managers etc.). The majority of the low and semi-skilled employment opportunities will be available to local residents in the area, specifically residents from Noupport, Coleburg and Middelburg. The total wage bill for over the 2-year period was estimated to be in the R 104 million (2017 Rand value). A percentage of the wage bill will be spent in the local economy, which will create opportunities for local businesses in the towns of Noupport, Colesberg and Middelburg.

Based on these figures, the construction of a 124 MW WEF would take approximately 18 months to construct and create in the region of 150 (full-time equivalent) employment opportunities. The split between low, semi and high skilled jobs would be the same. The wage bill over the 18 months would be in the region of R 30 million.

The capital expenditure associated with the construction of a 390 MW WEF was estimated to be in the region of R 4 billion (2017 Rand value). The cost of a 124 MW WEF would be in the region of R 1.3 billion.

Table 2: Impact assessment of employment and business creation opportunities during the construction phase (124 MW WEF)

Impact Phase: Construction							
Potential impact description: Creation of employment and business opportunities during the construction phase							
	Extent	Duration	Intensity	Status	Significance	Probability	Confidence
Without Mitigation/Enhancement	M	L	M	Positive	Medium	M	High
With Mitigation/Enhancement	H	L	M	Positive	High	H	High
Can the impact be reversed?			Yes: By not implementing the project				
Will impact cause irreplaceable loss or resources?			No				
Can impact be avoided, managed, enhanced and or mitigated?			Yes, see measures below.				

8.4 Operational phase

The key social issues affecting the operational phase include:

Potential positive impacts

- Establishment of renewable energy infrastructure;
- Creation of employment and business opportunities. The operational phase will also create opportunities for skills development and training;
- Benefits associated with the establishment of a Community Trust; and
- Benefits for affected landowners.

Potential negative impacts

- The visual impacts and associated impact on sense of place;
- Impact on tourism; and
- Impact on property values.

Table 3 compares the significance ratings for the operation phase of the Part 2 Amendment Hartebeesthoek East (San Kraal Split 2) with the findings of the 2018 SIA. The mitigation measures listed in the 2018 SIA still apply to the proposed Part 2 Amendment.

Table 3: Summary of social impacts during operational phase

	78 turbine assessment (2018)	Part 2 Amendment-35 turbine assessment (2019)
Impact	Significance With Mitigation/ Enhancement	Significance With Mitigation/ Enhancement
Promotion of renewable energy projects	High (+)	High (+)
Creation of employment and business opportunities	Medium (+)	Medium (+)
Establishment of Community Trust	High (+)	High (+)
Benefits for local affected landowners	Medium (+)	Medium (+)
Visual impact and impact on sense of place¹	Medium (-) Low (-)	Medium (-) Low (-)
Impact on property values²	Low (-)	Low (-)
Impact on tourism³	Low (- and +)	Low (- and +)

Based on the revised review, there are no changes in significance ratings for the operational phase for the Part 2 Amendment Hartebeesthoek East (San Kraal Split 2).

8.5 Cumulative Impacts

The significance ratings for the cumulative impacts associated with the Part 2 Amendment Hartebeesthoek East (San Kraal Split 2) are the same those for the original San Kraal WEF (SIA January 2018), namely:

- Cumulative impact on sense of place-Medium Negative;
- Cumulative impact on services-Low Negative; and
- Cumulative impact on local economies-High Positive.

8.6 No-Development Option

The 2018 SIA found that the No-Development option would represent a lost opportunity for South Africa to supplement its current energy needs with clean, renewable energy. Given South Africa's position as one of the highest per capita producer of carbon emissions in the world, this would represent a High Negative social cost. The no-development option also represents a lost opportunity in terms of the employment and business opportunities (construction and operational phase) associated with the proposed San Kraal WEF, and the benefits associated with the establishment of a Community Trust. This would also represent a negative social cost. The same findings apply to the Part 2 Amendment Hartebeesthoek East (San Kraal Split 2).

8.7 Decommissioning Phase

Given the relatively small number of employment opportunities created by WEF during the operational phase, the impact of the decommissioning would be the same as those assessed in the 2018 SIA with mitigation, namely **Low Negative**.

¹ Ratings reflect findings of VIA (Medium-High Negative) and findings of stakeholders interviewed that do not regard wind farm as a having a negative visual impact (Low Negative).

² The rating applies to the impact on property prices in the broader area.

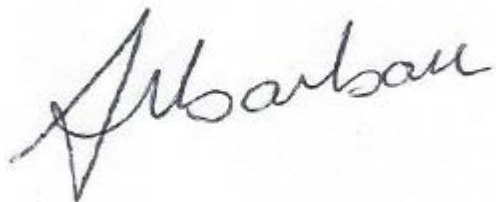
³ The rating applies to the impact on tourism in the broader area.

9. SOCIAL STATEMENT

The findings of the 2018 SIA indicated that the development of the proposed San Kraal WEF would create employment and business opportunities for locals during both the construction and operational phase of the project. The establishment of a Community Trust will also benefit the local community. The potential negative social impacts could also be effectively mitigated. The proposed development also represented an investment in clean, renewable energy infrastructure, which, given the negative environmental and socio-economic impacts associated with a coal-based energy economy and the challenges created by climate change, represents a significant positive social benefit for society as a whole. The findings of the SIA also indicated that the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) has resulted in significant socio-economic benefits, both at a national level and at a local, community level. These benefits are linked to Foreign Direct Investment, local employment and procurement and investment in local community initiatives.

Based on the findings of the SIA, the establishment of the proposed San Kraal WEF was supported. In this regard, the project will create significant socio-economic opportunities for the area and have limited potential negative social impacts.

Based on the findings of the review, the findings of the SIA undertaken for the San Kraal WEF (Barbour and van der Merwe, 2018) also apply to the Part 2 Amendment Hartebeesthoek East (San Kraal Split 2). The development of the proposed 124 MW Part 2 Amendment Hartebeesthoek East (San Kraal Split 2) is therefore supported by the findings of the review subject to the implementation of the recommended mitigation measures and management actions contained in the 2018 SIA report.



Tony Barbour
Tony Barbour Environmental Consulting and Research
4 June 2019

ANNEXURE A

INTERVIEWS

- De Villiers, Mr Jim (23-05-2019);
- Taljard, Gerhard (23-05-2019);
- Erasmus, Mr Stefan (23-05-2019);
- Erasmus, Ms Yolandi (23-05-2018);
- Gillmer, Mr Jean (23-05-2019).

ANNEXURE B

Tony Barbour

ENVIRONMENTAL CONSULTING AND RESEARCH

10 Firs Avenue, Claremont, 7708, South Africa

(Tel) 27-21-761 2355 - (Fax) 27-21-761 2355 - (Cell) 082 600 8266

(E-Mail) tbarbour@telkomsa.net

Tony Barbour's experience as an environmental consultant includes working for ten years as a consultant in the private sector, followed by four years at the University of Cape Town's Environmental Evaluation Unit. He has worked as an independent consultant since 2004, with a key focus on Social Impact Assessment. His other areas of interest include Strategic Environmental Assessment and review work.

EDUCATION

- BSc (Geology and Economics) Rhodes (1984);
- B Economics (Honours) Rhodes (1985);
- MSc (Environmental Science), University of Cape Town (1992)

EMPLOYMENT RECORD

- Independent Consultant: November 2004 – current;
- University of Cape Town: August 1996-October 2004: Environmental Evaluation Unit (EEU), University of Cape Town. Senior Environmental Consultant and Researcher;
- Private sector: 1991-August 2000: 1991-1996: Ninham Shand Consulting (Now Aurecon, Cape Town). Senior Environmental Scientist; 1996-August 2000: Steffen, Robertson and Kirsten (SRK Consulting) – Associate Director, Manager Environmental Section, SRK Cape Town.

LECTURING

- University of Cape Town: Resource Economics; SEA and EIA (1991-2004);
- University of Cape Town: Social Impact Assessment (2004-current);
- Cape Technikon: Resource Economics and Waste Management (1994-1998);
- Peninsula Technikon: Resource Economics and Waste Management (1996-1998).

RELEVANT EXPERIENCE AND EXPERTISE

Tony Barbour has undertaken in the region of 200 SIA's, including SIA's for infrastructure projects, dams, pipelines, and roads. All of the SIAs include interacting with and liaising with affected communities. In addition, he is the author of the Guidelines for undertaking SIA's as part of the EIA process commissioned by the Western Cape Provincial Environmental Authorities in 2007. These guidelines have been used throughout South Africa.

Tony was also the project manager for a study commissioned in 2005 by the then South African Department of Water Affairs and Forestry for the development of a Social Assessment and Development Framework. The framework aimed to enable the Department of Water Affairs and Forestry to identify, assess and manage social impacts associated with large infrastructure projects, such as dams. The study also included the development of guidelines for Social Impact Assessment, Conflict Management, Relocation and Resettlement and Monitoring and Evaluation.

Countries with work experience include South Africa, Namibia, Angola, Botswana, Zambia, Lesotho, Swaziland, Ghana, Mozambique, Mauritius, Kenya, Ethiopia, Oman, South Sudan and Sudan.

ANNEXURE C

The specialist declaration of independence in terms of the Regulations_

I, Tony Barbour _____, declare that --

General declaration:

I act as the independent specialist in this application;

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;

I will comply with the Act, Regulations and all other applicable legislation;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

all the particulars furnished by me in this form are true and correct; and

I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

Tony Barbour Environmental Consulting and Research

Name of company (if applicable):

4 June 2019

Date:



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

San Kraal and Phezukomoya Amendment Applications

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	Tony Barbour Environmental Consulting and Research		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Level 4	Percentage Procurement recognition
			100%
Specialist name:	Tony Barbour		
Specialist Qualifications:	BSc, BEconomics (Honours), MSc Environmental Science		
Professional affiliation/registration:	IAIA		
Physical address:	10 Firs Avenue, Claremont, Cape Town		
Postal address:	10 Firs Avenue, Claremont, Cape Town		
Postal code:	7708	Cell:	0826008266
Telephone:	021-7612355	Fax:	
E-mail:	tbarbour@telkomsa.net		

2. DECLARATION BY THE SPECIALIST

I, Tony Barbour, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

Tony Barbour Environmental Consulting and Research
Name of Company:

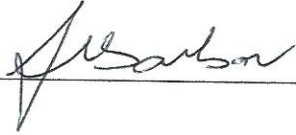
12 August 2019

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Tony Barbour, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

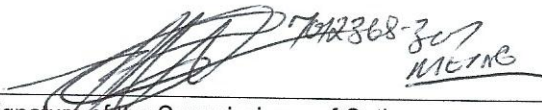


Tony Barbour Environmental Consulting and Research
Name of Company

12 August 2019

Date

Signature of the Commissioner of Oaths



Date

2019/8/12



ANNEXURE D

1. UMSOBOMVU LOCAL MUNICIPALITY IDP (2017-2022)

The vision for the Umsobomvu Local Municipality (ULM) is a “Developmental Municipality in South Africa”. The mission statement to achieve the vision is “To serve our community by delivering quality services and customer care through dedicated staff for the upliftment of our community socially and economically.”

The IDP lists the strategic objectives to address the vision, namely:

- Develop a capable and capacitated institution to respond to community needs;
- Strengthen community participation;
- Enhance Good Governance processes and accountability;
- Provide appropriate services to all households;
- Ongoing maintenance of municipal infrastructure;
- Enhance municipal financial viability;
- Provide quality and sustainable municipal infrastructure within available resources;
- Facilitate economic growth in the municipal area;
- Environmentally conscious in the delivery of services.

In terms of economic development, the IDP notes that the ULM is a relatively small economy, making up about 13% of Gross Domestic Product in the Pixley ka Seme District municipality and only 2% of the Northern Cape Province’s in 2016. The IDP notes that the economy in the ULM is characterised by:

- High levels of poverty;
- It is a small-town sub-region with a low level of development despite the strategic location in terms of the national transport corridors;
- Sparsely populated towns with Colesberg serving as “agricultural service centre”;
- High rate of unemployment, poverty and social grant dependence;
- Prone to significant environmental changes owing to long-term structural changes (such as climate change, energy crises and other shifts);
- Geographic similarity in economic sectors, growth factors and settlement patterns;
- Economies of scale not easily achieved owing to the relatively small size of towns;
- A diverse road network with national, trunk, main and divisional roads of varying quality;
- Proximity to the Gariep Dam;
- **Potential in renewable energy resource generation.**

Chapter 4, Development strategies, outlines the key strategic objectives of the ULM. The most pressing objective is to facilitate economic growth in the municipal area and create an enabling environment for the promotion of economic development. A SWOT analysis was undertaken as part of the IDP process. Alternative renewable (clean) energy and tourism were identified as an opportunity. The lack of economic drivers was identified as a threat. In this regard, the establishment of renewable energy projects can create an opportunity for economic development in the area.

Section 3.9.2, Possible Opportunities, list the potential opportunities. Two opportunities are of relevance to the proposed development, namely:

- Understanding the impact of significant environmental changes owing to long-term structural changes (such as climate change, energy crises and other shifts);
- Allowing investment in renewable energy resource generation.

The section also highlights the importance of important tourism and development corridors and the need to promote the tourism sector.

Section 3.5, Biophysical Context, also refers to renewable energy, noting that the demand for development that will influence the transformation of land use and place pressure on biodiversity and grazing land.

2. INXUBA YETHEMBA MUNICIPALITY IDP (2017-2022)

The vision of Inxuba Yethemba Municipality (IYM) is “A coherent developmental municipality putting people first and providing a better life for all its citizens”. The mission statement linked to the vision is that the Inxuba Yethemba Municipality Commits itself to unity, putting people first and providing a better life by:

- Promoting social and economic development;
- Ensuring Effective community Participation;
- Providing and maintaining affordable services;
- Effectively and Efficiently utilising all available resources.

Central to the strategies adopted by the IYM is a Back to Basics Approach that focuses on:

- Service delivery and basic infrastructure;
- Local economic development;
- Financial viability;
- Institutional Development and Municipal transformation;
- Good governance and Public Participation.

Local economic development is the most relevant strategy for the proposed development. The key focus of the strategy is:

- Developing the Local Economy;
- Poverty alleviation and job creation;
- Tourism.

Section 2.4.9, Economic Potential, lists the strengths, weaknesses, opportunities and threats facing the IYM. The most relevant are listed below.

Strengths

- Located along the N10; transient market is large;
- Convenient stop-over between inland towns and coastal towns (Port Elizabeth & Garden Route);
- Good climate to support agriculture;
- Agriculture and tourism are well-established sectors;
- Land available for industrial development.

Weaknesses

- Few entrepreneurs with limited skills and capital;
- skilled population declining;
- HIV/Aids widespread;
- Income levels low;
- Few opportunities for the youth;
- Difficult to market for tourism, since there is no critical mass of attractions.

Opportunities

- Agricultural Value Added industry;
- Educational institutions;
- Tourism – wildlife, hunting and photographic.

Threats

- Farmers become negative due to political pressures;
- “Brain Drain” continues;
- Infrastructure:
- Electricity in Cradock.

Section 7.2 outlines the development objectives for the IYM in order to support a capable and developmental state. Of relevance to the project are the development of the agricultural sector and the support for SMMEs, education, training and innovation. The tourism sector is also identified as a key sector.

With regard to renewable energy, there is no specific reference at a local municipality level. The only reference is in relation to the National Development Plan 2030, which highlights the need to diversify South Africa's energy mix to include more renewable energy sources. The NDP 2030 also notes that the development of environmentally sustainable green products and services, including renewable energy technologies, will contribute to the creation of jobs in niche markets where South Africa has or can develop a competitive advantage.

ANNEXURE E

ASSESSMENT METHODOLOGY

The evaluation method for determining significance of impacts is shown below.⁴

Note that an adjustment was made, which involved changing the consequence column to the significance column, due to the fact that probability should not necessarily determine significance, as, for example, catastrophic events would be highly significant, even though the probability of such an event occurring is low.

Definitions of or criteria for environmental impact parameters

The significance of environmental impacts is a function of the environmental aspects that are present and to be impacted on, the probability of an impact occurring and the consequence of such an impact occurring before and after implementation of proposed mitigation measures.

Extent (spatial scale):

Ranking criteria

L	M	H
Impact is localised within site boundary	Widespread impact beyond site boundary; Local	Impact widespread far beyond site boundary; Regional/national

Take into consideration:

Access to resources; amenity

Threats to lifestyles, traditions and values

Cumulative impacts, including possible changes to land use at and around the site.

Duration:

Ranking criteria

L	M	H
Quickly reversible, less than project life, short term (0-5 years)	Reversible over time; medium term to life of project (5-15 years)	Long term; beyond closure; permanent; irreplaceable or irretrievable commitment of resources

Take into consideration:

Cost-benefit economically and socially (e.g. long- or short-term costs/benefits)

⁴ (Adapted from T Hacking, AATS – Envirolink, 1998: An innovative approach to structuring environmental impact assessment reports. In: IAIA SA 1998 Conference Papers and Notes

Intensity (severity):

Type of Criteria	Negative			Positive		
	H-	M-	L-	L+	M+	H+
Qualitative	Substantial deterioration, death, illness or injury, loss of habitat/ diversity or resource, severe alteration or disturbance of important processes.	Moderate deterioration, discomfort, Partial loss of habitat/ biodiversity/ resource or slight or alteration	Minor deterioration, nuisance or irritation, minor change in species/habitat/ diversity or resource, no or very little quality deterioration.	Minor improvement, restoration, improved management	Moderate improvement, restoration, improved management, substitution	Substantial improvement, substitution
Qualitative	Measurable deterioration Recommended level will often be violated (e.g. pollution)	Measurable deterioration Recommended level will occasionally be violated	No measurable change; Recommended level will never be violated	No measurable change; Within or better than recommended level.	Measurable improvement	Measurable improvement
Community response	Vigorous	Widespread complaints	Sporadic complaints	No observed reaction	Some support	Favourable publicity

Take into consideration:

Cost-benefit economically and socially (e.g. high nett cost = substantial deterioration)

Impacts on human-induced climate change

Impacts on future management (e.g. easy/practical to manage with change or recommendation)

Probability of occurrence:

Ranking criteria

L	M	H
Unlikely; low likelihood; Seldom No known risk or vulnerability to natural or induced hazards.	Possible, distinct possibility, frequent Low to medium risk or vulnerability to natural or induced hazards.	Definite (regardless of prevention measures), highly likely, continuous High risk or vulnerability to natural or induced hazards.

The specialist study must attempt to quantify the magnitude of impacts and outline the rationale used. Where appropriate, international standards are to be used as a measure of the level of impact.

Status of the impact:

Describe whether the impact is positive, negative or neutral for each parameter. The ranking criteria are described in negative terms. Where positive impacts are identified, use the opposite, positive descriptions for criteria.

Based on a synthesis of the information contained in (a) to (e) above, the specialist will be required to assess the significance of potential impacts in terms of the following criteria:

Significance: (Duration X Extent X Intensity)

Intensity = L				
Duration	H			
	M			Medium
	L	Low		
Intensity = M				
Duration	H			High
	M		Medium	
	L	Low		
Intensity = H				
Duration	H			
	M			High
	L	Medium		
	L		M	H
	Extent			

Positive impacts would be ranked in the same way as negative impacts, but result in high, medium or low positive consequence.

Degree of confidence in predictions:

State the degree of confidence in the predictions, based on the availability of information and specialist knowledge.

Significance Table Format:

Example of how significance tables should be formatted.

	Extent	Duration	Intensity	Status	Significance	Probability	Confidence
Without Mitigation							
With Mitigation							