

EXTERNAL PEER REVIEW

MARALLA EAST WIND ENERGY FACILITY SOCIO-ECONOMIC ASSESSMENT REPORT

NORTHERN AND WESTERN CAPE PROVINCE

FEBRUARY 2017

By

Tony Barbour

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

TABLE OF CONTENTS

1.1	INTRODUCTION	1
1.2	EXPERIENCE WITH SOCIAL IMPACT ASSESSMENTS.....	1
1.3	TERMS OF REFERENCE AND APPROACH	1
1.4	SECTION 1: INTRODUCTION (P1)	1
1.5	SECTION: DESCRIPTION OF PROJECT (P8).....	2
1.6	SECTION 3: DESCRIPTION OF THE AFFECTED ENVIRONMENT (P15).....	3
1.7	SECTION 4: SOCIO-ECONOMIC POLICY AND PLANNING CONTEXT (P30)	4
1.8	SECTION 5: FINDINGS (P35).....	4
1.8.1	Construction Phase	4
1.8.2	Operational Phase (p39)	5
1.8.3	Decommissioning Phase (p40)	5
1.8.4	Cumulative impacts (p41)	6
1.8.5	No-go alternative (p43)	7
1.8.6	Social sensitivity (p43)	7
1.9	SECTION 6: ASSESSMENT OF IMPACTS (P45)	7
1.9.1	Construction Phase Impacts (Table 8, P45)	7
1.9.2	Operational Phase Impacts (Table 9, P46).....	7
1.9.3	Decommissioning Phase Impacts (Table 10, P46).....	8
1.9.4	Cumulative Impacts (Table 11, P47).....	8
1.10	SECTION 7: MITIGATION MEASURES (P.....	8
1.11	SECTION 8: STAKEHOLDER ENGAGEMENT (P51)	8
1.12	SECTION 9: CONCLUSIONS.....	8
1.13	FINDINGS AND RECOMMENDATIONS OF PEER REVIEW	8
	ANNEXURE A: CV	11

1.1 INTRODUCTION

Tony Barbour was appointed by WSP Environmental (Pty) Ltd (WSP) to undertake an independent Peer Review of the Socio-economic Assessment Report prepared for the proposed Maralla East Wind Energy Facility (WEF), located ~ approximately 35 km south of the town of Sutherland in the Northern Cape Province of South Africa.

The Maralla East 250 MW WEF is one of three WEFs proposed by Biotherm for the area. The other two WEFs are the:

- Esiyao 250 MW WEF;
- Maralla West 250 MW WEF.

This report contains the findings of the Peer Review of the Socio-Economic Assessment Report prepared for the proposed Maralla East 140 MW WEF.

1.2 EXPERIENCE WITH SOCIAL IMPACT ASSESSMENTS

Tony Barbour has undertaken in the region of 200 SIA's, including approximately 100 SIA's for a renewable energy projects, including wind and solar energy facilities. Tony has undertaken SIAs for solar projects in the study area and is therefore familiar with the local socio-economic conditions and social issues affecting renewable energy projects in the area.

Tony has also undertaken a number of reviews of SIAs, including review of SIA for the N2 toll road through the Transkei, review of SIA for the Nuclear One programme, review of SIA for the N3 toll road Harrismith bypass, and review of SIA for proposed N1/N2 Winelands Tolling project. 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. A copy of Tony Barbour's CV is attached in Annexure A.

1.3 TERMS OF REFERENCE AND APPROACH

The terms of reference for the peer review were to review the Social Impact Assessment Reports prepared by WSP for various solar and wind energy projects proposed by Biotherm to ensure that they met with accepted standards. The approach to the review involved:

- A review of the approach adopted in preparing the assessment report;
- A review of the type and quality of information contained in the assessment report;
- A review of the key findings contained in the assessment report; and
- Assessment of conformance of the assessment report with the requirements for Scoping Reports and Specialist Reports (Regulation GNR of 2014, Appendix 2).

1.4 SECTION 1: INTRODUCTION (P1)

Introduction

The introduction provides the reader with the required information on the location of the project, including the nearest town and the distance, the size (140 MW) and reference to

a location map. However, as indicated below, the size of the facility needs to be clarified. The project description refers to the size as 250 MW.

Also recommended that that introduction should indicate where the other Biotherm projects in the area are located relative (proximity, direction etc.) to the proposed facility.

Section 1.1: Scope of Work (p1)

Section is clear and concise. Reference could also be made to the no-go option.

Section 1.2: Objectives of the Report (p1)

Section is clear and concise and addresses the objectives typically associated with an SIA.

Section 1.3: Legislative Framework (p1)

Remove repetition (section is repeated)

Section 1.4: Study Approach and Methodology (p3)

Section provides a detailed description of the study approach and methodology, and includes reference to site visit and interviews. A clear declaration of independence is also provided.

No reference is made of interviews with adjacent landowners. If adjacent landowners have not been interviewed, this should be indicated in the report. The section does note that the outcomes of the Scoping Phase stakeholder engagement (including review of meeting minutes, comment and response reports) were reviewed to obtain insight into the socio-economic issues and concerns raised by stakeholders. These documents should be referenced, and dates of meetings etc. provided.

It is also recommended that a Section on Assumptions and Limitations be added.

A Section at the end of Section 1, indicating the main sections of the report, could also be considered.

1.5 SECTION: DESCRIPTION OF PROJECT (P8)

Introduction refers to 250 MW, while Section 1 refers to 140 MW. This issue should be clarified. The rest of the section which is made up of Section 2.1, 2.2 and 2.3, provides the reader with a clear and detailed description of the project and the components associated with the WEF. In this regard key information on the affected farm properties, size and height of the wind turbines, proposed location of wind turbines on the site, access roads, substations, etc., is provided. This information meets the requirements for Assessment.

The section on the construction and operational phase should also include:

- Estimated number of workers employed during the construction phase;
- Options for accommodation of construction workers;
- The duration of the construction phase;
- The number of employment opportunities associated with the operational phase;
- Clarity should also be provided on what items are likely to make up the Operational Budget.

This information is required in order to identify and assess the potential impacts (positive and negative) associated with the proposed project.

Section 2.4: Alternatives (p12)

The section on alternatives provides a concise and clear description of the information on Site Alternatives, Technology Alternatives, Layout Alternatives and the No-Go Alternative. This information meets the requirements for Assessment.

1.6 SECTION 3: DESCRIPTION OF THE AFFECTED ENVIRONMENT (P15)

Overview of the provincial (Western Cape and Northern Cape) context provides the required information at this level (Section 3.1 and 3.2).

Comments:

- Definition of dependency ratio should be provided to explain relevance;
- Repetition of 5.8 million for WC population;
- The section also refers to the Central Karoo DM. However, there is no reference to the Namakwa DM in the Northern Cape. This should be added;
- Reference is made to income levels, this should also be linked to poverty (households that earn less than R 3500/month or less are regarded as being vulnerable).

Section 3.3: Local economic activities (p24)

Section 3.3 provides a short description of the economic activities in the local municipalities. It would be useful if information on the percentage contribution of the different sectors to GDP and employment could be provided.

The section also provides a good overview of other renewable energy facilities located in the study area, and their status.

Section 3.4: Local communities (p25)

The section describes adjacent land uses to the site and the closest local towns in the area. The terminology is potentially misleading as it would appear that many of the "settlements" are actually farms. Figure 15 also creates the impression that there are a number of "settlements". This may raise concerns with authorities if the impression is created that the facility will impact on settlements as opposed to farms. Recommended that the terminology be changed to reflect that the "settlements" reflected in Figure 15 are more likely to be clusters of farm buildings.

The section should also include a description of the town of Laingsburg. In describing the towns of Laingsburg and Sutherland it would also be provide a bit more insight into the activities and challenges in these towns, for example, Sutherland relies on tourism, especially during winter months, also home of SALT Observatory and this is also a key attraction. Laingsburg is located on the N2, relies on passing traffic, but this has also created challenges linked to prostitution etc.

The section would also benefit from a description of the local land uses in the vicinity of the site, the topography and the road network in the area, as this will have implications for potential traffic related impacts during construction phase.

1.7 SECTION 4: SOCIO-ECONOMIC POLICY AND PLANNING CONTEXT (P30)

Section provides a detailed summary of the relevant national, provincial and municipal (district and local) policy and planning documents that are relevant to the proposed project. The section meets the requirements for an assessment report.

It would be useful to include a map showing the location of the proposed site relative to the Komsberg REDZ.

1.8 SECTION 5: FINDINGS (P35)

The introduction should identify the names of the small towns located in the vicinity of the site (Laingsburg and Sutherland). Comments on key findings are provided below.

1.8.1 Construction Phase

Employment (p35)

Section notes that ~ 64 jobs will be created of which ~ 45 will go to HD workers, but then goes on to note that these benefits are therefore likely to be recognised at both a local, regional and national level, and that proposed project has the potential to provide a significant number of unskilled employment opportunities within the local municipal area.

Comment: Benefits are likely to be confined to local and regional level, and given the relatively low numbers cannot be called significant, also reference to significant number of households etc. Recommend that term significant be removed.

Economic opportunities (p36)

The larger towns in the area that are likely to benefit are Worcester, Paarl and Cape Town etc. Beaufort West not likely to play a role, likewise Matjiesfontein may provide accommodation, but unlikely that Fraserburg is going to benefit or be able to provide services. It would also be worth mentioning that the potential opportunities in terms of catering, security etc. can benefit local SMME's that meet BBBEE requirements.

Disruption due to influx of job seekers and increase in communicable diseases and reduced public health (p37)

Recommend that headings of these two sections be reconsidered and changed around. The first should be linked the social impact associated with the presence of construction workers. The behaviour of these workers can result in a number of potential social impacts including an increase in communicable diseases and reduced public health. However, can also impact on family and social networks due to construction workers having relationships with local women, some of whom may be married or in relationships, unplanned pregnancies etc. In addition, may result in increase in prostitution, drug and alcohol use etc. These potential impacts are all linked to formally employed workers. This should be spelled out under a section linked to formal workers.

The influx of job seekers can also create similar impacts, but needs to be dealt with as a separate section, which follows on after the section on workers.

Change in sense of place (p38)

Change in sense of place is more typically associated with the operational phase. However, noted that increase in traffic would impact on sense of place. Traffic is however dealt with in the following section. Would be useful to note that the impacts would be confined to a 18-24 month period.

Nuisance from noise, dust and traffic disturbances (p38)

It would be useful to give an indication of the number of heavy vehicle trips generated by the construction phase and also the key roads that would be used. Section should if possible also comment on the importance of the Roggeveld Road as a tourist road, and the volume of traffic along the road under normal conditions (simple observation would be fine).

Increased risk to neighbouring land users (p38)

Issue is adequately addressed and described.

Increased risk of veld fires (p39)

Issue is adequately addressed and described. However, should add that the potential risk is likely to be higher during the dry, summer months.

1.8.2 Operational Phase (p39)

Employment opportunities (p39)

Issue is adequately addressed and described. However, the potential benefits in terms of long-term employment are therefore likely to be recognised at a local and regional level. It is recommended that reference to national level be removed.

Increased economic development opportunities (p39)

Current status in terms of Community Trusts is uncertain, however, mention should be made of the Community Trust requirements and the benefits that this can create for local communities in the area, especially an area with limited economic opportunities. It would also be useful to provide a breakdown and more clarity on the R 2.625 billion operational budget. What percentage of this will go to LED projects, etc.

Change in sense of place (p40)

Issue is adequately addressed and described, with reference to the findings of the VIA. It would also be worth noting that the site is located within the Komsberg Wind REDZ. The area has therefore been identified as being suitable for the establishment of WEFs.

Additional potential benefits

- The project also represents an investment in renewable energy infrastructure, which for a country with one of the world's highest per capita CO₂ emission levels represents a positive societal benefit, even though the over contribution in terms of energy is low;
- Benefit to local farmers who have turbines on their farms. Farming in the area is marginal, so the additional income represents a significant benefit for these farmers. May allow them to invest in farming etc.

Additional potential negative impacts

- Impact on tourism, this likely to be low.

1.8.3 Decommissioning Phase (p40)

The section identifies and comments on the issues that are likely to be associated with the decommissioning phase namely:

- Job losses (p40);
- Short term employment associated with removing structures etc. (p40). The number of jobs created should be indicated and the duration;
- Disturbances to adjacent landowners, which would be similar to those associated with the construction phase, and include dust, risk to local farmers and grass fires)(P41).

1.8.4 Cumulative impacts (p41)

The section considers renewable projects within 10 km of the site.

Increased local economic development opportunities (p41)

Issue is adequately addressed and described. However, the section should also comment on the limited economic opportunities that are available in the small towns like Laingsburg and Sutherland and the benefits that renewable energy can create. In addition, important to note that wind energy projects do not prevent existing agricultural activities to continue and they are also resource (specifically water) efficient.

Also useful to differentiate between the cumulative impacts associated with the construction and operational phases.

Increased pressure on local service provision (p42)

As above, useful to differentiate between the cumulative impacts associated with the construction and operational phases.

The establishment of the proposed Brandvalley WEF and the other renewable energy facilities in the Komsberg REDZ will place pressure on local services in the towns of Sutherland and Laingsburg, specifically medical, education and accommodation. This pressure will be associated with the influx of workers to the area associated largely with the construction and to a lesser extent the operational phases of the renewable energy projects proposed in the area. The potential impact on local services can be mitigated by employing local community members. The presence of non-local workers during both the construction and operation phase will also place pressure on property prices and rentals. As a result, local residents, such as government officials, such as municipal workers, school teachers and the police, may no longer be able to buy or afford to rent accommodation in towns such as Sutherland and Laingsburg. This is a key issue.

However, also important to note that this impact should also be viewed within the context of the potential positive cumulative impacts for the local economy associated with the establishment of a renewable energy hub in the area. These benefits will create opportunities for investment in Laingsburg and Sutherland, including the opportunity to upgrade and expand existing services and the construction of new houses. In this regard the establishment of a renewable energy hub will create a unique opportunity for these towns to develop. It should also be noted that it is the function of national, provincial and local government to address the needs created by development and provide the required services. The additional demand for services and accommodation created by the establishment of development renewable energy projects in the Komsberg REDZ should therefore be addressed in the Integrated Development Planning process undertaken by the KHLM and LLM.

Impact on sense of place (p42)

This issue should also be viewed within the context of the proposed site being located within an area that has been identified as a Renewable Energy Development Zone by the CSIR

under the DEAs SEA process. The area has therefore been identified as an area where renewable energy should be concentrated.

1.8.5 No-go alternative (p43)

Issue is adequately addressed and described.

1.8.6 Social sensitivity (p43)

Section on social sensitivity provides a clear and concise description of the potentially sensitive land uses and settlements in the vicinity of the site. It may be worth considering moving this section to Section 3, Description of the Affected Environment, and adding as Section 3.5, after Section 3.4, the description of the local communities.

1.9 SECTION 6: ASSESSMENT OF IMPACTS (P45)

1.9.1 Construction Phase Impacts (Table 8, P45)

Based on the findings of the review and experience with similar projects, recommended that the following significance ratings be reconsidered:

Increase in employment opportunities

- Medium (positive impact) without mitigation. Would rate this as Low + without mitigation as this assumes that there is limited local employment created;
- High (positive impact) with mitigation. Given the short duration and limited number of employment opportunities, this should be rated as Medium +

Increased economic development opportunities

- Medium (positive impact) without mitigation. Would rate this as Low + without mitigation as this assumes that there is limited local opportunities created;
- High (positive impact) with mitigation. Given the short duration this should be rated as Medium +

Disruption due to influx of job seekers¹

- Medium (negative) without mitigation. Agree
- Medium (negative) with mitigation. Would rate this as Low -

Increase in communicable diseases and public health²

- Medium (negative) without mitigation. Agree
- Medium (negative) with mitigation. Would rate this as Low - as assumes that more local workers are appointed as opposed to having outsiders in the area.

Increased risk to neighbouring land users

- Low (negative) without mitigation. Would rate this as Medium -
- Low (negative) with mitigation. Agree

1.9.2 Operational Phase Impacts (Table 9, P46)

Based on the findings of the review and experience with similar projects, recommended that the following significance ratings be reconsidered:

¹ Also see comments above re influx and presence of workers

² See comments above re impacts on family networks etc. This heading should be changed to reflect this.

Increased employment opportunities

- Medium (positive impact) without mitigation. Would rate this as Low + without mitigation as this assumes that there is limited local employment created;
- Medium (positive impact) with mitigation. Agree.

As indicated above the following benefits and impacts should be considered and added.

- Investment in renewable energy infrastructure;
- Benefit to local farmers who have turbines on their farms;
- Impact on tourism (low - and also potential for low +)

1.9.3 Decommissioning Phase Impacts (Table 10, P46)

The findings of the review support the findings contained in Table 10.

1.9.4 Cumulative Impacts (Table 11, P47)

Section provides a clear overview and assessment of the potential cumulative impacts. Would recommend that rating of economic benefits be revised to Medium Positive without mitigation, as this could imply that the majority of the benefits accrue to outside companies and workers.

1.10 SECTION 7: MITIGATION MEASURES (P

The mitigation measures listed for the Construction and Operational Phase are regarded as appropriate and provide the required detail to address the issues raised.

1.11 SECTION 8: STAKEHOLDER ENGAGEMENT (P51)

As indicated above (comment in Section 1.4, Study approach and methodology), no reference is made of interviews with adjacent landowners. If adjacent landowners have not been interviewed, this should be indicated in the report.

The section on stakeholder engagement should also indicate when meetings and site visits were undertaken to the study area.

1.12 SECTION 9: CONCLUSIONS

The findings of the conclusions are supported by the review. Recommended that section also note that the study area is located within the Komsberg Wind REDZ.

1.13 FINDINGS AND RECOMMENDATIONS OF PEER REVIEW

The overall finding of the Peer Review is that the SIA Report identifies the majority of the key social impacts typically associated with wind farm projects and provided decision makers with the required information to take an informed decision.

As indicated above, recommended that the following be included in the final report:

- Section on Assumptions and Limitations;

- Comment on site visit and meetings with local farmer owners in the vicinity of the site;
- Include additional issues for operational phase;
- Reconsider some of the significance ratings based on the comments provided;
- Consider moving section on Social Sensitivity to Section 3, Description of the Affected Environment, and adding as Section 3.5, after Section 3.4, the description of the local communities.

Table 1 below summarises the compliance of the Scoping Report in terms of the requirements for Scoping and Specialist Reports (Appendix 2 and 6, GNR 982). The table identifies gaps that need to be addressed.

Table 1: Contents of the Specialist Report – Checklist for Appendices 2 (Scoping) and 6 (Specialist Reports) of GNR 982

Regulation GNR 982 of 2014, Appendix 6	Section of Report
(a) details of the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a <i>curriculum vitae</i> ;	Provided
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Provided
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Yes, adequately addressed.
(d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	N/A
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Yes
(f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Yes
(g) an identification of any areas to be avoided, including buffers;	N/A
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Yes, map provided showing location of nearest settlements
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	No, this to be added
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Yes.
(k) any mitigation measures for inclusion in the EMPr;	Yes
(l) any conditions for inclusion in the environmental authorisation;	No, but recommended that Conclusion refer to implementation of key measures identified in SIA
(m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Not Required
(n) a reasoned opinion— i. as to whether the proposed activity or portions thereof should be authorised; and ii. if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr or Environmental Authorization, and where applicable, the closure plan;	Yes
(o) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Yes
(p) any other information requested by the competent authority	Not applicable.

Regulation GNR 982 of 2014, Appendix 2 – Scoping Process	Section of Report
Description of any policies or legislation or guidelines relevant to your field that the applicant will need to comply with.	Yes
Comment on need/desirability of the proposal in terms of your field and in terms of the proposal's location.	Yes
Description of methodology used in determining significance.	Yes
Assessment of alternatives including the environmental attributes associated with each alternative.	Yes
For each alternative, determine the-- (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and (ii) degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources, and (cc) can be avoided, managed or mitigated;	Yes
Determine positive and negative impacts that each alternative will have on the environment.	Yes
Identify suitable measures to avoid, manage or mitigate identified impacts.	Yes
Identify residual risks that need to be managed and monitored.	Yes
A concluding statement indicating a preferred alternative and preferred location in terms of your field.	Yes
State if further study is required and include description of this methodology.	No, but no further work likely to be required

ANNEXURE A: CV

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 aim of the framework was 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.