

**WIND GARDEN WIND FARM, EASTERN CAPE PROVINCE  
(DFFE Reference No.: 14/12/16/3/3/1/2314)**

**COMMENTS AND RESPONSES REPORT**

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The Wind Garden Wind Farm Basic Assessment (BA) Process was announced together with the Development of a Cluster of Renewable Energy Facilities located between Somerset East and Makhanda, Eastern Cape Province on Tuesday, 17 November 2020. The Background Information Document was distributed together with a notification letter which served to invite Interested and Affected Parties (I&APs) to register their interest in the project and to submit any comments / queries that they might have on any of the proposed developments or all. All written comments received during the BA process to date have been included in the table below and included in **Appendix C7** of the Basic Assessment (BA) Report.

The BA (BA) Report was initially made available for a 30-day review and comment period from **Thursday, 04 March 2021** until **Wednesday, 07 April 2021**, and was extended with a further 27 days until **Thursday, 06 May 2021** at the request of I&APs. The Comments and Responses Report (C&RR) has been updated with comments received during the review and comment period and the written comments received are included in **Appendix C7** of the final BA Report. The C&RR is included as a separate appendix to the final BA Report as **Appendix C9**.

**NOTE:**

All comments captured in the C&RR are verbatim and have not been summarised.

**LIST OF ABBREVIATIONS / ACRONYMS**

AIA	Avifauna Impact Assessment	NEMPAA	National Environmental Management: Protected Areas Act
BA	Basic Assessment	NHRA	National Heritage Resources Act
BAR	Basic Assessment Report	NU	Non-urban
BID	Background Information Document	OoS	Organs of State
BLSA	BirdLife South Africa	PA	Protected Area
CRR	Comments and Responses Report	PDP	Eastern Cape Provincial Draft Development Plan
CIPC	Companies and Intellectual Property Commission	PE	Protected Environment
DEFF	Department of Environment, Forestry and Fisheries	PGRs	Private Game Reserves
DFFE	Department of Forestry, Fisheries and the Environment	REDZ	Renewable Energy Development Zone
DHSWS	Department of Human Settlements, Water and Sanitation	SACAA	South African Civil Aviation Authority
DWS	Department of Water and Sanitation	SANRAL	South African National Roads Agency Ltd
EAP	Environmental Assessment Practitioner	SARAO	South African Radio Astronomy Observatory
EIA	Environmental Impact Assessment	SAWS	South African Weather Services
EC DEDEA&T	Eastern Cape Economic Development, Environmental Affairs and Tourism	SEIA	Socio-economic Impact Assessment
EMPr	Environmental Management Programme	SKA	Square Kilometer Array
HIA	Heritage Impact Assessment	VE	Verreux Eagles
I&AP	Interested and Affected Party	VIA	Visual Impact Assessment
IDP	Integrated Development Plan	WEF	Wind Energy Facility
KWS	Key Stakeholder workshop	WR	Wind Relic
NEMA	National Environmental Management Act	WRSA	Wildlife Ranching of South Africa
NEMBA	National Environmental Management: Biodiversity Act		

## 1. COMMENTS RECEIVED DURING THE REVIEW AND COMMENT PERIOD OF THE BASIC ASSESSMENT REPORT

### 1.1. Organs of State

No.	Comment	Raised by	Response
1.	<p>Please follow the SACAA procedure and processes on Wind Farm application. This would form part of the Said process / comments:  <a href="http://www.caa.co.za/Pages/Obstacles/Urgent-notice.aspx">http://www.caa.co.za/Pages/Obstacles/Urgent-notice.aspx</a>  <a href="http://www.caa.co.za/Obstacles%20Forms/CA139-26.pdf">http://www.caa.co.za/Obstacles%20Forms/CA139-26.pdf</a></p> <p><b>Information template Windfarms Development around Aerodromes – included in Appendix C7 of the final BAR</b></p>	<p>Lizell Ströh                      Obstacle Inspector                      PANS-OPS Section                      Air Navigation Services                      Department                      SACAA</p> <p>E-mail: 04 March 2021</p>	<p>The developer has not yet submitted an application for the following reasons:</p> <p>The first wind farm, Wind Garden will consist of a maximum installed capacity of 147MW, which equates to 35 turbines due to nameplate size.</p> <p>The Wind Garden and Fronteer applications total 85 turbines, however the applicant will need to await EA to optimise the 35 turbine layout before submitting application to SACAA.</p> <p>The remaining 50 turbines will be constructed in a phased manner over a number of years. The applicant will submit specific applications to the SACAA for this as relevant.</p>
	<p>Would you kindly excuse me from the said meeting.</p> <p>I would appreciate feedback from the meeting.</p> <p>Would you kindly indicate the obstacle application process, back to the developer as was previously communicated on previous WF projects.</p>	<p>E-mail: 29 March 2021</p>	<p>A copy of the draft Meeting Notes was sent to Ms Stroh on Friday, 07 May 2021.</p> <p>The applicant has been advised of the obstacle application process as requested. Refer to response from applicant above.</p>
2.	<p>Please provide the Department with a direct link to download the reports in question i.e. without the need to go to the website. I have tried the website but cannot locate / access to the two BAR's in question.</p>	<p>Andries Struwig                      Manager: EQM                      Cacadu Region                      EC DEDEA&amp;T</p> <p>E-mail: 04 March 20-21</p>	<p>The direct link was provided including the release code to ease the download of the BA Report on 04 March 2021.</p> <p>An electronic copy of the BA Report was also sent via WeTransfer and a copy on CD was couriered to the Official (refer to <b>Appendix C5</b> of the revised BA Report).</p>

No.	Comment	Raised by	Response
	<p>Further to the email below can you please confirm when you will provide the WeTransfer link for downloading the reports.</p> <p>Furthermore, I have noted that the cluster of renewable energies between Somerset East and Makhanda includes all the projects as listed below. Please provide the Department with a detailed map that shows all these projects in context and in relation to each in order for the Department to have a clear understanding of the greater area involved. Please also provide the Department with the current status of each one of these projects.</p>	<p>Andries Struwig                      Manager: EQM                      Cacadu Region                      EC DEDEA&amp;T</p> <p>E-mail: 05 March 2021</p>	<p>An electronic copy of the BA Report was also sent via WeTransfer and a copy on CD was couriered to the Official (refer to <b>Appendix C5</b> of the revised BA Report).</p> <p>The locality map, as included in the BID, was sent to the stakeholder on 05 March 2021, including details of the project status of the eastern and western clusters.</p>
3.	<p>Please find attached Eskom requirements for works at or near Eskom infrastructure. Please find attached the Eskom setbacks guideline for consideration by the applicant. Please send me KMZ files of the affected properties, proposed development areas and proposed grid connection.</p> <p><b>Renewable Energy Generation Plant Setbacks to Eskom Infrastructure included in Appendix C7 of the final BA Report</b></p> <p>Eskom requirements for work in or near Eskom servitudes.</p> <ol style="list-style-type: none"> <li>1. Eskom's rights and services must be acknowledged and respected at all times.</li> <li>2. Eskom shall at all times retain unobstructed access to and egress from its servitudes.</li> <li>3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals.</li> <li>4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.</li> <li>5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his</li> </ol>	<p>John Geeringh                      Senior Consultant                      Environmental                      Management                      Land and Rights                      Eskom Transmission Division                      Eskom Holdings SOC Ltd</p> <p>E-mail: 07 March 2021</p>	<p>The requested KMZ files were e-mailed to the stakeholder on 07 March 2021 (refer to <b>Appendix C7</b> for email proof).</p> <p>The stakeholder's attention was drawn to the fact that the Basic Assessment for the proposed Grid Connection project (MTS) has not yet commenced.</p> <p>The requirements for development at or near Eskom infrastructure servitudes are noted. These requirements have been submitted to the developer for their attention and consideration for the development.</p> <p>In addition, the need to comply with Eskom requirements (as applicable) will be included into the EMPr for the project.</p>

No.	Comment	Raised by	Response
	<p>equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.</p> <p>6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.</p> <p>7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.</p> <p>8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.</p> <p>9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or</p>		

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	<p>precautionary instructions to be issued by the relevant Eskom Manager</p> <p>Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.</p>		
	<p>10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</p>		
	<p>11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</p>		
	<p>12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</p>		
	<p>13. Equipment shall be regarded electrically live and therefore dangerous at all times.</p>		
	<p>14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</p>		
	<p>15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</p>		
	<p>16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant</p>		

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	17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.		
4.	May you please send kmz files.	Khululwa Gaongalelwe Eskom Holdings SOC Ltd  E-mail: 09 March 2021	The requested .KMZ files were e-mailed on 09 March 2021 (refer to <b>Appendix C5</b> of the revised BA Report).
5.	The proposed Wind Garden WEF is located approximately 17km north-west of Makhanda (previously known as Grahamstown) within the Makana Local Municipality and the Sarah Baartman District Municipality in the Eastern Cape Province.  A study performed at the current scan strategy on all wind turbines, calculated using a total "toe to tip" turbine height with respect to East London and Port Elizabeth radars, it was found that the Wind Garden WEF will have no significant impact on both Radars. Thus, South African Weather Service supports the development or installation of the wind energy farm in this specified location.	Bernard Petlane Senior Manager: Technical Services SAWS  Letter: Undated (email: 15 March 2021)	The comments are noted as part of the process. No further action is required.
6.	Water use authorisation required where necessary. Use DWS regional office as entry and exit.	Ackerman Pieter Chief Landscape Architect Sub Directorate Instream Water Use DWS  E-mail: 18 March 2021	It can be confirmed that the relevant official at the DWS's Eastern Cape Offices has been identified and notified of the project and availability of the BA Reports for comment. The requirement for a Water Use Authorisation is considered within the BA Report (refer to Chapter 5).
7.	This letter is in response to the proposed development of the above-mentioned wind farm and its possible impact on the Square Kilometre Array radio telescopes.	Salaelo Matlhane Spectrum & Telecommunication Manager	The comments are noted as part of the process. No further action is required.

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	<p>Based on the information provided, the inclusion of a commercial wind farm and its associated infrastructure will not negatively impact the SKA through radiation of electromagnetic emissions as the facility is located in the Eastern Cape and is far removed from the SKA territory. Therefore, SARAO considers the project to be of low risk and does not anticipate that there will be a detrimental impact on the SKA.</p> <p>Thank you for your correspondence, SARAO will not participate any further in the consultation process.</p>	<p>SARAO</p> <p>Letter: 24 March 2021</p>	
8.	<p><u>This letter serves to inform you that the following information must be included to the final BAR:</u></p> <p><b>a) Listed Activities</b></p> <ul style="list-style-type: none"> <li>• Please ensure that all relevant listed activities are applied for, are specific and can be linked to the development activity or infrastructure as described in the project description. Only activities applicable to the development must be applied for and assessed.</li> <li>• If the activities applied for in the application form differ from those mentioned in the final BAR, an amended application form must be submitted. Please note that the Departments application form template has been Amended and can be downloaded from the following link <a href="https://www.environment.gov.za/documents/forms">https://www.environment.gov.za/documents/forms</a></li> <li>• It is imperative that the relevant authorities are continuously involved throughout the basic assessment process as the development property possibly falls within geographically designated areas in terms of numerous GN R. 985 Activities. Written comments must be obtained from the relevant authorities and submitted to this Department. In addition, a graphical representation of the proposed development within the respective geographical areas must be provided.</li> </ul>	<p>Lunga Dlova                      Case Officer                      DFFE</p> <p>Letter: 01 April 2021</p>	<ul style="list-style-type: none"> <li>» All relevant listed activities have been identified and applied for. The specific aspect of the project activities associated with each Listed Activity is detailed in the application and in the BA Report (refer to Chapter 5).</li> <li>» The activities in the application form do not differ from those in the BA Report.</li> <li>» Relevant authorities and Organs of State have been involved in the BA process from the outset. Geographically designated areas in terms of numerous GN R. 985 Activities have been identified to be associated with the proposed project and are included in the application form and BA Report.</li> </ul>



No.	Comment	Raised by	Response
	<p><b>b) <u>Layout &amp; Sensitivity Maps</u></b></p> <ul style="list-style-type: none"> <li>• Please provide a layout map which indicates the following:                             <ul style="list-style-type: none"> <li>a) A map showing the proposed locations of the Fronteer, Wind Garden, Hamlett, Ripponn, Redding and Aeolus WEFs and the grid line with associated infrastructure for each development</li> </ul> </li> </ul>		<p>a) A map showing all projects and associated infrastructure is included in Figure 1.3 of the BA Report.</p>
	<p>b) The proposed grid infrastructure for each of the above facilities; and</p>		<p>The grid infrastructure is indicated in Figure 1.3.</p>
	<p>c) All supporting onsite infrastructure e.g. roads (existing and proposed).</p>		<p>The optimised layout showing all supporting onsite infrastructure for the Wind Garden Wind Farm is included as Figure 12.2 of the BAR.</p>
	<ul style="list-style-type: none"> <li>• Please provide an environmental sensitivity map which indicates the following:                             <ul style="list-style-type: none"> <li>a) The location of sensitive environmental features on site e.g. CBAs, heritage sites, wetlands, drainage lines etc. that will be affected</li> </ul> </li> </ul>		<p>Environmental sensitivities are mapped in Chapter 9 of the BA Report and also presented within the various specialist reports. An overall sensitivity map overlain with the facility layout is provided in Chapter 12 (Figure 12.1) and Appendix O.</p>
	<p>b) Buffer areas; and,</p>		
	<p>c) All "no-go" areas,</p>		
	<ul style="list-style-type: none"> <li>• The above layout map must be overlain with the sensitivity map and a cumulative map which shows neighbouring renewable energy developments and existing grid infrastructure</li> </ul>		
	<ul style="list-style-type: none"> <li>• Google maps will not be accepted</li> </ul>		<p>No Google maps have been used for the sensitivity mapping.</p>
	<p><b>d) <u>Cumulative Assessment</u></b></p> <ul style="list-style-type: none"> <li>• Should there be any other similar projects within a 30km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following:                             <ol style="list-style-type: none"> <li>1. Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e. hectares of cumulatively transformed land</li> </ol> </li> </ul>		<p>Cumulative impacts are assessed within Chapter 11 of the BA Report as well as within the specialist reports (<b>Appendix D – M</b>). Where information on other proposed developments was available, this was used to inform the impact assessment.</p> <p>Cumulative considerations relating to need and desirability are included in section 6.8 of the revised BA Report.</p>

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	2. Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project		
	3. The cumulative impacts significance rating must also inform the need and desirability of the proposed development		
	<b>4. Public Participation Process</b> <ul style="list-style-type: none"> <li>• The following information must be submitted with the final BAR:                             <ul style="list-style-type: none"> <li>a) A list of registered interested and affected parties as per Regulation 42 of the NEMA EIA Regulations, 2014, as amended</li> </ul> </li> </ul>		The list of registered I&APs has been compiled in compliance with Regulation 42 of the NEMA EIA Regulations, 2014, as amended, for the project and the database is included as <b>Appendix C2</b> of the Revised BA Report
	<ul style="list-style-type: none"> <li>b) Copies of all comments received during the draft BAR comment period; and</li> </ul>		All comments received from I&APs, Organs of State and key stakeholders are included in <b>Appendix C7</b> of the Revised BA Report.
	<ul style="list-style-type: none"> <li>c) A comment and response report which contains all comments received and responses provided to all comments and issues raised during the public participation process for the draft BAR. Please note that comments received from this Department must also form part of the comment and response report</li> </ul>		A C&RR has been compiled for the project and all comments received throughout the BA process have been captured in this C&RR.  Comments received from the DFFE have also been included in this C&RR.  The C&RR has been attached as a separate document to the Revised BA Report as <b>Appendix C9</b> .
	<ul style="list-style-type: none"> <li>• Please ensure that all issues raised and comments received during the circulation of the draft BAR from registered I&amp;APs and organs of state which have jurisdiction (including this</li> </ul>		All comments submitted, including those that of the DFFE: Directorate Biodiversity Conservation, have been responded to, as applicable.

No.	Comment	Raised by	Response
	<p>Department's Biodiversity Section (including this Department's Biodiversity and Protected Areas Directorate) in respect of the proposed activity are adequately addressed in the final BAR,</p> <ul style="list-style-type: none"> <li>• Proof of correspondence with the various stakeholders must be included in the final BAR. Should you be unable to obtain comments, proof should be submitted to the Department of the attempts that were made to obtain comments. The Public Participation Process must be conducted in terms of Regulation 39, 40, 41, 42, 43 &amp; 44 of the EIA Regulations 2014, as amended</li> </ul>		<p>Proof of correspondence and consultation with the various stakeholders is included in <b>Appendices C5 and C6</b> of the Revised BA Report, and these Appendices also include the proof of attempts to obtain comments on the BA Report.</p> <p>The Public Participation Process has been conducted in terms of Regulation 39, 40, 41, 42, 43 &amp; 44 of the EIA Regulations 2014, as amended (GNR 326), as well as in accordance with the approved Public Participation Plan (Appendix C1) as follows:</p> <ul style="list-style-type: none"> <li>» <b>Project database:</b> A register of I&amp;APs has been compiled and updated throughout the BA process.</li> <li>» <b>BA process announcements:</b> <ul style="list-style-type: none"> <li>* The BID, accompanied by a cover letter inviting I&amp;APs to register on the project database, was distributed via email to those I&amp;APs identified and the relevant OoS on 17 November 2020 (refer to <b>Appendices C4 &amp; C5</b> of the Revised BA Report.) The BA processes announcement was a combined notification for all nine (9) projects which form part of the larger cluster of renewable energy projects proposed.</li> <li>* Advertisements were placed as follows (refer to <b>Appendix C3</b> of the Revised BA Report):                     <ul style="list-style-type: none"> <li>▪ Hartlandnuus – 12 November 2020</li> <li>▪ The Herald (Eastern Cape) – 12 November 2020</li> </ul> </li> </ul> </li> </ul>

No.	Comment	Raised by	Response
			<ul style="list-style-type: none"> <li>* Site Notices (refer to Appendix C3 of the Revised BA Report)</li> <li>* Process Notices placed at various public libraries throughout the study area (refer to <b>Appendix C3</b> of the Revised BA Report)</li> <li>» <b>BA Report available for review and comment:</b></li> <li>* Report originally available from 04 March until 07 April 2021</li> <li>* Registered I&amp;APs were notified of the availability of the BA Report via e-mail (refer to <b>Appendix C6</b> of the Revised BA Report).</li> <li>* Commenting authorities, municipal councillor and local and district municipalities which have jurisdiction in the area received personalised letter requesting written comments on the BA Report (refer to <b>Appendix C6</b> of the Revised BA Report).</li> <li>* Advertisements were placed as follows (refer to <b>Appendix C3</b> of the Revised BA Report):                         <ul style="list-style-type: none"> <li>▪ Hartlandnuus – 04 March 2021</li> <li>▪ The Herald (Eastern Cape) – 04 March 2021</li> <li>▪ Liveread (radio) on Radio Grahamstown 102.1FM on Thursday, 04 March 2021, morning and afternoon and Friday, 12 March 2021, morning and afternoon.</li> </ul> </li> <li>* Review and comment period extended to 19 April 2021 at request of I&amp;APs:                         <ul style="list-style-type: none"> <li>▪ Email notification to all registered I&amp;APs and OoS distributed on 10 March 2021 (refer to <b>Appendices C5 and C6</b> of the Revised BA Report).</li> </ul> </li> <li>* Review and comment period further extended to 06 May 2021 at request of I&amp;APs:</li> </ul>

No.	Comment	Raised by	Response
			<ul style="list-style-type: none"> <li>▪ Email notification to all registered I&amp;APs and OoS distributed on 16 March 2021 (refer to <b>Appendices C5 and C6</b> of the Revised BA Report).</li> <li>▪ Adverts were placed in the Hartland Nuus (on 01 April 2021) and The Herald (on 08 April 2021)</li> <li>▪ A radio live read on Radio Grahamstown was undertaken on 29 April 2021 advising I&amp;APs of the extended review period.</li> </ul> <p>» <b>Attempt to obtain comments on the BA Report:</b></p> <ul style="list-style-type: none"> <li>* Email reminder e-mail to all registered I&amp;APs and OoS regarding the end of the review and comment period for the BA Report on 06 May 2021 (refer to <b>Appendices C5 and C6</b> of the Revised BA Report).</li> </ul> <p>» <b>Meetings</b> (refer to <b>Appendix C8</b> of the Revised BA Report for meeting notes):</p> <ul style="list-style-type: none"> <li>* Virtual public meetings were held on 15 &amp; 16 March 2021;</li> <li>* Virtual Key Stakeholder Workshop held 29 March 2021</li> <li>* Four (4) face-to-face Public Meetings conducted on 26 March 2021 and 27 March 2021 (morning, midday and evening).</li> </ul> <p>» <b>Consultation:</b></p> <ul style="list-style-type: none"> <li>* Proof of consultation with I&amp;APs and OoS throughout the BA process is included in <b>Appendices C5 and C6</b> of the Revised BA Report.</li> <li>* A summary of the BID was translated into isiXhosa and distributed on 29 April 2021 to community members on the project database but also to the Ward Councillor and her Ward Committee Members (refer to <b>Appendix C6</b> of the Revised BA Report).</li> </ul>

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			<ul style="list-style-type: none"> <li>* A Community Brochure/Question &amp; Answer document which provided information regarding the development of a wind farm in layman terms and included pictures of construction of a wind turbine, etc was distributed on 29 April 2021 to community members on the project database, include to the Ward Councillor, Ward Committee Members and landowners – requesting them to distribute it to occupiers on their property/properties (refer to <b>Appendix C6</b> of the Revised BA Report).</li> <li>» <b>Comments &amp; Responses Report:</b> <ul style="list-style-type: none"> <li>* All comments received regarding the BA process and BA Report have been captured in this C&amp;RR which is attached as a separate document to the Revised BA Report (refer <b>Appendix C9</b> of the Revised BA Report).</li> </ul> </li> </ul>
	<p>Please also ensure that the final BAR includes the period for which the Environmental Authorisation is required and the date on which the activity will be concluded as per Appendix 1(3)(1)(q) of the NEMA EIA Regulations, 2014, as amended</p>		<p>The period for which the Environmental Authorisation is required is included in Chapter 12 of the Revised BA Report.</p>
	<p>You are further reminded to comply with Regulation 19(1)(a) of the NEMA EIA Regulations, 2014, as amended, which states that: <i>"Where basic assessment must be applied to an application, the applicant must, within 90 days of receipt of the application by the competent authority, submit to the competent authority –</i></p> <p style="padding-left: 40px;"><i>a) a basic assessment report, inclusive of specialist reports, an EMPr, and where applicable a closure plan, which have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority."</i></p>		<p>The EAP is cognisant of the prescribed timeframes for a Basic Assessment process.</p>
	<p>Should there be significant changes or new information that has been added to the BAR or EMPr which changes or information was not contained in the reports or plans consulted on during the initial</p>		<p>Additional information has been included within the specialist studies in response to comments raised in the public participation process. The revised report will be made</p>

No.	Comment	Raised by	Response
	<p>public participation process, you are required to comply with Regulation 19(b) of the NEMA EIA Regulations, 2014, as amended, which states: <i>"the applicant must, within 90 days of receipt of the application by the competent authority, submit to the competent authority — (b) a notification in writing that the basic assessment report, inclusive of specialist reports an EMPr, and where applicable, a closure plan, will be submitted within 140 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the basic assessment report or EMPr or, where applicable, a closure plan, which changes or information was not contained in the reports or plans consulted on during the initial public participation process contemplated in subregulation (1)(a) and that the revised reports or, EMPr or, where applicable, a closure plan will be subjected to another public participation process of at least 30 days"</i>.</p> <p>Should you fail to meet any of the timeframes stipulated in Regulation 19 of the NEMA EIA Regulations, 2014, as amended, your application will lapse.</p> <p>You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department</p>		<p>available for public review and comment in accordance with the requirement of Regulation 19(1)(b). The Department was notified that the report will be submitted within 140 days of receipt of the component authority on 17 May 2021 (refer to <b>Appendix B</b> of the Revised BA Report).</p> <p>The final report will be submitted within the prescribed timeframe.</p> <p>The applicant is aware of this requirement.</p>
9.	<p>SANRAL has the following comments, with regards to the proposed Wind Garden and Frontier Wind Energy Farms, in relation to the National road R67:</p> <ul style="list-style-type: none"> <li>• No installation of any infrastructure inside the Road Reserve.</li> <li>• The wind turbines must be erected at least 200 metres from the Nation Road Reserve boundary, if this requirement cannot be met, then a good motivation has to be submitted to SANRAL as to why the wind turbines should be erected closer.</li> </ul>	<p>Chumisa Tsolekile-Njingana                      Engineer                      SANRAL</p> <p>E-mail: 30 April 2021</p>	<p>The comments submitted by SANRAL were acknowledgement and submitted to the Applicant for consideration in the design of the facility.</p>

No.	Comment	Raised by	Response
	<ul style="list-style-type: none"> <li>All other buildings / structures should be erected at least 60 metres from the National Road Reserve boundary and / or 500 metres from any intersection.</li> <li>If access is required from the National Road R67, an application for consideration from SANRAL is required, otherwise access can be obtained from the nearest numbered route.</li> <li>A formal application together with the plans of the proposed wind farms must be submitted to SANRAL.</li> <li>Construction of all work may only commence after written approval has been obtained from SANRAL.</li> </ul> <p>Attached is the application process, application form/s (for the development and the access, if required).</p>		

## 1.2. Key Stakeholders and Interested & Affected Parties

No.	Comment	Raised by	Response
1.	<p>Please be advised that our office is unable to access the documentation as we have not received the registration code to date. We have again tried to register as an I&amp;AP on your website as per the instructions without any success. Please see below screenshot of the error message received.</p> <p>Kindly will you provide our firm with access to the relevant documentation as this will impact on our client's ability to comment effectively within the legislated timeframes.</p> <p>I have tried to access the documentation via the release code below but it redirects me to your virtual consultation page (please see screen grab below). Please could you provide us with the WeTransfer link at your earliest convenience.</p> <p>Thank you for sending through the kmz file, I acknowledge receipt. Please see the attached letter in relation to the commenting timeframes. I look forward to your response in relation to this request.</p>	<p>Clarice Arendse            Richard Summers Inc.            E-mail: 03 March 2021</p> <p>E-mail: 10 March 2021</p>	<p>Technical problems were experienced with the upload of the BA Report onto Savannah Environmental's website and the matter was directed to the service provider and received urgent attention, and was resolved on Thursday, 04 March 2021, day one (1) of the 30-day review period.</p> <p>Receipt of the letter referred to was acknowledged.</p>



No.	Comment	Raised by	Response
2.	Let me take this opportunity to thank you on bringing the development close to our rural area. .I thank you for the information.	Ntombodidi Dilima Director Dbongs Trading (Pty) Ltd  E-mail: 03 March 2021	The comment submitted by the I&AP was acknowledged.
3.	<p>Notwithstanding having registered as an I&amp;AP in the manner requested and having met with you together with my clients in connection with these projects (as further evidence of our direct interest in these projects), we are still unable to access the documents. This despite having raised this with your offices yesterday evening and your undertaking yesterday that the reports would be uploaded this morning.</p> <p>As you are aware, the clock on the PPP is now ticking. Your failure to make the reports available timeously is impacting negatively on our clients' ability to review the documentation and to participate in this process. This is unacceptable.</p> <p>Kindly arrange for our offices to be provided with copies of the BARs (and any specialist reports) for these projects as a matter of urgency and in any event before 12 noon today.</p> <p>Please could you provide me with a kmz of the proposed Fronteer and Wind Garden wind farms, and turbine layouts.</p> <p>1. We refer to the abovementioned projects and confirm that we act on behalf of Kwandwe Private Game Reserve ('Kwandwe') and Mr N Orphanides.</p> <p>2. You will recall that on 26 May 2020, we requested access to the draft specialist reports at the earliest opportunity as the information therein would be directly relevant to identifying potential impacts on our client's. You noted then that our clients will be provided with an opportunity to review the information</p>	<p>Richard Summers Director: Richard Summers Inc.  E-mail: 04 March 2021</p> <p>E-mail: 08 March 2021</p> <p>Letter: 10 March 2021</p>	<p>The e-mail correspondence was acknowledged, and the following responses provided via email and in a voice message on Mr Summers' cellphone:</p> <ul style="list-style-type: none"> <li>As a registered I&amp;AP the full 30-day review and comment period was allowed (i.e. 04 March to 07 April 2021).</li> <li>As per the EIA Regulations, 2014, as amended, Regulation 3.(1) the commencement of the 30-day review and comment period starts on 05 March 2021, and excludes the number of public holidays in March 2021 and April 2021.</li> <li>The BA Report for Wind Garden Wind Farm was available on the Savannah Environmental website at 08h00 on the morning of 04 March 2021 and Fronteer Wind Farm was available shortly before 11h25 on the same day.</li> </ul> <p>The requested KMZ file was emailed to the I&amp;AP on 09 March 2021 (refer to <b>Appendix C6</b> of the final BA Report).</p> <p>The letter was acknowledged, and the BA Report review and comment period was extended to Monday, 19 April 2021. This extension was communicated to all registered I&amp;APs on the project database.</p>

No.	Comment	Raised by	Response
	<p>"Once the legislated public participation process commences".</p> <p>3. On 3 December 2020, we met with representatives of Savannah and Wind Relic, together with representatives of Kwandwe at your instigation and request. During that meeting you specifically requested comments from Kwandwe in respect of the abovementioned projects despite the fact that our client had not been provided with copies of any project documentation as requested. At that meeting:</p> <p>3.1. Savannah's representatives indicated that the specific purpose of the meeting was to obtain comments on the projects from our client regarding issues that should be addressed in the specialist reports.</p> <p>3.2. Our client immediately indicated that without access to the reports and the relevant technical information, it was not possible for it to provide any meaningful input or comments. The only documents tabled (but not provided to our client) were several photomontages purporting to illustrate the turbines in the landscape.</p> <p>3.3. We again repeated the request for access to the draft reports as having access to the relevant material would have enabled our clients to get a sense of the project layout, the number of turbines proposed as there may be avoidable impacts to our client's properties and its operations, and to make a meaningful contribution to the discussion.</p> <p>3.4. Hylton Newcombe (of Wind Relic) indicated that the specialists reports were not available and were being reviewed and that it was anticipated that the reports would be finalised during January 2021.</p> <p>4. It seems absurd that our client was requested to provide comments when it had not seen any project information,</p>		

No.	Comment	Raised by	Response
	<p>notwithstanding our repeated requests for access to the draft reports prior to the formal submission of the application. As it turns out, the requisite documentation was only made available to our clients on 4 March 2021 as part of the formal 30-day commenting period.</p>		
	<p>5. The purpose of this letter is to record:</p> <p>5.1. Our clients frustration with the lack of early engagement on the substance of potential impacts on our clients when we had specifically requested this and Savannah had specifically sought our client's input without providing any relevant information which would enable our clients to do so.</p>		
	<p>5.2. Restricting our client's timeframes for comment to 30 days in these circumstances has impacted our clients' ability to formally engage with suitable specialists to interrogate the various specialist reports at the earliest possible stage to ensure that our clients provide meaningful inputs into the EIA process. Regulation 3(8) of the EIA Regulations provides for a 30-day period as bare minimum period for which public participation may be conducted. This does not mean that a 30-day period is appropriate.</p>		
	<p>5.3. The information released for comment in connection with the above projects is voluminous. The BAR alone (for one project) runs to over 300 pages. In addition, at least 10 specialist reports have been made available per project. The total volume of information tabled for each project exceeds 2000 pages per project.</p>		
	<p>5.4. It is not reasonable to expect our clients to digest that level of detailed information and to be able to comment within the stipulated timeframe of 30 days. Our clients obviously would wish to consult with its own specialists, some of whom are not really available at such short notice.</p>		

No.	Comment	Raised by	Response
	<p>6. Rest assured that we will seek to provide as much comment on the BARs as is reasonably possible by the deadline of 7 April but failing a reasonable extension of the timeframe, we will continue to table such further comment as and when we are able to, subject to the availability of the relevant specialists to be appointed by our clients.</p> <p>7. To the extent that any additional comments (submitted after 7 April) are not taken into account by the appointed EAP or DEFF as the competent authority, that is a risk that ultimately will be borne by the project proponents.</p> <p>8. In the circumstances, we hereby request that our clients be afforded at least an additional 21 days to provide comments in respect of the abovementioned projects.</p> <p>9. We shall be most grateful if you will acknowledge receipt hereof.</p>		
	<p>Please see attached hereto our client's consolidated Comments in respect of the Basic Assessment Reports applicable to the proposed Wind Garden and Fronteer Wind Energy Facilities. Due to the size of the Annexures (Annexure A-G), we have created a Dropbox link (below).</p> <p>Dropbox link: <b>link provided in email contained the appendices</b></p> <p>Please feel free to contact our office directly (via Ms. Clarice Arendse at 079 485 9851) should you have any difficulties in accessing the Dropbox link.</p> <p>We shall be most grateful if you will acknowledge receipt hereof.</p>	<p>E-mail: 06 May 2021</p>	<p>As requested, the e-mail and consolidated comments in respect of the BA Report for the proposed Wind Garden and Fronteer Wind Farms including <b>Annexures A to G</b> available on Dropbox was acknowledged.</p>
	<p><b>INTRODUCTION</b></p> <p>1. Richard Summers Inc was appointed by Kwandwe Private Game Reserve ("Kwandwe"), Mr N Orphanides (of the Farm Clifton), Dr Mark Bristow (of Likhanya Game Reserve) and</p>	<p>Richard Summers                  Director: Richard Summers                  Inc.</p>	<p>The comment is acknowledged as part of the process. No response is required.</p>

No.	Comment	Raised by	Response
	<p>Escape Airtours Charters and Transfers (of the Vaalkrans Game Farm) to review and comment on the Basic Assessment Reports ("BARs") for the proposed Wind Garden and Fronteer Wind Energy Facilities ("the proposed Wind Garden and Fronteer WEFs").</p>	<p>Letter: 06 May 2021</p>	
2.	<p>As interested and affected parties, we submit these comments on their behalf. Due to the nature of the concerns and comments raised herein in connection with the reports and the assessment process, these comments have wider application and would be equally relevant to other stakeholders and I&amp;APs.</p>		<p>The comment is acknowledged as part of the process. No response is required.</p>
3.	<p>Our clients – as I&amp;APs - are situated in close proximity to the proposed Wind Garden and Fronteer WEFs and each has a direct and material interest in the outcome of these applications, as they each stand to be the most directly affected stakeholders.</p>		<p>The location and potential impact on the I&amp;APs represented is acknowledged.</p>
4.	<p>The game reserve and ecotourism industry in the Eastern Cape is a highly significant sector that stands to be adversely affected by the proposed Wind Garden and Fronteer WEFs and other developments of a similar nature. Kwandwe also forms part of the statutorily protected and formally declared Indalo Protected Environment ("Indalo PE") which is represented by nine Game Reserves (measuring 76 076,59 hectares in extent). The Indalo PE was founded with the objective to promote biodiversity conservation and ecological sustainability on a much larger scale than individual reserves, and to present a unified voice on issues affecting the tourism and game reserve industry. The potential impact on the Indalo PE has not been identified or assessed.</p>		<p>Impacts on the game reserve and ecotourism industry as a result of the proposed project is assessed within the Socio-Economic Impact Assessment included within the Revised BA Report (refer to Sections 6 and 8 (specifically 8.1.2 b and 8.2.2 b) of the SEIA in Appendix L). Further, the role of Indalo PE in the area has been acknowledged and considered within the assessment of impacts undertaken within the SEIA.</p>
5.	<p>In terms of the conservation and protection of vegetation biodiversity targets and the wildlife conservation value of our client's properties, and the ecosystem protection and ecosystem services the properties provide, the contribution</p>		<p>The role of Indalo PE in the area has been acknowledged and considered within the assessment of impacts undertaken within the SEIA.</p>

No.	Comment	Raised by	Response
	<p>made by our clients individually and collectively is significant. The conservation value and the environmental, social and economic benefits of our clients' respective ecotourism / conservation initiatives hinges entirely on the continued, long-term economic viability of the eco-tourism businesses underpinning the sustainability of the existing operations.</p>		
6.	<p>We have described in these comments how the project level impacts on this sector and on I&amp;APs in question, and specifically the impact on the long-term viability of the eco-tourism businesses and related operations have not been adequately identified, evaluated or assessed in the manner required by NEMA. Nor for that matter have the broader spatial or landscape ecology impacts or biodiversity conservation impacts been investigated in a manner that is both relevant and proportional to the risk of high negative and/or severe project impacts manifesting in connection with the proposed Wind Garden and Fronteer WEFs.</p>		<p>Responses to the specific comments raised are provided in the sections which follow.</p>
	<p><b>SUMMARY OF KEY ISSUES &amp; CONCERNS</b></p> <p>7. A significant majority of the proposed wind turbines across both projects and both sites represent a fatal flaw according to a considered analysis of the visual sensitivity mapping. The mitigation hierarchy is ignored in connection with VERY HIGH NEGATIVE visual impacts and HIGH NEGATIVE visual impacts.</p>		<p>The visual assessment undertaken for the project (Appendix K of the Revised BA Report) concludes that the visual impact of the project is expected to be of high significance. Mitigation is recommended and it is acknowledged that it is unlikely to succeed (refer to Section 9).</p> <p><i>Response from the visual specialist:</i> Regarding the "considered analysis": "These are not intended to be mandatory, but instead provide a useful guide in line with best practice." I don't necessarily agree (or disagree) with all the "considered analysis" thresholds, as I don't have access to the rationale behind them.</p>
8.	<p>No visual simulations of the impact of lights at night from sensitive viewpoints are provided and generally the inadequate attention paid to severity and extent of significant adverse</p>		<p>The VIA addresses the potential night-time visual impacts of lighting (impact significance indicated as <b>high</b>) and recommends the fitment of needs-based night lights in order</p>

No.	Comment	Raised by	Response
	<p>impacts of night lights on the turbines. The direct impact is underplayed. The cumulative impact of night lights in the broader context is unquantified. The significance rating are questionably low for this impact and the reliability and certainty of suggested mitigation is untested. Mitigation measures identified are subject to a significant degree of uncertainty. This impact is unresolved and largely unassessed.</p>		<p>to mitigate the impact to <b>moderate</b>. The project proponent stated that needs-based night lights would be a non-negotiable requirement for the Engineering, Procurement and Construction (EPC) contractor.</p>
9.	<p>Avoidance measures, including the use of protected area buffers and visual buffers, have not been considered as an essential part of the mitigation required to address high impacts.</p>		<p>A site screening exercise was undertaken during the initial stages of planning. This was based on an initial/preliminary turbine layout. The results of the screening exercise were considered and partially incorporated in the subsequent proposed layout by the project proponent.</p>
10.	<p>The buffer required under Regulations under the Civil Aviation Act (Act 13 of 2009), designed to avoid obstacle limitations near airfields, such as the Makhanda (Grahamstown) airfield have been ignored. Comment on the proposals and buffer encroachment is a real concern which must be addressed directly by the CAA and the local airfield.</p>		<p>The buffer between a wind farm and a Small Landing Strip is 1km as per the DEA SEA for REDZ (Table 7; CSIR 2015)</p>
11.	<p>The assessment of impacts associated with specific turbine specifications and ALL associated infrastructure requirements is not addressed. The information regarding project layouts, laydown areas, roads, transmission lines, vegetation clearance etc. associated with ALL infrastructure including boom assembly areas, use of steel or concrete turbine components, location and scale of concrete turbine foundations and associated hardstands are not identified anywhere. All of these aspects contribute to visual, ecological and other impacts. The information relevant to these concerns is absent.</p>		<p>All specialist impact assessments include an assessment of impacts associated with all project infrastructure. The project infrastructure considered in the assessment is described in detail in Chapter 2 of the BA Report.</p>
12.	<p>The public participation process is neither meaningful nor credible. Directly affected impacted landowners were not considered or consulted at the outset of the process with the result that there is no understanding or scoping of what existing</p>		<p>The public participation process is being undertaken in terms of the requirements of the EIA Regulations and the Public Participation Plan approved by DFFE. In terms of the public participation process, it can be confirmed that</p>

No.	Comment	Raised by	Response
	<p>ecotourism operations are operating in the area let alone any credible assessment of impacts on such operations. What efforts have been implemented to contact and inform farmworkers, local communities and occupiers on affected landholdings? How is it even conceivable that the assessment of socio-economic and visual impacts is considered to be relevant and accurate if they have not made any efforts to groundtruth the receiving environment or directly impacted stakeholders? Why is it considered appropriate or best practice that adjacent landowners are being contacted by the socio-economic specialists less than seven days prior to the current deadline for comment submission on the basic assessment reports in order to scope their inputs in a superficial and meaningless attempt to account for the impacts on their livelihoods and operations?</p>		<p>directly affected and adjacent landowners are registered on the project database and were notified regarding the BA process and the availability of the BA Report for review and comment (refer to <b>Appendices C5 and C6</b> of the Revised BA Report).</p> <p>Consultation with and notification to farmworkers and local communities was conducted through the consultation process with the Councillor of Ward 1 in which the proposed development site is located and through the directly affected and adjacent landowners.</p> <p>It is important to note is this comment is applicable to the socio-economic studies undertaken as part of the BA process, and that the contact period referenced was a <u>follow-up survey</u> undertaken to address the comments and concerns raised during the public participation process. The results of these surveys have informed the revised SEIA Report contained in Appendix L of the Revised BA Report. Stakeholders were advised at the public meetings that were held that these <u>additional</u> surveys would be undertaken in order to address comments raised.</p>
	<p>13. A lack of accuracy taints several of the specialist studies and thus, ultimately, the BARs as well. These concerns are substantiated in these comments and the comments by other I&amp;APs. Inaccurate statements, unsubstantiated findings and incomplete analyses prevail. This has the potential to underplay the negative effect of the projects on the surrounding environment and does not giving the decision makers accurate information.</p>		<p>Responses to the specific comments raised in this regard are provided in this Comments and Responses Report, where applicable.</p>
	<p>14. There is a lack of integration of assessment and findings. For example, the inter-relatedness with respect to visual issues and</p>		<p>An integrated specialist workshop which was attended by all specialists was held on 19 August 2020 where the</p>



No.	Comment	Raised by	Response
	<p>heritage issues is superficial and fails to properly account for impacts at the landscape scale.</p>		<p>specialists took note of and interrogated each other's assessments and recommendations to ensure integration across disciplines. Further, specialist reports were shared within the team such that relevant findings could be considered by all specialists as relevant (e.g. visual and SEIA).</p>
	<p>15. Visual exposure, visibility and visual absorption capacity are not addressed adequately. The experiential qualities and the value placed on the landscape as a resource in its own right, and the impacts on landscape integrity are not addressed. The assessment of visual impacts is especially sterile and ineffective. The over-reliance on GIS tools and desktop assessment fails to determine visual impact 'significance' in relation to the local or regional importance of the landscape features, the relative intactness of these, and the effect on the prevailing sense of place.</p>		<p>The visual impact was determined in the context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be <b>high</b>.</p>
	<p>16. Aspects of the avifaunal impacts and associated studies lack the accuracy, comprehensiveness and detail required to fully identify and evaluate project related impacts. Certain survey work is deficient in scope, extent and intensity. The avifaunal impact assessment underplays the potential severity of the potential impacts of the projects on threatened and collision-prone species such as Verreaux's Eagle, Martial Eagle, Crowned Eagle and possibly other species too. The evaluation of the cumulative impacts of the subject projects and other renewable energy projects in the region on local populations of threatened birds is wholly inadequate.</p>		<p>As detailed in the response from the avifauna specialist to the peer review submitted with these comments (refer to Annexure C9g of this CRR), the peer review is flawed and lacking in rigour, and has not fully considered all of the information provided in the report. Despite its superficial criticisms of the ornithological impact assessment, it offers no substantive evidence-based reasons to alter the conclusions reached in the assessment. It remains the case that the Wind Garden site is of low ornithological sensitivity and that the proposed wind farm will not result in any significant ornithological impact. This conclusion is further emphasised by the commitment of the developer to implement an Ornithological Mitigation Plan that is being developed with stakeholders, to ensure the delivery of the proposed mitigation and enhancement measures.</p>

No.	Comment	Raised by	Response
	17. The treatment of the cultural landscape in the basic assessment process is deficient and fails to comply with the Environmental Impact Assessment ("EIA") Regulations (GNR 326 of 4 December 2014, as amended 7 April 2017, Appendix 6).		A Cultural Landscape Assessment has been included in the revised HIA included as Appendix I of the Revised BA Report.
	18. The minimum requirements for HIA reports in section 38(3) of the National Heritage Resources Act ("NHRA") are not adequately described or explained.		<p>Section 38(3) states that:</p> <p>(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:</p> <p>(a) The identification and mapping of all heritage resources in the area affected (This was done through Desktop screening and a field survey – a walk-down of the final area is also recommended in the HIA);</p> <p>(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7 (Assessment of heritage resources were done according to the Site significance classification standards prescribed by the Heritage Western Cape Guideline (2016) – See Appendix 1 of HIA);</p> <p>(c) an assessment of the impact of the development on such heritage resources (Impact tables, methodology and ratings are included in the HIA –Refer to Chapter 7 of the revised HIA (Appendix I of the Revised BAR));</p> <p>(d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development refer to Chapter 9 of the Revised HIA (Appendix I of the Revised BAR));</p> <p>(e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage</p>

No.	Comment	Raised by	Response
			<p>resources (Consultation with communities was not part of the scope of work, but this is covered through the EIA Public participation process. Also, teams do engage with communities when they are available on-site);                      (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives (No feasible alternatives were presented for assessment other than the no go option); and                      (g) plans for mitigation of any adverse effects during and after the completion of the proposed development (Mitigation measures were recommended where required – refer to Sections 7.3, 7.5 and 7.7 of the HIA).</p> <p>The requirements for HIA reports in section 38(3) of the National Heritage Resources Act is included in Section 1.4.4 of the Heritage Impact Assessment (<b>Appendix I</b> of the <u>Revised</u> BA Report). Mitigation measures for the heritage sites identified were discussed in Chapters 4 and 7 of the HIA report.</p> <p>Further to the above, the requirements for HIA reports in section 38(3) of the National Heritage Resources Act is also contained in Section 7.2.3 of the BA Report.</p>
	<p>19. The quantification of the socio-economic impacts and specifically the adverse impact on property values on neighbouring farms and overall effect on the eco-tourism sector is misleading. The studies lack objectivity. The flaws and omissions create an inescapable sense of bias in favour of the proposed developments and thus the reports fall short of the independent the unbiased assessment and specialist opinion that is required by NEMA.</p>		<p>The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>

No.	Comment	Raised by	Response
	<p>20. The treatment of alternatives in the basic assessment process is deficient and fails to satisfy the legal requirements for the investigation and evaluation of alternatives during the basic assessment process.</p>		<p>Chapter 3 of the BA Report details the alternatives considered for the project. Details of how the description within this chapter complies with the requirements of the EIA Regulations is detailed in the table included at the beginning of this chapter. In addition, the “Do Nothing” alternative is assessed within Section 10.3, as per the requirements of the Regulations.</p>
	<p>21. The indirect, cumulative and consequential impacts have not been quantified in circumstances where the proposed Wind Garden and Fronteer WEFs and other projects of a similar nature adversely affect the sustainability of game reserves, statutorily declared protected areas, and ecotourism related operations.</p>		<p>Impacts on the game reserve and ecotourism industry (including indirect, cumulative and consequential impacts) as a result of the proposed project is assessed within the Socio-Economic Impact Assessment included within the Revised BA Report (refer to Sections 6 and 8 (specifically 8.1.2 b, 8.2.2 b, 8.4.2 b and 8.4.4 b) of the SEIA in Appendix L).</p>
	<p>22. The assessment of geohydrological impacts, adequate water availability and the impact of the proposed Wind Garden and Fronteer WEFs on the sustainability of the water resource and the ecological groundwater reserve have not been assessed. The sustainability of water use and water abstraction cannot be divorced from the requirements of NEMA to assess all project related impacts.</p>		<p>A Geohydrological preliminary feasibility study was undertaken by JG Afrika. This is included as Appendix R(6) of the Revised BAR. Further detailed assessments will be undertaken as part of the Water Use License application process, as per the requirements of the DHSWS.</p>
	<p>23. The evaluation and consideration of need and desirability of the proposed Wind Garden and Fronteer WEFs and the compatibility thereof with all applicable policy and relevant policy documents do not satisfy the EIA best practice, nor do they meet the peremptory requirements prescribed by NEMA.</p>		<p>The need and desirability for the development of the Wind Garden Wind Farm has been considered in Chapter 6 of the Basic Assessment, and is considered from an international, national, regional and site-specific perspective in terms of applicable policy and legislation, and Receptiveness and Desirability of the project site to develop the Wind Garden Wind Farm. This is in accordance with the requirements of the EIA Regulations. In addition, the requirements of the DFFE Guidelines for Need and Desirability were considered throughout the EIA process and informed the scope of studies undertaken and the conclusions of the BA process.</p>

No.	Comment	Raised by	Response
	<p>24. The nature of the obligations imposed in terms of NEMA requires the EAP to assess, among other things, the cumulative impact on the environment brought by the proposed Wind Garden and Fronteer WEFs and all other existing and/or proposed WEFs that are in close proximity to the Wind Garden and Fronteer WEFs. This in turn requires the EAP to assess the impact on the sustainability of existing game reserves and eco-tourism operations. Although the socio-economic impact of the proposed Wind Garden and Fronteer WEFs has been identified as a relevant concern in the BARs and specialist assessments, the direct, indirect and cumulative impacts on the actual stakeholders most directly affected by the proposed development have not been quantified (as explained above). The assessment of cumulative impacts is found wanting in several other areas of the specialist studies.</p>		<p>Cumulative impacts on the game reserve and ecotourism industry as a result of the proposed project is assessed within the Socio-Economic Impact Assessment included within the Revised BA Report (refer to Sections 6 and 8 (specifically 8.4.2 b and 8.4.4 b) of the SEIA in Appendix L).</p>
	<p>25. The various information gaps in the reports (as identified in these comments) have the combined effect of compromising the ability of stakeholders and I&amp;APs to engage meaningfully in the basic assessment process and it does not enable them to comprehend and interpret the nature, severity and duration of project related impacts. This undermines the public participation process and renders it meaningless. In several key respects there is no evidence or data in the reports or specialist studies to support key assertions made by the specialists made in favour of the projects. The manner that these assertions have been arrived at are unfounded and unprofessional. The credibility of the process is tainted as a result.</p>		<p>Without details on the information gaps referred to, no response can be provided.</p>
	<p>26. Given the above concerns, various external reviews have been commissioned in order to review the efficacy of the basic assessment process as a whole as well as the specialist inputs relied on in support of the proposed Wind Garden and Fronteer WEFs. All external reviews have identified that the BARs and</p>		<p>The external reviews have been provided to the relevant specialists for response. Please refer to these reviews and responses that are included in <b>Appendix C9a-d</b> of this CRR.</p>

No.	Comment	Raised by	Response
	<p>specialist reports suffer from either fatal flaws or material omissions and as a result cannot serve as a basis for accurate impact evaluation and/or defensible decision-making by the competent authority.</p>		
27.	<p>The gaps and omissions in the assessment are extensive and constitute a material flaw in the basic assessment process. Due to the high levels of speculation and the "missing" categories of relevant information classified by the relevant specialists as unknown, the BARs fail to comply with minimum legal requirements and cannot support reasonable or rational decision-making by the competent authority.</p>		<p>The gaps and omissions referred to in this comment are addressed by the various specialists in their responses to the external reviews (as per the above response). It is unclear what "missing" categories of relevant information classified by the relevant specialists as unknown refers to, as no such reference is made in any of the specialist reports completed for the project.</p>
28.	<p>The data relied upon in the BAR and the socio-economic study in particular is grossly inaccurate and misleading. The investigations undertaken were notoriously superficial. For example, by way of refuting the studies undertaken the figures supplied by Kwandwe indicate that in terms of numbers, approx. 85% of visitors are international tourists, being about 8,418 bed nights per annum on average. The contribution of foreign visitors is ±95% to income, with the average rate per room for a local guest being about 35% of that of a foreign guest. Based on the information obtained from Kwandwe, in excess of 3,000 guests visited the reserve in 2019. About 14% of this were South Africans. The paltry figure of 335 used in the reports is grossly distorted and not accurate. The inaccuracies taint the objectivity of the reporting as a whole, resulting in an unavoidable perception of bias.</p>		<p>Based on comments received during the public review period for the BA report, additional interviews were undertaken by the socio-economic specialist. Based on the information obtained through this process, it was confirmed that the profile of visiting guests is 85% international and 15% domestic.</p> <p>The 335 guests referred to in the report relate to guests visiting the directly affected properties proposed for the establishment of the Wind Garden and Fronteer Wind Farms. This is clarified in the revised SEIA included as Appendix L of the Revised BA report.</p>
29.	<p>The profile of and impact on the immediately affected environment is inadequate both in terms of subjects and issues. The socio-economic report deliberately uses a grossly inaccurate figure for international tourists visiting annually, to substantiate the argument that the impact on the tourism sector is deemed minimal. The figures are wrong and the loss of</p>		<p>The tourism sector is not accounted for as a stand-alone sector according to Statistics South Africa's Standard Industrial Classification reporting of economic activities, rather elements of the industry are accounted for within the trade, agricultural &amp; hunting, as well as finance &amp; business services sectors. The Makana IDP (2019/20) states that</p>

No.	Comment	Raised by	Response
	<p>income is potentially substantial - changing the nature, extent and severity of the impacts. The accuracy of the information is essential. Accuracy is lacking in key respects.</p>		<p>tourism and eco-tourism industries play an important role in terms of private sector economic output in the local economy. The SEIA team has acquired additional secondary and primary data so as to quantify and qualify the output of the tourism industry, both within the immediate vicinity of the proposed WEFs and the broader Makana LM local economy.</p> <p>Based on comments received during the public review period for the BA report, additional interviews were undertaken by the socio-economic specialist. Based on the information obtained through this process, the report has been revised and is included as Appendix L of the Revised BA Report.</p>
	<p>30. According to the socio-economic specialist only "a sample" of landowners was directly consulted. Why? Why is this even considered as remotely acceptable? This flaw is so pervasive in the findings that it cannot be resolved through further revisions or adjustments of the reports. A critical threshold requirement for NEMA compliance is that the reports are prepared by independent specialists. The conclusions adopted reflect a clear bias for and outcome in favour of the development proceeding. This concern - held by many I&amp;APs - is justified given the abject failure to ground-truth the receiving environment. There is no comprehensive attempt at accurate research and no accurate data. I&amp;APs reject the reports and put on record that the objectivity of the process is questioned. Obtaining the relevant data after the conclusions (i.e. to support the development) have already been reached is highly problematic.</p>		<p>It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs. Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&amp;AP Team and the visual impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area. A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. Contact was attempted with a total of 14 adjacent and</p>

No.	Comment	Raised by	Response
			<p>nearby landowners within viewshed of the proposed developed, with only 5 completed responses received. The updated profile will be included in Chapter 3 of the SEIA studies.</p> <p>Based on the information obtained through this process, the SEIA report has been revised and is included as <b>Appendix L</b> of the Revised BA Report.</p>
	<p>31. No accurate information about employment created by existing game farms, or the dependents supported by those employed or their livelihoods and security of tenure is provided.</p>		<p>A key aspect in updating the socio-economic profile of the immediate area is to solicit employment data from as many neighbouring and adjacent properties as are willing to share such data with the SEIA team. In addition, ward-based employment data from secondary data sources will be analysed and interpreted.</p> <p>Where provided, employment data has been reflected within the revised SEIA included as Appendix L of the Revised BA Report. It is noted that <i>Given the small number of responses received from owners in the area, it has not been possible through primary research to estimate the total contribution of the eco-tourism industry to the local Makana LM economy. However, reference is again made to the employment figures for Ward 1, Makana LM, where total formal employment stands at approximately 1,125 individuals. Although not all of the enterprises employing the above stated employees fall within the viewshed of the proposed WEF, it can be assumed that the majority of the jobs are offered in both the eco-tourism industry and agricultural sector.</i></p>
	<p>32. The impact on employment associated with the projects is grossly exaggerated and in respect of the potential negative impact on existing operations it is grossly underestimated. Once</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values</p>



No.	Comment	Raised by	Response
	<p>again, the manner in which information is reported in the BAR's underplays the importance of existing game reserves and ecotourism operations and formally protected nature reserves (such as Kwandwe) and the net benefit these existing operations have on employment and the supply of housing in the area.</p>		<p>are anticipated to be negative (medium and low significance) (refer to Sections 6 and 8 (specifically 8.1.2 b and 8.2.2 b) of the SEIA in <b>Appendix L</b>). Details of contributions to local socio-economic development by Kwandwe, as provided during the Meeting with Mr Angus Sholto-Douglas (Managing Director, Kwandwe), 18 May 2021, are presented in the revised SEIA (refer to Section 3.3.3).</p>
33.	<p>The reports raise more questions than they provide answers: How were the views of direct neighbours integrated into the formulation of the findings? A full explanation is required. How has the potential impact between High Negative Visual Impact, impact on tourism product and investment on adjacent and/or neighbouring game reserves been evaluated? How have existing investments into the wildlife tourism across the sector been quantified? How has the threat or risk of disinvestment (should the proposed WEF's be approved) been scoped, quantified and a significance rating assigned? Has this impact been discounted completely from the cost benefit analysis by mistake of by design? How have the long-term consequences in an enforced change in land use patterns been assessed at local and regional scale?</p>		<p>The updated SEIA report (<b>Appendix L</b> of the Revised BAR) presents detailed profiles of directly and indirectly affected properties in accordance with the responses received from owners and representatives of properties and business entities within viewshed of the proposed WEF developments. Visual impacts are interpreted directly from the information contained within the VIA specialist study. Additional interviews have been conducted with specific game reserve representatives in the area to present more detailed information as to their investment in the area, employment and community projects. This has been captured in the updated reports. Chapters 6 and 7 of the SEIA consider potential tourism industry impacts and property value changes, informed through both primary and secondary (academically published) information sources.</p>
34.	<p>The combined effect of the repeated understated scoring of and unreasonably low significance ratings materially influence the overall accuracy and credibility of the finding of the BARs and specialist studies.</p>		<p>Impact ratings are calculated based on a standard impact assessment methodology developed by Savannah Environmental, and used for the past 15 years. This methodology considers the nature, extent, duration, magnitude and probability of impacts in determining significance, as required in terms of the EIA Regulations. The purpose of utilising this approach is to reduce subjectivity in the determination of impact assessment ratings.</p>

No.	Comment	Raised by	Response
	<p>35. The purpose of a BAR should be to determine the impact of a proposed development on the receiving environment. If the scoring is above 60, the impact is regarded as "High", i.e., "the impact must have an influence on the decision to develop in the area". In this case, the BARs go to great lengths to downplay the impacts, so that the impact is not regarded as "High". This is highly questionable. Not only do we have reason to doubt the accuracy of the scoring of significance ratings, especially with regard to the visual and socio-economic impacts, but where impacts are "High", the no-go option is disregarded or misrepresented. A clear breach of the NEMA mandate mitigation hierarchy which is unexplained and not rationalised.</p>		<p>Impact ratings are calculated based on a standard impact assessment methodology developed by Savannah Environmental, and used for the past 15 years. This methodology considers the nature, extent, duration, magnitude and probability of impacts in determining significance, as required in terms of the EIA Regulations. The purpose of utilising this approach is to reduce subjectivity in the determination of impact assessment ratings. Impact significance ratings are presented before and after mitigation, as required by the Regulations and the DFFE.</p>
	<p>36. These comments highlight several shortcomings of the BARs and the specialist studies. The BARs and the conclusions drawn from them should be rejected, as the reports are not deemed to be factually correct or objective. The underlying data used to support the conclusions and findings is not credible.</p>		<p>Responses to specific comments made in this regard are provided in this comments and responses report.</p>
	<p>37. These issues and concerns are described in more detail below in these comments which must read together with the following Annexures forming part of these comments:                      ANNEXURE A: APPRAISAL CORPORATION REPORT – KWANDWE                      ANNEXURE B: APPRAISAL CORPORATION REPORT – CLIFTON                      ANNEXURE C: OBERHOLZER AND LAWSON REVIEW                      ANNEXURE D: SARAH WINTER REVIEW                      ANNEXURE E: GLOBAL GREEN REVIEW                      ANNEXURE F: AVISENSE REVIEW – WIND GARDEN WEF                      ANNEXURE G: AVISENSE REVIEW – FRONTEER WEF  <b>Appendices are included in Appendix C7 of the Revised BA Report.</b></p>		<p>The contents of the appendices have been noted. These appendices are included in <b>Appendix C7</b> of the Revised BA Report. Responses to these reviews provided by the EAP and various specialists are included in <b>Appendix C9a to C9i</b> of this CRR.</p>
	<p>38. In support of these comments and by way of substantiating the severity of the deficiencies in the assessment process and the reporting to date, we refer in particular to the independent</p>		<p>Responses to specific comments made in this regard are provided in this comments and responses report. Response</p>

No.	Comment	Raised by	Response
	<p>review by Global Green (ANNEXURE E). Each of the comments and concerns raised in the Global Green report is requested to be read as expressly incorporated herein as comments made by I&amp;APs.</p>		<p>to the review by Global Green is provided in Appendix C9h of this CRR.</p>
	<p>39. Overall, the independent review by Global Green concludes that basic assessment reports achieved an 'E' rating in the independent review which means that the content is not satisfactory with several significant omissions or inadequacies in the impact assessment. It also confirms that the contents of the reports and assessment undertaken to date cannot support defensible decision making by the competent authority in terms of sections 2, 23 and 24 of NEMA. The reports should be rejected on the basis of the significant number and materiality of the flaws.</p>		<p>A response to the review by Global Green is included in <b>Appendix C9a</b> of this CRR.</p>
	<p><b>FAILURE TO ASSESS THE CULTURAL LANDSCAPE</b></p> <p>40. As a starting proposition, section 3(2)(b) of the NHRA provides that "<i>landscapes and natural features of cultural significance</i>" form part of the national estate.</p>		<p>Comment noted. No response required.</p>
	<p>41. To adequately address landscape issues, the nature and degree of heritage significance and sensitivity of the receiving environment must be assessed across different scales of analysis at the regional and local scales, and in terms of their relative intactness, representivity and rarity. The outcome of this assessment must then inform a set of consolidated constraints including no-go areas which ultimately influence the layout of the projects. In addition, the cultural landscape affected provides an analytical framework within which individual heritage resources are embedded and linked.</p>		<p>A Cultural Landscape Assessment has been undertaken and included in the Revised HIA (<b>Appendix I</b> of the Revised BAR).</p>
	<p>42. Notwithstanding that the greatest heritage impacts occur at the regional or landscape level, the primary focus of the HIA reports is an assessment of individual structures older than 60</p>		

No.	Comment	Raised by	Response
	<p>years, burials grounds and graves which are under review. Wider considerations are applicable and have been completely disregarded by the specialists.</p>		
	<p>43. Further, notwithstanding the identification of medium to high heritage impacts at a cultural landscape level, the impacts on landscape and sense of place have not been adequately addressed. Instead, the assessment of the impacts (direct and cumulative) of the proposed Wind Garden and Fronteer WEFs on landscape and sense of place is inherently bias towards a predetermined outcome in favour of the developer on the basis that the location of the proposed turbines was negotiated with "the client and the developer". This is evident from the following extract:</p> <p><i>"The proposed location of the turbines, overhead power lines and sub-stations... have been negotiated with specialist input with the developer and the client. This has led to an acceptable placement of turbines (and associated infrastructure) away from heritage sensitive areas. The overall impact... on heritage resources identified during this report is seen as acceptably low after the recommendations have been implemented and therefore, impacts can be mitigated to acceptable levels allowing for the development to be authorised".</i></p>		<p>The EIA project team provides the sensitivity information to the developer who then revisits the layout to avoid these sensitivities in a bid to achieve an environmentally acceptable project. This is an iterative process that is further informed by the inputs received from the public. The PP process allows I&amp;APs an opportunity to provide input to the project proposal, this includes the layout of the facility.</p>
	<p>44. It is not acceptable that the location of turbines is negotiated by specialists with the developer and client (the two are the same) outside of the environmental assessment context. I&amp;APs reject this process outright as flawed and formally question the professional integrity and independence of the EIA consultants.</p>		<p>The EIA project team provides the sensitivity information to the developer who then revisits the layout to avoid these sensitivities in a bid to achieve an environmentally acceptable project. This is an iterative process that is further informed by the inputs received from the public. The PP process allows I&amp;APs an opportunity to provide input to the project proposal, this includes the layout of the facility.</p>

No.	Comment	Raised by	Response
	<p>45. What remains completely absent from the BARs is an explanation or specialist inputs regarding how the cultural landscape impact of the receiving environment (at both spatial and temporal levels) have informed the need and desirability analysis for the proposed Wind Garden and Fronteer WEFs. This is evident from the failure in the VIA and HIA reports to recognise that the landscape – as a resource – has significance in its own right and is potentially worthy of conservation (in its own right).</p>		<p>A Cultural Landscape Assessment has been undertaken and included in the Revised HIA (<b>Appendix I</b> of the Revised BAR).</p>
	<p>46. Given the failure to assess cultural landscape impacts, the following concerns are tabled on behalf of our clients:</p>		
	<p>46.1 The scale of the assessment is disproportionate to the scale and nature of the proposed development, which requires the consideration of landscape issues.</p>		
	<p>46.2 The HIAs ignore the visual sensitivity of the receiving environment related to the proposed WEFs. There is therefore no evidence to demonstrate how the HIA process has informed the preferred layout in terms of combined visual and heritage sensitive mapping and identification of no-go buffer areas.</p>		
	<p>46.3 There is no credible assessment of levels of acceptable change visually-spatially, thematically, or temporally. As a result, there is minimal integration of the HIA and the VIA at an analytical level which is a serious omission given that the heritage impacts in this instance are largely of a visual nature. The identification of sensitive visual receptors and the selection of viewpoints in the VIA must clearly include heritage resources.</p>		
	<p>46.4 The no-go buffer areas are limited to 500m around the significant homesteads and 30m around burial grounds and grave sites. There is an absence of no-go buffer areas around visually sensitive landscape features and areas which</p>		

No.	Comment	Raised by	Response
	<p>reinforces the I&amp;AP's concern that the no-go areas have been predetermined by the developer's needs and not specialist inputs.</p>		
46.5	<p>The identification and mapping of sensitive heritage areas is limited to individual heritage resources (historical structures, burial grounds and graves). As a result of the failure to recognise the landscape as a resource in its own right, the specialist findings regarding the identification and mapping of <u>all</u> heritage resources in the affected is questioned.</p>		
46.6	<p>There is an inadequate identification and mapping of landscape resources and constraints. The nature and degree of significance in terms of the NHRA criteria relevant to landscape impacts have not been unpacked and spatialised at the regional and local landscape scales.</p>		
46.7	<p>The HIA (and the VIA) rely heavily on the location of the projects in the Cookhouse Renewable Energy Development Zone (REDZ) and do not clarify that the entire REDZ is not necessarily suitable for this type of development. The evaluation of the impacts of the proposed Wind Garden and Fronteer WEFs on heritage resources relative to the sustainable social and economic benefits to be derived from the WEFs has therefore not been undertaken.</p>		<p>This is not correct. The fact that these WEFs are located within a REDZ is not likely to mitigate the potential visual impact on affected sensitive visual receptors is acknowledged in the VIA.</p>
46.8	<p>Mitigation measures at a cultural landscape level are cursory with the admission that given the large size of the turbines no mitigation is possible. The HIAs simply rely on the VIA mitigation measures with no attempt to screen, remove or relocate turbines. The preferred mitigation of avoiding no-go areas and areas of high visual sensitivity is not considered.</p>		<p>A Cultural Landscape Assessment has been undertaken and included in the Revised HIA, and additional mitigation recommended (<b>Appendix I</b> of the Revised BAR).</p>
47.	<p>In addition to the above concerns, numerous omissions in the HIA reports have been identified. These include the following:</p>		<p>A Cultural Landscape Assessment has been undertaken and included in the Revised HIA (<b>Appendix I</b> of the Revised BAR).</p>

No.	Comment	Raised by	Response
	47.1 There is no dedicated landscape assessment including the identification and mapping of heritage resources at various scales such as the identification and mapping of scenic routes, the settings of significant homesteads (WEF1-04 and WEF2-01), special landscape features, and the wilderness qualities of protected natural landscapes (e.g. Kwandwe Nature Reserve).		
	47.2 The definition of the "study site" is constrained and ignores impacts on the receiving environment which transcends cadastral boundaries of the proposed development at a regional and local scale.		The fact that a study site is defined in the BAR does not preclude consideration of impacts on the surrounding areas. A Cultural Landscape Assessment has been undertaken and included in the Revised HIA ( <b>Appendix I</b> of the Revised BAR).
	47.3 The heritage sensitivity mapping is derived from a desktop study of satellite images and topographical maps and fieldwork.		Desktop mapping is a standard practice in all HIA – it forms part of the screening process. It is however only one part of the process, the other includes reviewing of previous HIAs as well as the background literature of the area.  The "heritage sensitivity maps", as used in the HIA, are meant to illustrate heritage sites/features as identified from topographic maps, and by no means indicates the only culturally sensitive sites/areas to be found on a landscape.
	47.4 The reference to cultural landscape issues is cursory with limited consideration of landscape significance and impacts. There is an absence of analytical and spatial information at various scales to support significance.		A Cultural Landscape Assessment has been undertaken and included in the Revised HIA ( <b>Appendix I</b> of the Revised BAR).
	47.5 There is an absence of heritage significance being ascribed to the totality of the landscape including sense of place qualities.		The conclusion of the HIA has been updated including consideration of the outcomes of the Cultural Landscape Assessment, and also considering all requirements of the NHRA (including socio-economic considerations).
	47.6 The cultural significance of the protected areas landscape is not taken further in terms of the wilderness landscape qualities and sense of place. No reference is made to the fact that a		A Cultural Landscape Assessment has been undertaken and included in the Revised HIA ( <b>Appendix I</b> of the Revised BAR).

No.	Comment	Raised by	Response
	<p>large component this wilderness landscape will be affected by the proposed Wind Garden and Fronteer WEFs.</p>		
47.7	<p>The heritage impact of the proposed development on the overall cultural landscape is considered to be medium negative (before mitigation) and low negative (after mitigation). However, there is insufficient information to demonstrate impacts before and after mitigation. Furthermore, it is stated that while no mitigation of the impact on sense of place of the regional or the cultural landscape is possible, the impact of the development on the cultural landscape can be minimised. This is contradictory and wrong.</p>		
47.8	<p>The issue of cumulative impacts is not adequately addressed. No specific mitigation measures relating to cumulative impacts are provided. The assessment of cumulative heritage impacts is not clearly represented in the form of a wider regional map of the area.</p>		<p>A Cultural Landscape Assessment has been undertaken and included in the Revised HIA, and additional mitigation recommended (<b>Appendix I</b> of the Revised BAR).</p>
47.9	<p>The HIA reports do not integrate important visual information including significant viewpoints from heritage resources (before and after mitigation).</p>		<p>A Cultural Landscape Assessment has been undertaken and included in the Revised HIA (<b>Appendix I</b> of the Revised BAR).</p>
48.	<p>As is evident from the above, the HIA reports contain material gaps in the information and do not meet all the requirements of NEMA and the EIA Regulations, and the requirements of section 38(3) of the NHRA. The HIAs and the BARs do not to warrant an informed recommendation regarding the acceptability of the proposed Wind Garden and Fronteer WEFs from a heritage perspective; is insufficient to facilitate informed decision-making by DFFE, and should be rejected on this basis alone.</p>		<p>The HIA reports have been revised based on additional information from the Cultural Landscape Assessment (refer to <b>Appendix I</b> of the Revised BAR).</p>
	<p><b>IMPACTS ON PROPERTY VALUES</b></p> <p>49. A key project related impact not effectively addressed or meaningfully assessed is the impact on land values.</p>		<p>The analysis has been enhanced in the updated SEIA so as to include the full Lightstone dataset of property</p>



No.	Comment	Raised by	Response
	<p>50. Based on the information presented the Appraisal Corporation report, it is evident that the individual impact of development of either of the Wind Garden or Fronteer WEF will have a significant effect on the value of Kwandwe, Clifton and other properties in the immediate vicinity of the proposed WEFs. This is largely as a result of the HIGH NEGATIVE visual impact and the socio-economic effects of the proposed Wind Garden and Fronteer WEFs on the sustainability of existing game reserves and wildlife / biodiversity-based operations.</p>		<p>transactions in the study areas under review (refer to <b>Appendix L</b> of the Revised BA Report).</p> <p>As detailed in the SEIA, there is little evidence from a review of local and international studies to support the notion of negative impacts on the property and land values post-construction. From this research it can be deduced that property prices in selected instances could be negatively impacted – depending on the perceptions of the buyers with respect to wind farms and their willingness to use the presence of wind farms to negotiate costs down. Such cases, however, as indicated by international case studies, will be isolated and importantly will not be permanent. Once the wind farm is developed, the research suggests that property prices, if they were negatively affected by wind farms specifically, do recover.</p> <p>The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>
	<p>51. The anticipated derogation in property value per wind farm development on Kwandwe alone, is in excess of R100,000,000, i.e. more than 20% of the open market value. The figure represents the scenario for the development per wind facility. Importantly, each of the wind facility will have this effect. If both Wind Garden and Fronteer are developed, the combined and cumulative effect will be significantly higher, due to the sheer magnitude of impacts of the two WEFs adjacent to each other. Excluded from this calculation is the</p>		<p>The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>

No.	Comment	Raised by	Response
	<p>loss in income from the hospitality business and losses in employment opportunities, which to date remains unquantified and absent from the BARs and specialist inputs.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance) (refer to Sections 6 and 8 (specifically 8.1.2 b, 8.2.2 b, 8.4.2 b and 8.4.4 b) of the SEIA in Appendix L of the Revised BA Report).</p>
52.	<p>All of the above factors must be considered in the evaluation of the desirability of the proposed Wind Garden and Fronteer WEFs. Having regard to the BARs and the conclusions reached on the potential impacts of the proposed WEFs, it is clear that none of these impacts have been taken into consideration or assessed accurately. The specialist reports undertaken as part of the basic assessment processes are grossly inaccurate, and reflective of a severe understatement on the effect on the receiving environment. In light of this, we are of the opinion that the BARs and their annexures are not reflective of reality and should be disregarded in the evaluation process.</p>		<p>The opinion of the I&amp;AP is noted. Specific comments raised regarding the specialist studies, BA Report and processes undertaken have been responded to within this CRR.</p>
53.1	<p>Further, concerns with regard to the efficacy of the assessments are captured for ease of reference below:</p> <p>Chapters 7 of the Socio-Economic Impact Assessments (SEIAs) have no relevance to Kwandwe or the areas in which the proposed WEFs are to be located. The reports refer to the "Non-Urban" areas of Makana, the Blue Crane Route and Kouga, with "rural areas similar to that of the proposed development" but fail to focus on farms as the primary subject of the study. The market affected is in fact not considered.</p>		<p>Information provided in Chapter 7 of the revised SEIA (refer to <b>Appendix L</b> of the Revised BA Report) is from relevant properties in three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis Bay / Cape St Francis / Humansdorp non-urban areas). These areas have existing wind farms and are largely in rural areas similar to that of the proposed development.</p>

No.	Comment	Raised by	Response
	<p>53.2 What is in fact studied in the SEIAs is the residential property market i.e. vacant land / plots, freehold houses and sectional title apartments. This is meaningless and irrelevant to identifying project impacts, the receiving environment or context affected by the proposed WEFs. The obvious inference being that none of the conclusions drawn in the SEIAs has direct bearing on or relevance to the relevant market or the receiving environment. Unique attributes that define and qualify the affected property / market viz remoteness, the rural ambience, views and noise levels are important factors which distinguish the receiving environment from the residential property market. As all these attributes can potentially be impacted by the proposed WEFs, the effect on the value of a residential home cannot be used as baseline for the impact on a farm or upmarket tourism property.</p>		<p>Properties considered within Chapter 7 of the revised SEIA (refer to <b>Appendix L</b> of the Revised BA Report) are farms which:</p> <ul style="list-style-type: none"> <li>» fall within a maximum radius of 30km from wind farms that have already been developed</li> <li>» exceed 10 hectares in size, or sold as combined land portions</li> </ul>
	<p>53.3 Examples of the incorrect focus on housing / residential application in the SEIAs include:</p> <p>53.3.1 Paragraphs 7.1 states that <i>"The predominant perception of wind turbines is that they lower nearby housing values"</i></p>		<p>This quote is taken from reference material and is not a direct comment on the project. The full quote from the report is <i>"Not all stigmas affect properties to the same extent. Individual perception of stigmas associated with wind energy developments largely derives from the individual's opinion of wind turbine aesthetics and renewable energy. The predominant perception of wind turbines is that they lower nearby housing and property values (The Royal Institute of Chartered Surveyors, 2007)."</i></p>
	<p>53.3.2 Paragraphs 7.2 notes that the Waainek Wind Farm is <i>"largely characterised by rural property types with some light industrial developments located to the east of the wind farm"</i> and <i>"the area can therefore be classified as rural but located on the periphery of an urban node"</i>. How does this offer a meaningful comparison to the receiving environment</p>		<p>The quote provided in the comment excludes the reference to the primary land use in the area surrounding Waainek Wind Farm. The full quote is: <i>"The Waainek Wind Farm (located approximately 20km from the proposed development in Makana NU) is largely characterised by rural property types with some light industrial developments located to the east of the wind farm. The primary land use is</i></p>

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	<p>which compromises largely unimproved conservation areas surrounding the proposed WEFs?</p>		<p>that of livestock farming (sheep, goats) with some game and wildlife farming. The area can therefore be classified as rural but located on the periphery of an urban node." The land use is considered to have similarities to that of the area surrounding the proposed Wind Garden Wind Farm.</p>
	<p>53.3.3 All references to the Lightstone study (paragraphs 7.2 and 7.4) should be disregarded as the study has an important caveat: "The data used in Lightstone's aggregated reports (Town, Suburb, Sectional Scheme and Estate Reports) and market analysis tools reflect the trends in developed residential homes". As above, this is a totally different market and offers no relevant or meaningful comparison to rural, agricultural and hospitality properties.</p>		<p>The trend analysis presented in the revised SEIA Report (<b>Appendix L</b> of the Revised BA Report) considers properties in three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis Bay / Cape St Francis / Humansdorp non-urban areas), and only includes properties that comply with the following conditions:</p> <ul style="list-style-type: none"> <li>» All properties fall within a maximum radius of 30km from the stated wind farms that have already been developed</li> <li>» All properties sold exceed 10 hectares in size, or sold as combined land portions</li> </ul>
	<p>53.3.4 The FNB Housing Price Index in paragraphs 7.3 is applicable to "housing market performance" and not the property market as a whole. The Housing Price Index does not represent the "South Africa's property market" as is claimed. Given its focus on the residential property, the Index is of limited use in the commercial, agricultural or hospitality property markets.</p>		<p>Section 7.3 of the SEIA included in the BA Report was intended to provide information with the aim to gain an insight into the overall trends with respect to property prices. It is acknowledged that this was focussed on residential property. This section has been removed from the report.</p>
	<p>53.3.5 No statistics on agricultural properties are reflected in the SEIAs – a material omission.</p>		<p>Chapter 7 of the SEIA included in Appendix L of the Revised BA Report has been revised. Three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis Bay / Cape St Francis / Humansdorp non-urban</p>

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			<p>areas). These areas have existing wind farms and are largely in rural areas similar to that of the proposed development. Land use in the surrounding areas is similar to that of the study area.</p>
53.4	<p>The claim that “no properties were recorded as ‘transferred’ in the 10 year period in Makana NU (Makanda)” is false and a serious oversight. The Appraisal Corporation Report identified more than 65 agricultural property transactions being registered in the rural district of Albany alone, during the period of 01 January 2016 to the present.</p>		<p>Chapter 7 of the SEIA has been revised to consider farms which exceed 10 hectares in size, or sold as combined land portions. Over the period in question (2012 to 2020), the data analysis reveals a positive growth trend.</p>
53.5	<p>A further flaw is that the SEIAs rely on and use statistics of sectional title units and vacant residential plots and no reasoning is provided as to justify the relevance of that approach.</p>		<p>Chapter 7 of the SEIA has been revised to consider farms which exceed 10 hectares in size, or sold as combined land portions.</p>
53.6	<p>With regard to the opinions of Agents (paragraphs 7.5 of the SEIA's) towards the impact of the proposed WEFs on property prices in the “affected areas”, the following is applicable:</p> <p>53.6.1 There is no indication of the boundary or location of the “affected areas” - does it cover agricultural properties only, or is it focused on non-agricultural properties?</p>		<p>Section 7.3 of the SEIA states the following:</p> <p><i>The experience of most of the real estate agents interviewed asserts that wind farm developments have not had a notable effect on the demand and value of properties surrounding wind farm developments. They state that prospective buyers have mostly been indifferent to the presence of wind farms. One real estate agent from Cookhouse noted that there has been a negative impact from the presence of the wind farms in that there have been fewer sales and enquiries for farm properties in the area. The most notable impact was in the tourism and game farming industry where, the agent noted that, there has been difficulties in securing investors for those industries. This cannot, however, be solely attributed to the wind farms and could also be attributed to the downturn in the national economy. Another agent in Makhanda noted that impacts on properties were purpose-dependent and stated that</i></p>

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			<p><i>sellers may find it difficult to sell to buyers wanting to establish game farms but, buyers interested in agriculture will be unphased by the turbines.</i></p> <p>It is clear from the above that these references are to properties for both agricultural and non-agricultural (such as tourism and game farming) purposes.</p>
	<p>53.6.2 The questions posed in the questionnaire / survey are not discussed. Was a distinction made between the different types of property, or is it a general overview of the prices of the properties that the Agents sold in the period just prior to the survey?</p>		<p>The perceived valuation of properties as posed to and responded by landowners was not included in the study, as the response rate to this question was low. The property values ascertained and analysed within Section 7 of the SEIA were sourced from Lightstone Property based on actual sales transactions in areas in which WEFs have previously been constructed. The updated SEIA specifically considers larger properties that fall within a designated buffer zone to already developed WEF.</p>
	<p>53.6.3 How do these Agents gauge price levels?</p>		<p>Estate Agents working in the area would have a good overview of property prices and market trends and obtain feedback from buyers as to why they would not purchase certain properties. Their opinions were therefore sought to obtain a local view on these issues.</p>
	<p>53.7 For the reasons stated in the Appraisal Corporation report, the opinions of the Agents interviewed is at best anecdotal.</p>		
	<p>53.8 In contrast to this, a longer listing period for farm properties in the Cookhouse district due to the presence of wind farms is not anecdotal - this a something that can be measured in days and months. The same applies to the opinion of the Remax Frontier agent in Makana, with regard to finding investors for tourism and game farms.</p>		<p>These points are presented in Section 7.3 of the revised the SEIA Report (Appendix L of the Revised BA Report). It is also further stated that <i>"This cannot, however, be solely attributed to the wind farms and could also be attributed to the downturn in the national economy."</i></p>
	<p>53.9 It is therefore clear that the research contained in this section of the SEIA's do not cover the type of property or market that is potentially affected by the proposed WEFs. The information is irrelevant and of no use in connection with impacts</p>		<p>Chapter 7 of the SEIA has been revised to consider properties in three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis</p>

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	<p>associated with the proposed Wind Garden and Fronteer WEFs.</p>		<p>Bay / Cape St Francis / Humansdorp non-urban areas) (areas considered to be similar to that of the proposed development), and only includes properties that comply with the following conditions:</p> <ul style="list-style-type: none"> <li>» All properties fall within a maximum radius of 30km from the stated wind farms that have already been developed</li> <li>» All properties sold exceed 10 hectares in size, or sold as combined land portions</li> </ul>
	<p>53.10 In paragraphs 7.6 of the SEIA's, the international literature reviewed focuses on the residential housing market mostly on "the values of nearby homes" and "home sale prices" and cannot be compared to say a hospitality property located in a rural location.</p>		<p>It is acknowledged that limited, if any, academically published research is available in a South African context which considers the specific impact of wind farms on the safari/wildlife/ecotourism-specific industry. However, the cross-section of literature reviewed in Chapter 6 of the SEIA cannot simply be dismissed. Several commonalities between the study areas considered in the literature, and the study area dynamics of this area should be appreciated, these include:</p> <ul style="list-style-type: none"> <li>» The regional origin of tourists is similar i.e., both sets of tourists originate in the majority from European/British Isles.</li> <li>» Study areas in the literature are predominantly rural in nature</li> <li>» The tourism industry in each of the respective countries, like in a South African context, is recognised as an economic driver</li> <li>» A dominant characteristic of many of the study areas considered in the literature, is that the respective areas' scenic vistas and sense of place are an important</li> </ul>

No.	Comment	Raised by	Response
	<p>53.11 The claim / conclusion that <i>“there is no direct correlation between wind farms and property values over the long-term”</i> is based on a seriously flawed methodology and incorrect data. The residential market is not reflective of all property types. The significance score of “Low (24)” is in not accurate and in no manner reflects the correct assessment of this impact or the actual state of affairs. See Appraisal Corporation report.</p>		<p>drawcard for tourists looking to enjoy the natural environment.</p> <p>The SEIA does not conclude or claim that <i>“there is no direct correlation between wind farms and property values over the long-term”</i>. This statement (included in Section 7.4 of the SEIA Report included in <b>Appendix L</b> of the Revised BA Report), is based on the information obtained from a review of international literature and research on the impact of wind farms on property values. The full quote is as follows: <i>“From this literature review, it appears that there is no direct correlation between wind farms and property values over the long-term. However, individual cases of property prices being negatively impacted by the presence of wind farms cannot be discarded, as potential buyers may use that factor as an opportunity to try and reduce their costs of buying a property or indeed perceive wind farms to devalue the attraction of a specific location. Furthermore, if negative impacts on property prices occurs, it appears to be temporary and limited to the pre-construction period. This again suggests that perception of the possible impact of wind farms on the scenic value of an area tends to be higher before development and reduce in the medium to long-term.”</i></p> <p>The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>



No.	Comment	Raised by	Response
	<p>54. There is no evidence tabled that the SEIAs conclusion that holds true for the type of properties that are potentially affected by Wind Garden and Fronteer WEFs. This is a serious shortcoming of the two SEIA's and the reports are of no value to informed decision-making.</p>		<p>Chapter 7 of the SEIA has been revised to consider properties in three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis Bay / Cape St Francis / Humansdorp non-urban areas) (areas considered to be similar to that of the proposed development), and only includes properties that comply with the following conditions:</p> <ul style="list-style-type: none"> <li>» All properties fall within a maximum radius of 30km from the stated wind farms that have already been developed</li> <li>» All properties sold exceed 10 hectares in size, or sold as combined land portions</li> </ul>
	<p>55. This flawed analysis is reflected in the respective BARs, where the term "<i>property values</i>" as used in the SEIAs is expanded to now include "<i>land values</i>". For the reasons stated herein and the Appraisal Corporation report, the conclusions drawn are not applicable to the "<i>rural and farm areas</i>".</p>		<p>The BA Report has been revised to reflect the updated information included within the SEIA.</p>
	<p>56. In conclusion, the area that is relevant to determining impact on property and land value is not studied in any of the literature quoted in the SEIAs. This gross generalisation is in our opinion an overreach by the writers, stating it as a conclusion where in fact it was not covered by any of the various studies the writers relied on.</p>		<p>Chapter 7 of the SEIA has been revised to consider properties in three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis Bay / Cape St Francis / Humansdorp non-urban areas) (areas considered to be similar to that of the proposed development), and only includes properties that comply with the following conditions:</p>

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			» All properties fall within a maximum radius of 30km from the stated wind farms that have already been developed All properties sold exceed 10 hectares in size, or sold as combined land portions
	57. The assessment of impacts on market value and land value undertaken is wholly inappropriate, inaccurate and is rejected outright by those most directly impacted. The manner in which the studies have been undertaken has been misconceived. It cannot and does not motivate against an adverse finding regarding a clearly identified project impact which needs to be fully investigated. The methodology – in terms of which perceived impacts on the residential housing market are used to motivate an absence of significant impacts associated with the Wind Garden and Fronteer WEFs indicates an inexcusable lack of objectivity. The reporting and analysis fall short of the independent and unbiased opinion that is required by NEMA. The SEIAs and the BARs are tainted by this and the credibility of the assessment is question.		Chapter 7 of the SEIA has been revised to consider properties in three areas of examination which were chosen for the analysis namely Makana Non-Urban (NU; Makhanda), Blue Crane Route NU (Cookhouse non-urban areas) and Kouga NU (Jeffrey's Bay / Oyster Bay / St Francis Bay / Cape St Francis / Humansdorp non-urban areas) (areas considered to be similar to that of the proposed development), and only includes properties that comply with the following conditions:  » All properties fall within a maximum radius of 30km from the stated wind farms that have already been developed All properties sold exceed 10 hectares in size, or sold as combined land portions
	<p><b>INADEQUATE CONSIDERATION OF ALTERNATIVES</b></p> 58. A particular concern with the BARs and specialist studies is the fact that the status quo is not presented in an impartial manner as a real or viable alternative.		The Do Nothing Alternative is assessed within Section 10.13 of the BA Report.
	59. In a few instances, the no-go option (e.g. paragraph 10.13 of the BARs) is presented as <i>"not having a positive influence"</i> , instead of indicating the effect to be neutral. This is disingenuous. One example of this is where the impact on employment is discussed: <i>"...however, if the wind farm is not developed, then the unemployment rate will not be positively influenced by the proposed development. ...Therefore, from an employment perspective, the 'do-nothing' alternative is</i>		The fact that the do nothing alternative will result in no impacts to the environment is stated in Section 10.13. The consideration of impacts relating to lost opportunity as a result of the do nothing alternative being implemented is also presented in order to provide an indication of the negative impacts which would be expected with the implementation of this option.

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	<p><i>not preferred as there is a perceived loss of employment opportunities".</i></p>		
60.	<p>The statement above seems to be deliberately aimed at painting a bleak picture, and in doing so either unwittingly or deliberately motivates in favour of the proposed WEFs as the only outcome. The motivation behind this is possibly less of a concern than its effect. The effect of this discounts the value and positive environmental, and socio-economic conditions associated with the network of game reserves and wildlife tourism-based operations in the area and the net positive effect they have on the economy and local employment; but in fact, the situation remains the same as before - nothing gained, nothing lost. It is our opinion that the writers did not fully investigate this option with the necessary objectivity, stating effects to be negative where in fact, the effect remains neutral. Neutral cannot be ascribed as no net environmental or socio-economic benefit.</p>		<p>The consideration of impacts relating to lost opportunity as a result of the do nothing alternative being implemented is presented in order to provide an indication of the negative impacts which would be expected with the implementation of this option.</p> <p>Through the additional primary research engagements undertaken by the socio-economic specialist, key business and property investment information has been obtained. Notable examples of project-specific and community-supported ventures have been included in the updated SEIA report (included as Appendix L of the Revised BA Report).</p>
61.	<p>The approach and the assessment of alternatives is materially flawed. For this reason, the independent review by Global Green assigned an overall 'E' rating ("Not satisfactory, significant omissions or inadequacies") for Review Area 3: Alternatives.</p>		<p>A response to the specific issues raised by Global Green is provided in Appendix C9h to the CRR.</p>
62.	<p>We refer to the following key deficiencies in the respective BARs:</p> <p>62.1 The assessment fails to deal with fundamental alternatives. The end in this case (renewable energy is part of South Africa's energy mix) does not justify the means as it implies for example that a full cost benefit analysis is not required as part of the need and desirability and that the no-go option need not be considered. The approach is wrong on both accounts.</p>		<p>As stated in the BA Report, "<i>Fundamentally different alternatives are usually assessed at a strategic level and, as a result, project-specific environmental impact assessments (including BA processes) are therefore limited in scope and ability to address fundamentally different alternatives. At a strategic level, electricity generating alternatives have been addressed as part of the DMRE's current Integrated Resource Plan for Electricity 2010 – 2030 (IRP) , and will continue to be addressed as part of future revisions (refer to Chapter 5 for more details). In this regard, the need for</i></p>

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			<p>renewable energy power generation from wind energy facilities has been identified as part of the technology mix for power generation in the country for the next 20 years.</p> <p>The fundamental energy generation alternatives were assessed and considered within the development of the IRP and the need for the development of renewable energy projects has been defined. Therefore, fundamentally different alternatives to the proposed project are not considered within this BA process."</p> <p>The purpose of the EIA process is not to reassess this fundamental need for energy and the technology mix.</p> <p>There is no statement in the report claiming that the no-go option need not be considered. This is assessed in Section 10.13 of the BA Report.</p>
	<p>62.2 The failure to assess alternatives of the proposed Wind Garden and Fronteer WEFs is a <i>fait accompli</i>, and all the BARs can hope to achieve is to tweak the development proposals. The approach is one of impact management and not assessment with a view to avoiding and minimising impacts (as required by NEMA).</p>		<p>Key criteria for consideration when identifying alternatives are that they should be "practicable", "feasible", "relevant", "reasonable" and "viable". These should present different means of meeting the general purpose and requirements of the activity. Renewable energy development is dependent on a number of factors, including, most importantly, wind resource, land availability and grid connection. All of these factors were considered by the developer in identifying a larger area for investigation for the placement of a wind farm. The purpose of considering a development envelope for the project was to consider a larger area within which the significantly smaller development footprint could be located. Layout alternatives within this area were considered by the</p>

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	<p>62.3 The approach to alternatives is wholly unacceptable to I&amp;APs. It undermines the credibility of the process and the opportunity to meaningfully contribute to the process if I&amp;AP input cannot or influence affect the most fundamental decision about the acceptability of the overall development. In other words, the development is a <i>fait accompli</i> and input is limited to managing impacts.</p> <p>62.4 The BARs and assessments undertaken fail to deal with 'site specific' and 'layout' alternatives: It is stated that, based on a technical feasibility assessment and an environmental screening process, one specific site has been identified due to its specific characteristics. However, the environmental screening process is not explained in the BARs.</p> <p>62.5 The screening relied on the identification of 'fatal flaws' and 'no-go' areas. However, these concepts are not defined or explained – so there is no way of understanding what would qualify as a fatal flaw or a no-go area, and how this influenced the optimised layout. The explanation tendered in the BARs (in Figure 3.2 and 3.3) do not provide proper and credible explanation and therefore the optimised layout appears to have been informed by the developer's preferences.</p> <p>62.6 No evidence is provided which indicates that public participation was conducted during the environmental screening process to inform the number and siting of turbines, thereby ensuring a transparent and accountable EIA process. The process is further confused by the EAP producing two different BARs for what seems to be a single development / layout plan incorporating both the Fronteer and Wind Garden WEFs.</p>		<p>developer such that the identified environmental sensitivities were avoided.</p> <p>The EIA project team provides the sensitivity information to the developer who then revisits the layout to avoid these sensitivities in a bid to achieve an environmentally acceptable project. This is an iterative process that is further informed by the inputs received from the public. The PP process allows I&amp;APs an opportunity to provide input to the project proposal, this includes the layout of the facility and the do nothing alternative.</p> <p>An overview of the environmental screening process is provided in Section 3.3.1 of the BAR.</p> <p>Details of environmental sensitivities and no go areas are provided in Chapter 9 of the BA Report and within the individual specialist reports included within Appendix E to M of the BAR.</p> <p>There is no requirement for public participation to be conducted during the environmental screening process. The BID for the project was however released in November 2020, inviting comment on the project proposal. Any comments received during this 3-month period were included in the BAR and informed the assessment at that time.</p>

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			<p>An information meeting was held by the public participation consultant and member of the EAP team with Kwandwe Private Game Reserve (at which Mr Summers was present) in November 2020 where the project was presented, and initial inputs requested from the I&amp;AP prior to the release of the BA Report.</p> <p>As the Wind Garden and Fronteer Wind Farms are proposed by separate entities and will be operated as separate facilities, separate Environmental Authorisations are required to be obtained. Therefore, separate BA Reports were prepared in support of the application for EA.</p>
	<p>62.7 In addition, the underlying documentation and baseline information used as part of the screening process has not been made available to I&amp;APs (as was requested of the EAP during the public meeting held in Makana on 26 March 2021).</p>		<p>Additional information regarding the screening process has been included in Chapter 3 of the Revised BAR.</p>
	<p>63. As indicated above, I&amp;APs have several substantive concerns with regard to the environmental screening process applied bilaterally among the developer and the specialists. Firstly, core sensitivities such as biodiversity and visual are seemingly ignored. At a process level, the concern is that the development footprint and siting of the turbines were informed by a preceding environmental screening process and not the actual basic assessment process, which is problematic. The result of this screening process is presented as a foregone conclusion. In this sense, the fundamental flaw arising from the environmental screening process resulted in constraining the basic assessment processes and layout in terms of its scope (i.e. location, design, etc.).</p>		<p>All specialist fields of study, including biodiversity and visual, contributed to the screening study undertaken and the identification of environmental sensitivities. The purpose of the screening study was to ensure that the mitigation hierarchy was followed as far as possible, i.e.: avoidance as the first preference, followed by mitigation of identified significant impacts and, as a last measure, remedy or compensation for adverse residual impacts.</p> <p>The optimised layout presented was assessed in the BA process and, where necessary, further refined to avoid further identified sensitives. This was therefore an iterative process that is further informed by the inputs received from the public. The PP process allows I&amp;APs an opportunity to provide input to the project proposal, this includes the layout of the facility and the do nothing alternative.</p>

No.	Comment	Raised by	Response
	64. I&APs suggest that the environmental screening is deeply flawed and discredits the entire basic assessment process. In the very least, I&APs require that the screening process be described in more detail (either in a revised BAR or in a separate report to avoid further confounding and already questionable process). The decryption should provide all baseline data relied upon in the screening process and the reasoning or justification for the scope of the basic assessments, as well as the number and siting of the turbines.		The screening of a larger area for the placement of a development to ensure avoidance of sensitive environmental areas prior to the formal EIA process being undertaken is common practice and enables impacts to be avoided as far as possible through appropriate placement of infrastructure. This does not preclude the assessment of the project and the application for Environmental Authorisation through which the DFFE will evaluate the project.  Additional information regarding the screening process has been included in Chapter 3 of the Revised BAR.
	65. The basic assessment process undertaken in respect of the proposed Wind Garden and Fronteer WEFs should be revisited <i>ab initio</i> in order to assess different alternatives, numbers of turbines and siting options for the turbines. It is entirely unacceptable that the basic assessment processes have been restricted in the current manner to merely assessing and accepting the outcome from the screening process.		
	<b>INDIRECT, CUMULATIVE AND CONSEQUENTIAL VISUAL IMPACTS</b> 66. A key factor to the consideration of potential visual impacts requires an assessment of the “visible” effect on the surrounding areas. It follows that eco-tourism operations (such as those of our clients) which are marketed for their scenic beauty, would lose its appeal if they are visually scarred.		The potential visual impact on Kwandwe Nature Reserve and other protected areas and tourist attractions is addressed in the VIA report and the impact significance is listed as moderate to high.
	67. The VIAs indicate that the cumulative visual impact of the proposed Wind Garden and Fronteer WEFs, in the context of the existing Waainek WEF and proposed Albany WEF, is expected to be of “HIGH” significance.		The cumulative visual impact was assessed including all proposed or existing Wind Energy Facilities (WEFs) within a 30km radius. This includes the existing Waainek and proposed Albany WEFs. The cumulative visual impact of the existing Waainek WEF, and the proposed Wind Garden, Fronteer and Albany WEFs is expected to be of <b>high</b> significance.
	68. In terms of significance ratings, the VIA reports state that “No mitigation of the high visual impact is possible, but general mitigation and management measures are recommended as		Avoidance measures were partially implemented based on the visual sensitivity assessment (2020-05-21 – <i>Visual sensitivity assessment</i> – attached together with the visual specialist

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	<p><i>best practice</i>". No attempt has therefore been made by the specialists to implement the hierarchical approach to impact management through impact avoidance to address the negative visual impacts ranked as being of "HIGH" significance.</p>		<p>response to the external review in Appendix C9g of this CRR) by the project proponent when they produced the final layout. This assessment identified problem turbines and listed them. Recommendations were also made in terms of the preferred turbine alternatives and dimensions (<i>Preliminary comparative viewshed analyses and visual assessment (May 2020)</i> (attached together with the visual specialist response to the external review in Appendix C9g of this CRR).</p>
69.	<p>In addition, the VIAs fails to:</p> <p>69.1 Describe or assess any genuine project alternatives and/or to prescribe or implement impact avoidance / mitigation measures required to address the findings of "High" impacts.</p>		<p>A site screening exercise was undertaken during the initial stages of planning (see attached together with the visual specialist response to the external review in Appendix C9g of this CRR). This was based on an initial/preliminary turbine layout. The results of the screening exercise were partially incorporated in the subsequent proposed layout by the project proponent.</p>
69.2	<p>Recognise the landscape as a cultural resource in its own right and therefore ignores the high scenic value and wilderness quality of the study area and the negative impacts on visual scenic resources, including nearby nature reserves.</p>		<p>The visual impact was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be moderate to high.</p>
69.3	<p>Assess the "sense of place" - i.e. the experience of the environment by the user - and how the altered visual landscape will impact on the undeveloped nature of the rural area and thus the resultant marketability of the surrounding properties and ultimately their value.</p>		<p>The visual assessment includes an assessment of the impact on sense of place. The significance of the visual impacts on the sense of place within the region (i.e. beyond a 20km radius of the development and within the greater region) is assessed to be of low significance.</p>
69.4	<p>Assess the ancillary impacts of the proposed WEFs on our clients and other eco-tourist operations in the immediate surrounds, namely the impact of the WEFs on tourists routes which are at present generally an undeveloped landscape connecting an established tourism industry which cannot be</p>		<p>The potential visual impact on Kwandwe Nature Reserve and other protected areas and tourist attractions is addressed in the VIA report and the impact significance is listed as moderate to high.</p>



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	<p>mitigated. In this regard, we note that although the VIAs indicate that the location of wind turbines on routes will not impact on visitor and tourist numbers to the area, this opinion is speculative, unsubstantiated and based on the findings of the SEIAs which, as indicated above, are questionable.</p>		<p>The VIA states that <i>Tourists travelling through the region, or visiting tourist facilities within the study area, will however be visually impacted.</i> In addition, it is stated that <i>The operation of the Wind Garden WEF is expected to have a high visual impact on observers traveling along the roads within a 5km radius of the wind turbine structures.</i></p>
69.5	<p>Consider the REDZ visual mapping at a regional scale which shows that this portion of the REDZ is classified as mostly "very high" and "high" visual sensitivity and is thus, not ideally suited for wind farm development.</p>		<p>The classification in the REDZ SEA is noted. However, the protocols for landscape (visual) assessment from the REDZ SEA have not been promulgated.</p>
69.6	<p>Adequately assess the cumulative impact of both the Wind Garden and Fronteer WEFs on surrounding Protected Areas and eco-tourism lodges, with the resultant effect that the combined effect of both WEFs on the receiving environment will be significantly larger (i.e. viewed collectively, the Wind Garden and Fronteer WEFs combined will provide for 85 turbines located across 6089ha, making the proposal one of the biggest contiguous windfarm areas in the country).</p>		<p>The combined visual impact or cumulative impact of up to four wind energy facilities (i.e. the existing Waainek WEF, and the proposed Wind Garden, Fronteer and Albany WEFs) is expected to increase the area of potential visual impact within the region. The intensity of visual impact (number of turbines visible) to exposed receptors, especially those located within a 5-10km radius of the proposed Wind Garden/Fronteer WEFs, is expected to increase when considered in conjunction with the other existing or proposed WEFs. The cumulative visual impact of the existing Waainek WEF, and the proposed Wind Garden, Fronteer and Albany WEFs is expected to be of <b>high</b> significance. The fact that these WEFs are located within a REDZ is not likely to mitigate the potential visual impact on affected sensitive visual receptors is acknowledged.</p>
70.	<p>The shortcomings in the VIAs were raised as a key concern by various stakeholders during the public hearing conducted. Notwithstanding, no attempts has been made by either the specialists or the EAP to address these concerns. As a result, our clients have commissioned the services of Bernie Oberholzer and Quinton Lawson, both of whom are experts in visual impact assessment and widely recognised leaders in this</p>		<p>The response of the visual specialist to the peer review is provided in <b>Appendix C9d</b> of this CRR.</p>

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	<p>field to undertake an independent peer review of the findings of the VIAs.</p>		
71.	<p>The key findings of the Oberholzer / Lawson Review confirmed the following:</p> <p>71.1 The VIA reports contain too many omissions and inaccuracies and does not serve as a basis for informed recommendations or assessments regarding the visual acceptability of the proposed Wind Garden and Fronteer WEFs. The conclusions in the VIA reports are therefore questionable given that it has not been adequately informed by accurate baseline information.</p>		<p>The <b>opinions</b> of Oberholzer and Lawson are noted. The response of the visual specialist to the peer review is provided in <b>Appendix C9d</b> of this CRR.</p>
71.2	<p>Not all of the related infrastructure for the proposed WEFs have been assessed, in particular the internal access roads and connecting powerline to the Eskom substation beyond the Wind Garden and Fronter WEF sites.</p>		<p>An impact table and impact statement is included for the ancillary infrastructure within the VIA.</p>
71.3	<p>Not all sensitive receptors have been taken into account in the assessments of the WEFs, neither have adequate photomontages relating to sensitive viewpoints been provided. The fact that the same 5 visual simulations / photomontages were used for each of the WEFs (which are on different sites), is unacceptable. There are patently too few visual simulations, which in turn hardly cover the range of sensitive viewpoints, and which are therefore not helpful for the visual assessment.</p>		<p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. It is not possible to consult with all of these, nor is it possible to provide photo simulations for all that are affected. The photo simulations are representative of what the wind turbine would look like from varying distances and not intended to show the wind farm from all directions.</p>
71.4	<p>The avoidance of high significance visual impacts is completely ignored and avoidance as a key mitigation measure was not prioritised.</p>		<p>Avoidance measures were partially implemented based on the visual sensitivity assessment (2020-05-21 – <i>Visual sensitivity assessment</i> – attached together with the visual specialist's response to the peer review in <b>Appendix C9d</b> of this CRR) by the project proponent when they produced the final layout. This assessment identified problem turbines and listed them. Recommendations were also made in terms of the preferred turbine alternatives and dimensions (<i>Preliminary</i></p>

No.	Comment	Raised by	Response
			comparative viewshed analyses and visual assessment (May 2020) (attached together with the visual specialist's response to the peer review in Appendix C9g of this CRR).
	71.5 Several findings in the VIA reports lack credibility and there is limited evidence of proper screening having been undertaken during the basic assessment in order to avoid visually sensitive areas. No screening has been carried out, nor has site-specific landscape features, scenic resources and sensitive receptors been clearly identified or mapped.		A site screening exercise was undertaken during the initial stages of planning (see attached together with the visual specialist's response to the peer review in <b>Appendix C9d</b> of this CRR). This was based on an initial/preliminary turbine layout. The results of the screening exercise were partially incorporated in the subsequent proposed layout by the project proponent.
	72. The concern that the visual impacts (both during day and night) of the proposed Wind Garden and Fronteer WEFs on our clients gives rise to unacceptably high impacts which will damage the landscape and undermine the integrity of the visual scenic resource is confirmed by the independent assessment by Oberholzer and Lawson. This in turn will have a direct detrimental effect on the tourism experience offered by our clients and will negatively affect the sustainability of its ecotourism and hospitality businesses and the marketability of the tourism product they are able to offer. In the longer term, this will undermine the financial viability and sustainability of the environmental management of the landholding and its conservation outcomes. On this basis alone, the NEMA application for the proposed Wind Garden and Fronteer WEFs should be refused outright.		The opinion is noted, and no further action is required.
	<b>FAILURE TO ASSESS IMPACTS ON WATER RESOURCES</b> 73. The impact of the proposed Wind Garden and Fronteer WEFs on the availability of water within the Makana area has not been assessed.		A groundwater feasibility study was undertaken by JG Afrika. This report is included in <b>Appendix R(6)</b> of the Revised BAR and summarised within Chapter 2 of the Revised BA Report.
	74. NEMA requires that the use and exploitation of non-renewable natural resources must be responsible and equitable, and take into account the consequences of the depletion of the		The feasibility study calculated that <0.2% of the groundwater recharge would be required to meet a single batching plant demand of 30m <sup>3</sup> /d. Regional groundwater

No.	Comment	Raised by	Response
	<p>resource. The development, use and exploitation of renewable resources (and the ecosystems of which they are part) should not exceed the level beyond which their integrity is jeopardised. NEMA advocates that a risk-adverse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and that the negative impacts on the environment and people's environmental rights be anticipated and prevented, and where they cannot altogether be prevented, are minimised and remedied.</p>		<p>resources would not be stressed by such a low utilisation of the aquifer recharge. Groundwater is considered a suitable supply option for the project. Detail in this regard is included within Chapter 2 of the Revised BA Report.</p>
75.	<p>The impact on the sustainability of the proposed water use, directly and cumulatively with other similar uses, on the resource is unquantified and unresolved. This is a fatal flaw.</p>		
76.	<p>The fact that high levels of water usage will emanate from the construction of the proposed Wind Garden and Fronteer WEFs, means that the failure to assess this impact as part of the basic assessment process is in direct opposition to various NEMA Principles stated above. More specifically, the failure to assess an identified impact directly contravenes NEMA especially when considering the lack of specialist studies undertaken during the basic assessment process on geohydrological impacts; and water requirement needs / impacts associated with international water obligations.</p>		
77.	<p>The purpose of the EIA Regulations is to <i>"regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto"</i>.</p>		

No.	Comment	Raised by	Response
	<p>The impact assessment process envisages that all potential harm to the environment will be thoroughly evaluated and assessed in order to, as a first choice, prevent potential detrimental impacts on the environment.</p>		
78.	<p>During the public participation hearings conducted, various I&amp;APs raised the fact that the Makana area is known to experience severe droughts so the increased pressure on an already-scarce water resource will decrease the water availability, and subsequently increase competition for water.</p>		<p>Based on DWS data, the project site falls within the P10A, P10B, Q91B and Q91C quaternary catchments. Groundwater in all catchments is classified as under-utilised. The dominant groundwater use is for livestock watering.</p>
79.	<p>The impact of the proposed Wind Garden and Fronteer WEFs, and cumulative impacts of other water abstraction- related activities impacting on the same resource needs to be fully assessed in terms of the basic assessment process in order to satisfy the requirements of the EIA Regulations. The fact that a lawful water use requires a license in terms of the National Water Act is not determinative and is a separate statutory issue unrelated to the NEMA mandated assessment. The BARs fail to assess the impact on the resource and seeks to explain this material omission with reference to extraction of water from existing (unidentified) boreholes in the area. The impact is unresolved and unaddressed.</p>		<p>A groundwater feasibility study was undertaken by JG Afrika, including consideration of water availability and feasibility of use for the project, as well as indications of areas to investigate further for the establishment of boreholes. This report is included in Appendix R(6) of the Revised BAR with a summary included in Chapter 2 of the Revised BA Report.</p>
80.	<p>The content of the BARs show that neither the water impact / availability was assessed from the perspective of sustainability of the water source itself and the impact on the ecological reserve of groundwater in the area affected. The EAP's assessment of the impacts fails to adopt a risk-adverse and cautious approach, based on the limits to current knowledge and that decisions should be taken responsibly when information is unknown or in need of further investigation.</p>		
81.	<p>Ironically the BARs acknowledge that there are <i>“significant restrictions placed on other natural resources such as water...”</i> and that <i>“as an already water-stressed nation... due to the</i></p>		

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	<p><i>detrimental effects of climate change on water availability</i>". Notwithstanding this, no evidence is provided that the availability of water from existing boreholes has in fact been assessed or that the Municipality will be in a position to provide for the additional water requirements envisaged for the proposed Wind Garden and Fronteer WEFs.</p>		
82.	<p>The prediction that the area will have enough capacity to provide for the water needs of the proposed WEFs is based on speculation rather than a credible assessment firsthand of the true impact that the proposed Wind Garden and Fronteer WEFs will have on a strained water resource. This is evidenced by the following unsubstantiated extract from the BARs:  <i>"Access to water and electricity is not a significant concern in the area, although the supply of electricity is sometimes erratic. If a construction camp is established to accommodate workers there will be a need for additional water and electricity connections for both the camp as well as the sire office. These connections will, however, be minimal and it is unlikely to alter the demand significantly"</i>.</p>		
83.	<p>Regarding the forecasted water use requirements for the WEFs, the BARs record that:</p> <p>83.1. <i>"water will be required for the construction phase, which will be approximately 14313.19kl in total for the construction activities and 10140.24kl for human consumption. Water will be sourced from existing boreholes in the area"</i>.</p> <p>83.2 <i>"water will be required for the construction phase, which will be approximately 19014.12kl in total for the construction activities and 12686.98kl for human consumption. Water will be sourced from existing boreholes in the area"</i>.</p>		<p>This is a statement. No response is required.</p>

No.	Comment	Raised by	Response
	84. With regard to the proposed Wind Garden and Fronteer WEFs, we note that although an Aquatic Impact Assessment has been undertaken in respect of the proposed WEFs, the assessment fails:  84.1. to identify the boreholes referred to in the BARs;		The Aquatic Impact Assessment considers surface water resources and impacts.  A groundwater feasibility study was undertaken by JG Afrika, including consideration of water availability and feasibility of use for the project, as well as indications of areas to investigate further for the establishment of boreholes. This report is included in Appendix R(6) of the Revised BAR with a summary included in Chapter 2 of the Revised BA Report.
	84.2 to assess the availability and/or sustainability of proposed water uses and water abstraction rates of those boreholes;		Water is planned to be sourced from groundwater resources and not from the Municipality. It is therefore not necessary to obtain confirmation of available resources from the municipality.
	84.3 to confirm that the Municipality can cater for (supply) the anticipated water requirements of the proposed WEFs in a sustainable manner. This is particularly important as the Makana IDP has confirms that the <i>"inadequate catchment area to Makana West... could result in possible water shortages to the community in the future"</i> .		Based on DWS data, the project site falls within the P10A, P10B, Q91B and Q91C quaternary catchments. Groundwater in all catchments is classified as under-utilised. The dominant groundwater use is for livestock watering.
	85. In the circumstances, the failure to assess, predict and evaluate the water availability of the boreholes / water supply from the Municipality is contrary to the provisions of NEMA. Given the critical importance of this resource, the BARs should be rejected on this basis alone.		
	<b>POLICY CONSIDERATIONS</b> 86. The policy context is not considered holistically in the BARs. Although the municipal IDP is considered, this is done, at best, as a high-level passing reference. No account is taken for the fact the IDP expressly recognises that <i>"tourism is often based on an area's physical attributes"</i> and no link is made to the issues raised by I&APs regarding impacts on the very environmental features and qualities of landscape that make this an attractive tourism market.		Chapter 5 of the Revised BAR has been updated to include detail on the contribution of tourism from the Sarah Baartman District IDP.
	87. Makana municipality plays a strategic conservation role as the Albany Centre of Endemism and has 27 endemic plant		Comment noted. The presence and importance of Critical Biodiversity Areas (CBAs), as defined in the 2019 Eastern

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	<p>species of which 17 (62%) are cited as being vulnerable and 5 (32%) are cited as being endangered. In this regard, section 2.1.7.9 of the IDP notes that <i>“significant portions of land in the Makana municipality are classified as ‘Critical Biodiversity Areas’. This means that these areas are to be managed for biodiversity and conservation, with only limited development in the form of small-scale tourism amenities recommended (emphasis added).”</i></p>		<p>Cape Biodiversity Plan, are detailed in the Ecology Impact Assessment (<b>Appendix D</b> of the BAR).</p>
88.	<p>None of the other important strategic spatial planning instruments such as municipal and district Spatial Development Frameworks (SDF) have been addressed. There is no credible analysis of what the future spatial vision is for the area or what the SDFs state about the future land use of the region and particular sites within the study area. Related to this, the relevance of strategic planning in respect of conservation and biodiversity protection are not considered adequate in general and as part of the need and desirability analysis. There are various strategic documents providing direction for biodiversity planning at the provincial, regional and local scales and none of those are addressed convincingly. The strategic importance, contribution and role played by the Indalo PE in this context is overlooked to the extent of being completely ignored in the BARs.</p>		<p>Relevant aspects of the District and Local Municipality SDF, including details regarding planning for the area, are detailed in Section 5.6 of the BAR. In terms of this, the project sites fall outside of any designated protected areas and are on the boundary of the defined tourism corridor.</p> <p>Relevant aspects of the Eastern Cape Tourism Master Plan (2014) and the Eastern Cape Environmental Management Bill (2019) have been included in Chapter 5 of the <u>Revised</u> BAR.</p> <p>It should be noted that the proposed wind farms fall within the Cookhouse REDZ, an area designated for the development of renewable energy at a national level. In this regard, it is expected that the provincial and local SDFs must take this into consideration in the future spatial vision for the area.</p>
89.	<p>This is particularly concerning since significant future economic development and tourism potential is locked up in the landscape and biodiversity value of the area. The sole reliance and motivation on the renewable energy sector is not an automatic justification for the desirability of the development which is how it is motivated by the EAP. This bias in motivation is problematic.</p>		
90.	<p>Although the Eastern Cape Provincial Draft Development Plan (PDP), 2014 identifies seven sectors with high potential for</p>		<p>The requirement of the EIA Regulations is for (i) an identification of all legislation, policies, plans, guidelines,</p>



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	<p>economic development, the BARs focus almost exclusively on climate change and renewable energy.</p>		<p>spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments.</p> <p>As the proposed activity relates to a renewable energy development, which also has implications in terms of climate change, these aspects are focussed on in accordance with the requirements of the Regulations.</p>
91.	<p>Considerations are selectively applied and relied upon in the BARs to motivate why the proposed Wind Garden and Fronteer WEFs are desirable. The BARs fail to note that the tourism sector, specifically eco-tourism, is an equally relevant sector. The aforementioned comments in the Makana IDP highlight the importance of the tourism sector and its interrelatedness with other sectors. A negative effect on one sector will have a ripple effect on a range of other sectors. The entire policy analysis and its interplay with need and desirability is flawed, as the BARs and various specialist reports have viewed the renewable energy sector as the only relevant strategic and policy consideration.</p>		<p>Chapter 5 of the Revised BAR has been updated to include detail on the contribution of tourism from the Sarah Baartman District IDP. Impacts on tourism (including eco-tourism) are assessed within the SEIA included as Appendix L of the BAR.</p> <p>As the proposed activity relates to a renewable energy development, which also has implications in terms of climate change, these aspects are focused on in accordance with the requirements of the Regulations.</p>
92.	<p>The PDP also expressly identifies game reserves in the Eastern Cape province as top attractions for international tourists and that international tourism spending is 40% greater than domestic tourism spending. This is an important issue as it has a direct impact on tourism property, the tourism market and the value chain associated with tourism operations.</p>		<p>Impacts on tourism are assessed within the SEIA included as <b>Appendix L</b> of the BAR.</p>
93.	<p>The importance of tourism as a sector and foreign tourism in particular is significantly underplayed in the BARs. This is a fatal flaw and must result in the rejection of the BARs outright.</p>		<p>Chapter 5 of the Revised BAR has been updated to include detail on the contribution of tourism from the Sarah Baartman District IDP. This states the following:</p>

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			<p><i>The contribution of the tourism as a key private sector driven industry, is noted within the IDP, however concern is drawn to the fact that from a district-wide perspective the contribution of the tourism economy to the regional economy in terms of total spending as a percentage of GDP, has reduced from 13.8% in 2006 to 7.4% a decade later.</i></p>
	<p><b>NEED AND DESIRABILITY</b></p> <p>94. The need and desirability of the proposed developments must be considered against other (competing) sectors and an accurate and credible impact assessment process. The cost benefit analysis undertaken by the EAP is not clear in terms of the reasoning for the conclusions in favour of the proposed Wind Garden and Fronteer WEFs to the exclusion of a range of severe and significant project-related impacts. The reasoning behind this analysis is required to be explained to I&amp;APs.</p>		<p>In terms of the requirements of the EIA Regulations, the BA Report is required to include a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location.</p> <p>The cost benefit analysis for the project provided in Section 12.4 is based on the outcomes of the various specialist assessments and considers impacts identified, the scale and extent thereof and the opportunity for mitigation. The conclusion states <i>"The benefits of the Wind Garden Wind Farm are expected to occur at a national, regional and local level. As the costs to the environment at a site-specific level have been largely limited through the appropriate placement of infrastructure on the project site within lower sensitive areas through the avoidance of features and areas considered to be sensitive, the benefits of the project are expected to partially offset the localised environmental costs of the wind farm. "</i></p>
	<p>95. Based on the comments provided during the public meetings and set out in these Comments, a credible and accurate assessment of several project specific impacts is lacking in the BARs and in respect of several specialist studies. This taint and in fact cripple the need and desirability analysis.</p>		<p>Responses to specific comments raised in this regard are provided within this CRR.</p>

No.	Comment	Raised by	Response
	96. Throughout the BARs and the specialist reports, there is a singular focus on the energy sector and benefits of renewable energy to the exclusion of other sectors and the relative benefits of other sectors. This bias (and motivation in favour of the proposed Wind Garden and Fronteer WEFs being approved) is replicated in the findings of the impacts assessed. The need and desirability analysis and its singular focus on energy generation with no meaningful integration of other sectors such as tourism and conservation are concerning and the reasoning behind this requires an explanation.		The project under consideration is a wind energy facility. As stated in the report, no other feasible activity alternatives are being considered by the developer. Therefore, the impact assessment is focused on the development of a wind farm (an energy project) as the only project proposal.
	97. The BARs do not analyse or assess the implications (project impacts) of the proposed WEFs for other sectors and to this extent the need and desirability analysis is flawed.		Assessment of impacts on the social environment (including other sectors such as game farms and tourist destinations) is included in the SEIA Report included as Appendix L to the BAR and the VIA Report included as Appendix K of the BA Report.
	98. To pass muster and satisfy the Need & Desirability Guidelines the need and desirability analysis must be informed by, as a bare minimum, of accurate and credible qualitative assessment of project impacts against the backdrop of a balanced account of the policy sector.		As set out in the CRR, the needs and desirability analysis is based on a full and accurate assessment of the project impacts against the backdrop of the relevant policies that were highlighted and discussed in an impartial and balanced manner.
	99. These aspects were not well considered in the demarcation of the REDZ, which means that the individual assessments within the REDZ need to engage with key questions around tourism and conservation impacts and impacts on existing operations informed by a minimum of qualitative assessment.		The SEIA includes an assessment of the impacts on game farms and tourism. The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.
	100. Based on the incomplete investigation of key impacts, the flaws identified in the assessments and the unjustifiably low		All issues identified within the DFFE screening report (as required in terms of GN R960 (promulgated on 5 July 2019)

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	<p>impact significance ratings, it is not possible for I&amp;APs to comment meaningfully on need and desirability, save to the extent that the analysis is superficial. It does not allow for the competent authority's decision-making process to satisfy the section 2 NEMA Principles.</p>		<p>and Regulation 16(1)(b)(v) of the 2014 EIA Regulations (as amended)) have been assessed within the BA Report (refer to Section 7.4 of the BA report). It is therefore unclear what key impacts are omitted from the investigation.</p> <p>Impact ratings are calculated based on a standard impact assessment methodology developed by Savannah Environmental, and used for the past 15 years. This methodology considers the nature, extent, duration, magnitude and probability of impacts in determining significance, as required in terms of the EIA Regulations. The purpose of utilising this approach is to reduce subjectivity in the determination of impact assessment ratings. It is unclear why the impact ratings are considered to be unjustifiably low, as no detail in this regard has been provided.</p>
101.	<p>At this stage, the analysis fails to comply with the Need &amp; Desirability Guidelines (DFFE) and is non-compliant with NEMA and the EIA Regulations.</p>		<p>The requirement of the EIA Regulations is for (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments.</p>
102.	<p>In the very least, all of the policies and strategies that are relevant to the specific context must be identified, considered and described in the BARs. Based on how this is done in the future in terms of a substantively amended and revised set of reports, I&amp;APs should be allowed to comment on this aspect in due course once the various errors and omissions identified herein have been rectified.</p>		<p>As the proposed activity relates to a renewable energy development, policies and strategies identified and detailed in Chapter 5 are applicable to this sector. Additional information has been added to Chapter 5 of the BAR in terms of the contribution of tourism from the Sarah Baartman District IDP. In addition, detail regarding the Eastern Cape Tourism Master Plan (2014) and the Eastern</p>

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			Cape Environmental Management Bill (2019) has been added.
103.	In terms of documentation released for public comment there is an alarming lack of a balanced consideration of the relevant issues.		This is a statement. No response required.
104.	In summary, the need and desirability of the projects: (1) is inconclusive; (2) is untested against applicable the policy and strategic context at local, provincial, national and international levels; and (3) is not measured rationally or objectively against key project impacts, especially the impact of the projects on the sustainability of existing operations and investments in the wildlife or ecotourism-based businesses and game reserves that operate in the immediate site context as well as those situated within the general region of Makana. The latter concern is unaddressed and unresolved. On this basis alone, the reports released for comment should be rejected outright and the process commenced afresh.		As set out in the CRR, the needs and desirability analysis is based on a full and accurate assessment of the project impacts against the backdrop of the relevant policies that were highlighted and discussed in an impartial and balanced manner.  Additional information on Need and Desirability of the project has been included in Chapters 6 and 12 of the Revised BA Report.
	<p><b>PROTECTED AREA / LANDSCAPE ECOLOGY IMPACTS</b></p> <p>105. Regarding land use and settlement patterns of the area, there are a number of protected areas in the region, including Kwandwe and several other wildlife or ecotourism-based businesses and game reserves that operate in the receiving environment.</p>		The presence of formally protected areas and nature reserves in the area is acknowledged and considered within the BA assessment and specialist studies undertaken.
106.	The impact on the Indalo PE, of which Kwandwe forms a part, and a number of owners of informal private protected areas, game farms and other farms surrounding the projects generally oppose the construction of wind turbines within the region. It is noted that these properties generally <i>"rely on the natural environment of the region in order to function effectively"</i> .		The comment is noted, and no further action is required.
107.	The Indalo PE has increased the conservation status and value of 68,075 hectares of Eastern Cape land, spanning six biomes,		The comment is noted, and no further action is required.

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	<p>including two global biodiversity hotspots of Fynbos and Albany thicket, and protects more than 88 species of threatened or endangered plants and animals. Indalo reserves also employ 1,079 people and support 3,992 dependents.</p>		
	<p>108. The full extent of potential impacts of the proposed Wind Garden and Fronteer WEFs on protected areas and landscape ecology (including the spatial components of interacting biophysical and socioeconomic features) has not been assessed. The following pertinent aspects are unassessed and remain unresolved:</p> <p>108.1. The impact on adjacent to landscapes of high wilderness and tourism value has been completely ignored. The reasoning for this omission is not clear from the BARs.</p>		<p>The visual impact was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be <b>high</b>.</p>
	<p>108.2. The strategic footprint of the proposed Albany Biodiversity Corridor appears absent from the BARs and specialist studies. The reasons for the absence should have been stated upfront as a key limitation.</p>		<p>the Eastern Cape Biodiversity Conservation Plan 2019 does not include reference to a corridor that runs through the area proposed for the wind farm. The development site is not located within any designated protected or conservation areas.</p>
	<p>108.3. It is uncertain whether all proposed landscape ecological corridors within the Albany Biodiversity Corridor and the Indalo PE and associated corridors have been addressed. Any omissions of ecological / biodiversity corridors (in either the BARs or specialist studies) should have been stated upfront as a key limitation.</p>		<p>As stated above, the Eastern Cape Biodiversity Conservation Plan 2019 does not include reference to a corridor that runs through the area proposed for the wind farm. Although the Wind Garden site is within the greater vicinity of the Indalo Protected Environment, it is not within any protected environment or conservancy itself.</p>
	<p>108.4. The absence of quantification of the conservation, economic and social benefit and public good associated with Indalo PE and the Game Reserves constituent members from the BARs and specialist studies is a significant omission and must be</p>		<p>The tourism sector is not accounted for as a stand-alone sector according to Statistics South Africa's Standard Industrial Classification reporting of economic activities, rather elements of the industry are accounted for within the</p>

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	<p>addressed in order to render the basic assessment process compatible with the requirements in NEMA.</p>		<p>trade, agricultural &amp; hunting, as well as finance &amp; business services sectors. The Makana IDP (2019/20) states that tourism and eco-tourism industries play an important role in terms of private sector economic output in the local economy, however concern is drawn to the fact that from a district-wide perspective the contribution of the tourism economy to the regional economy in terms of total spending as a percentage of GDP, has reduced from 13.8% in 2006 to 7.4% a decade later. The SEIA team has acquired additional secondary and primary data so as to quantify and qualify the output of the tourism industry, both within the immediate vicinity of the proposed WEFs and the broader Makana LM local economy.</p>
	<p>109. Most fundamentally, key stakeholders, and neighbouring landowners all of whom are directly affected by the proposed Wind Garden and Fronteer WEFs were completely ignored by the various specialists. This not only taints the credibility of the consultation process required to enable local content and knowledge of local conditions and impacts, but it also negates the ability of the process to fully assess and quantify the contribution that key stakeholders, neighbouring landowners make to the socio-economic and landscape ecology context. This has much wider strategic ramifications for the long-term integrity of protected areas management (and expansion) and associated biodiversity corridors and remain unresolved.</p>		<p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. It is not possible to consult with all of these, nor is it possible to provide photo simulations for all that are affected. The visual specialist did however engage with several of the affected parties and includes details of those with specific objections within section 6.4 of the VIA Report (Appendix K of the BAR).</p> <p>Based on comments received during the public review period for the BA report, additional interviews were undertaken by the socio-economic specialist. Based on the information obtained through this process, the report has been revised and is included as Appendix L of the Revised BA Report.</p>
	<p><b>IMPACTS ON BATS</b></p> <p>110. Our clients commissioned the services of Inkulukelo Wildlife Services ("IWS") to perform a high-level review in respect of</p>		<p>This is a statement. No response required.</p>

No.	Comment	Raised by	Response
	<p>the Bat Impact Assessment Reports ("the BIA Reports") compiled by Arcus Consultancy Services South Africa (Pty) Ltd in respect of the proposed Wind Garden and Frontier WEFs.</p>		
	<p>110.1 The primary concern raised by IWS related to the absence of "Appendix B" (wherein the various monitoring methodologies are described) as it was difficult to judge whether the monitoring methodologies were in strict accordance with the South African best practice guidelines by Sowler <i>et al.</i> (2017). The specific concerns raised include:</p>		<p>Appendix B details the pre-construction monitoring methodology implemented for the study. This was inadvertently omitted from the Bat Impact Assessment but has now been included in the Revised BAR (Appendix F).</p> <p>The monitoring was designed following best practise standards at the time (Sowler <i>et al.</i> 2017). The lead bat specialist is a co-author of these guidelines and has been involved in their development and refinement since 2014. Hence, he has intimate knowledge of the challenges with the development of best practise standards and discussion around how such standards should be applied. Notably in the best practise document is the statement that the document provides guidance on how to undertake bat monitoring, as opposed to providing a specific methodology for all sites. This allows for deviation from the guidance using a site-based approach and allows experience specialists, such as the lead bat specialist, to apply their knowledge to best design a program that will ultimately assist in understanding risk to bats and developing a management plan to mitigate risk during operation. The lead bat specialist is confident that the program adopted between 13 March 2019 and 16 June 2020 (i.e., 15 months as opposed to the minimum of 12 months – hence the work exceeded best practice by 3 months) provided sufficient data with which to evaluate risk to bats at the project site and propose a management plan for these risks.</p>
	<p>110.2 The fact that monitoring standards in the Sowler <i>et al.</i> (2017) where not applied. Within the almost 300 000 ha monitoring</p>		<p>The monitoring standards were applied (as mentioned above). At the time of proposal, this project represented</p>



No.	Comment	Raised by	Response
	<p>area, passive ultrasonic monitoring was performed at only 25 localities (including 11 "at height" monitoring localities, and 14 ground level monitoring localities). In terms of the Sowler <i>et al.</i> 2017 guidelines, monitoring of bat activity at height should be performed at 30 localities, and near ground level at 60 localities for a 300 000 ha area.</p>		<p>potentially the largest scale proposed wind development for which bat monitoring would be undertaken. The specialist believed that basing the number of monitoring stations solely on the best practise guidelines would result in an excessive amount of acoustic equipment to procure for the monitoring. Instead, the study was designed to ensure all biotopes were sampled across the landscape which was achieved with the 24 locations used. Sampling all biotopes is the essential factor in designing the monitoring study according to the guidelines and hence the core principles of the guidelines were adhered to in this study. In addition, the study aimed to focus acoustic monitoring in the rotor swept zone, the location of the major direct impact to bats. This was able to be achieved because 11 meteorological masts were available upon which to install equipment. This equipment was installed to record bats at 50 m and 80 m. This is counter to best practise which recommends (i.e., a recommendation is not binding) pairing a microphone at height (at height = above 50 m) with a microphone at approximately 7 m. However, the lead specialist believes that monitoring at 50 m and 80 m together would provide a dataset with significantly more utility in understanding bat activity patterns in the rotor swept zone compared to if the monitoring were undertaken at 7 m and 50 m or 80 m respectively. In other words, the study design exceeded best practise standards in terms of the monitoring height requirements. An additional reason for choosing two microphones at height was that this would facilitate more accurate modelling of bat activity at height. Statistical approaches were used, based on the 50 m and 80m data, to model and predict how bat activity would change with increasing height in additional effort to understand risk to</p>

No.	Comment	Raised by	Response
			<p>bats. Such modelling approaches are novel and move beyond the guidelines by attempting to understand bat activity and risk of wind energy to a level of detail for which the guidelines were not developed. This demonstrates the lead specialist's and client's efforts to manage risk to bats through a robust, bespoke monitoring program.</p>
	<p>110.3 It is not clear whether bat activity was in fact monitored at an adequate number of localities. A map should have been included which shows the boundaries of the proposed Fronteer Wind Garden WEF sites in relation to the boundaries of the Eastern Study Area, and the locations of the 25 passive monitoring localities.</p>		<p>As mentioned above, the number of sampling locations was sufficient to monitor bats across the representative biotopes in the study area. It must be noted that the individual wind farms which comprised the study area were not defined until after the monitoring commenced. This meant that a "landscape approach" to the monitoring was adopted in order to understand bat activity across the region. As such, the locations and distribution of detectors is not specific to the individual wind farms boundaries and assessing each wind farm boundary individually with regards to the minimum number of locations required would be counter to the study design.</p>
	<p>110.4 It is not clear if suitable driven transects were performed twice during each summer. A map should have been included which shows the transect routes and identity and / or number of bats that travel along these routes.</p>		<p>Drive transects were undertaken but did not yield very useful information on spatial bat activity patterns since low numbers of bat passes were recorded. The results of the transects are therefore not focussed on much in the reporting.</p> <p>Arcus undertook transects during 2 nights in winter, 3 nights in spring and 5 nights in summer. No autumn transects were done because of the national covid lockdown during this period in 2020. Best practise requires 8 nights of transects spread across all seasons (i.e., 2 per season) which was achieved and slightly exceeded.</p>

No.	Comment	Raised by	Response
			<p>In addition, the utility of drive transects to provide data that would help understand risk to bats in the rotor swept zone is low. As such, the monitoring focused on the at height acoustic data and roost surveys.</p>
	<p>111. Regarding the contents of the BIA Reports, we comment as follows:</p>		
	<p>111.1 While the Assumptions and Limitations are considered normal and reasonable, gaps in the passive monitoring are not mentioned.</p>		<p>The number of nights sampled is clearly shown in Table 2 of the BA report. It can be clearly seen that the number of sample nights varied by detector and that some microphones had technical issues; however, the vast majority collected sufficient data in line with best practise despite interruptions and gaps.</p>
	<p>111.2 The National Environmental Management: Protected Areas Act 57 of 2003 (NEM:PAA) is a central law that should have informed the content of the BIA Reports given the close proximity of various formal and informal protected areas to the proposed Wind Garden and Fronteer WEFs. The fact that NEM:PAA did not inform the legislative context of the BIA Reports is concerning.</p>		<p>Protected areas were considered and described in the BA, even by attempting to records bats close to these landscapes in recognition that bat activity might be higher in these areas compared to surrounding areas. The absence of this specific act from the list in section 2.3 in a minor oversight. This has been added to the bat impact assessment report included as Appendix F of the Revised BAR.</p>
	<p>111.3 The monitoring stations that were situated inside or close to the Fronteer and Wind Garden WEF sites should have been highlighted so that the local recorded levels of bat activity are more obvious.</p>		<p>A map indicating the monitoring stations has been included in the bat impact assessment report included as Appendix F of the Revised BAR.</p>
	<p>111.4 Habitat destruction, fragmentation and degradation should be considered in their own right and should not be lumped and assessed with bat displacement from habitats, under the term "Habitat Modification."</p>		<p>This is not something that is prescribed by the guidelines and the choice of how impacts are identified and/or grouped is up to each specialist and their experience. Major impacts such as those to roosts are separated into destruction and disturbance but the specialist believes that habitat modification (a minor indirect impact) encompasses destruction, fragmentation and degradation and that there is no need to separate these impacts – especially since they would all very likely be ranked as the same (i.e., low impact)</p>

No.	Comment	Raised by	Response
	<p>111.5 In respect of the proposed Wind Garden WEF, the evaluation of impacts and their mitigation, all proposed infrastructure (including especially the proposed 132kV powerline, and the substation) should be shown in the sensitivity map (Figure 3).</p>		<p>and require similar mitigation. Habitat Modification sufficiently describes the impact.</p> <p>All proposed infrastructure is already added and can be seen on Figure 2 of the bat impact assessment report included as Appendix F of the Revised BAR.</p>
	<p>111.6 The significance ratings should be influenced by the impact of the proposed WEFs on bat ecosystem services. The impact of the development on bat ecosystem services (e.g. insect pest control, plant pollination, seed dispersal, and thus habitat maintenance and re-generation) is not considered.</p>		<p>While bats are widely regarded and understood to provide essential ecosystem services, there is little empirical evidence which shows how mortality of bats (i.e., hence "removing" bats from an ecosystem) will result in a cascade of negative impacts on such systems (even though it may be hypothesized that this could occur, and may even be likely in some ecosystems where bats are keystone predators). Evidence of the positive net benefit of bats on pest control services is available from South Africa, including economic valuation of these services but directly evaluating and attributing the impact of wind energy on bat ecosystem services is not something that can be undertaken in the context of a baseline monitoring program. This would require a rigorous, scientifically designed study with appropriate controls in place which would allow such an assessment. Perversely, with the availability of operating wind farms currently in South Africa, such a study could be designed in future which would contribute to such an understanding.</p> <p>The significance ratings were influenced by the impact to ecosystem services since killing bats and modifying habitats would impact on ecosystem services. This was not included as a specific impact as motivated above because the</p>

No.	Comment	Raised by	Response
	<p>112. According to the inputs received from IWS, the prescribed curtailment of turbines requires refinement/revision as follows:</p> <p>112.1 A lower turbine cut-in temperature of 13 °C (not 17.5-18.5 °C) is advised;</p> <p>112.2 A statement needs to be included regarding the value, or determination of a quarterly bat fatality threshold; and</p> <p>112.3 In recognising that 38 or more fatalities occur during November, December and / or January, there needs to be clarity on what curtailment should be applied as well as clarity on where it should be applied (namely, across all turbines or only by those with fatalities).</p> <p>113. In light of the above, the Environmental Management Programme for the Wind Garden and Fronteer WEFs requires amendment / refinement to ensure that:</p>		<p>confidence level in such an assessment would have been low, with high uncertainty.</p> <p>It is unclear what IWS based the 13 °C criteria on. The choice of temperature chosen reflects the temperature range when 50 % of bat activity occurs which was selected as the impact threshold which is a common cut-off used by other specialists (although some do use 80%). Regardless, the specific temperature and curtailment algorithm would be continuously refined and adjusted during the operational phase of the project thus even a temperature of 13 °C might not be relevant.</p> <p>It has been made clear in the bat impact assessment report (Appendix F of the Revised BAR) that regularly (i.e., every quarter) evaluation of the bat fatality threshold against estimated fatality is beneficial to the overall effort to reduce impacts to bats – i.e., the regular evaluations allow for any impacts to be identified quickly so that they can be addressed timeously.</p> <p>This would form part of the adaptive management plan of the project, and it is assumed that the contracted bat specialist would be in charge of determining mitigation and curtailment in response to incoming fatality data. The curtailment algorithm provided in the report provides a useful starting point based on the relationship between bats and weather conditions found during the monitoring, but this would be updated by the specialist during the operational phase of the project.</p> <p>It is unclear what the refined/ revised curtailment recommendations are. Presumably this refers to comment 112.1 but as discussed this is subjective and there is no reason why the curtailment plan should be obliged to change at this point in time. The curtailment algorithm</p>

No.	Comment	Raised by	Response
	113.1 The refined/ revised curtailment recommendations are fully incorporated;		should be updated with incoming operational monitoring data (activity and weather) during the operational phase of the project and the curtailment plan updated.
	113.2 An independent company (rather than the O&M Operator) is tasked with analysing the bat fatality data and prescribing appropriate adaptive mitigation; and		Agreed. It is assumed that a bat specialist would be contracted to execute this. This has been updated in the bat impact assessment report (Appendix E of the Revised BAR) and included within the project EMPr ( <b>Appendix N(1)</b> ).
	113.3 The Wind Garden and Fronteer WEFs, respectively, are obliged to promptly act (within two weeks) if / when a quarterly / biannual / annual bat fatality threshold is exceeded.		Agreed, it is assumed that a bat specialist would be contracted to execute this. The assertion of within 2 weeks is subjective but ideally, the bat specialist contracted would determine the appropriate actions and timescales depending on site findings. This has been clarified in the report (Appendix E of the Revised BAR) and included within the project EMPr ( <b>Appendix N(1)</b> ).
	<p><b>SOCIO-ECONOMIC IMPACTS</b></p> <p>114. The accuracy of the information contained in the SEIAs is essential to the credibility of the basic assessment process and the assessments undertaken therein. In this case, much of the information contained in the SEIAs is inaccurate, and this casts doubt on the outcomes that were determined. A central concern is the fact that those who have been most directly impacted by the proposed Wind Garden and Fronteer WEFs were not consulted.</p>		Based on comments received during the public review period for the BA report, additional interviews were undertaken by the socio-economic specialist. Based on the information obtained through this process, the report has been revised and is included as <b>Appendix L</b> of the Revised BA Report.
	115. The risks and socio-economic impacts that the proposed Wind Garden and Fronteer WEFs will have on adjoining game reserves, adjacent landowners, existing biodiversity or wildlife-based enterprises and their value chains are not taken into account in the conclusions in the SEIAs. The effect of ignoring the risks and impacts on relevant stakeholders is to significantly obfuscate and underplay the possible negative consequences of the proposed WEFs, whilst exaggerating the		The SEIA study has identified 10 short-term (construction related) impact indicators and 10 operational related socio-economic impact indicators. Over both phases of the proposed development seven impacts are forecasted to be negative before and after mitigation, while 13 are anticipated to be positive, before and after mitigation.

No.	Comment	Raised by	Response
	<p>alleged positive impacts. This is not a balanced consideration of project impacts. From the content in the SEIAs, it is clear that the impact of the Wind Garden and Fronteer WEFs on the aforesaid stakeholders is blatantly ignored.</p>		<p>All of these impacts are assessed in the SEIA report and inform the conclusion of the study.</p>
116.	<p>The SEIAs relied on literature that can be discredited because the studies that were undertaken in other countries are not based on comparable circumstances that are relevant from a South African context.</p>		<p>It is acknowledged that limited, if any, academically published research is available in a South African context which considers the specific impact of wind farms on the safari/wildlife/ecotourism-specific industry. The draft SEIA studies has presented and referenced up to 19 published studies providing perspective as to the impacts of wind farms on the tourism industry and property values in various countries. The cross-section of literature reviewed in Chapter 6 of the SEIA cannot simply be dismissed. Several commonalities between the study areas considered in the literature, and the study area dynamics of this area should be appreciated, these include:</p> <ul style="list-style-type: none"> <li>» The regional origin of tourists is similar i.e., both sets of tourists originate in the majority from European/British Isles.</li> <li>» Study areas in the literature are predominantly rural in nature</li> <li>» The tourism industry in each of the respective countries, like in a South African context, is recognised as an economic driver</li> <li>» A dominant characteristic of many of the study areas considered in the literature, is that the respective areas' scenic vistas and sense of place are an important drawcard for tourists looking to enjoy the natural environment.</li> </ul>
117.	<p><u>The following points are noteworthy from the Iceland study, undertaken in 2020:</u></p> <p>117.1. The Iceland study indicates that the number of wind turbines was far less than when compared to the number of wind turbines for the proposed development. Since there were two wind turbines, it would have a minimal impact on an area of this size. The impact of two wind turbines can hardly be likened to the current proposals entailing 85 structures to be erected on a ±6,000 ha piece of land.</p>		
117.2.	<p>The receiving environments of Iceland and South Africa are materially distinct, and no meaningful comparison can be made between the two. The landscape of Iceland comprises mountains, volcanoes, large ice caps and glacial rivers. When taking a photo of this environment, orientation is far less important than when taking a photo of, for instance, an elephant or rhino with a view of turbines in the background. The Iceland study does not reflect this unique aspect of the receiving environment around our clients.</p>		
117.3.	<p>Manmade structures can be hidden from tourism gateways due to Iceland's fairly mountainous landscape, whereas it is more challenging to hide the presence of wind turbines in a South African context.</p>		

No.	Comment	Raised by	Response
	117.4. The location where the Iceland study was undertaken is not considered to be a tourist area, notwithstanding the fact that one needs to travel through the area to arrive at the tourism destination. As such, the receiving environs and neighbourhood area is not comparable with the subject property in South Africa.		Several I&APs have acknowledged one specific study (Broekel & Alfken, 2015) that they feel emphasises the negative correlation between presence of turbines and tourist visitor numbers. This study (Gone with the wind? The impact of wind turbines on tourism demand (Broekel & Alfken, 2015)) has been added to Section 6.1 of the revised SEIA report included in Appendix L of the Revised BA Report.
	117.5. Residents that accrue monetary benefits from inter alia rental for the property on which the farms are developed and increased retail spending in the construction phases are more receptive to the development than tourists, who prefer that protected areas are shielded from unsightly development activities.		The comments on the international studies by the stakeholder are noted. No response required.
	118. <u>The following points are noteworthy from the New Hampshire study, undertaken in 2013:</u>  118.1. The studies indicate that the negative perception of the wind farms diminish with time as the residents grow accustomed to the development. The results that negative perceptions seemingly decline does not demonstrate that the economy or property market was not affected; instead, it merely shows that it was too late to take action as the damage had been done already.		
	118.12 New Hampshire is known for its forests and is fairly mountainous. There is a strong likelihood that the wind farm was less visible because of the area in which it was situated.		
	118.3. At least 36.6% of the visitors travelled to the site with the purpose of visiting a destination, without an option of going elsewhere once the wind farm was constructed. A visitor is unlikely to change their location on the basis of visual disturbances due to wind farms if the purpose of their visit was not influenced by the scenery of the area. This study is not comparable to the neighbouring areas of the proposed		



No.	Comment	Raised by	Response
	<p>Wind Garden and Fronteer WEFs, where tourism is a key reason for people visiting the area.</p> <p>119. <u>The following points are noteworthy from the Northumberland Study, undertaken in 2014:</u></p> <p>119.1. This survey was aimed at “potential” visitors who had not yet experienced the natural beauty of the area. These potential visitors are more likely to respond positively to the development, when compared to a visitor who has already experienced the area and who thus, has a better understanding of the full effect of the development.</p> <p>119.2. A limitation of the study, as indicated by the author of the study, was that the actual impacts of the wind farms on tourism are not assessed because of its “<i>geographical remoteness to Northumberland</i>”. Consequently, the study “<i>only gives an indication of potential visitor intentions, not actual visitor intentions</i>”.</p> <p>119.3. <i>Certain</i> statistics that are contained in the Northumberland study were omitted from the SEIA. These include:</p> <p>119.3.1. Of the 410 respondents, 11% (45) would be discouraged from visiting Northumberland due to the wind farms and two thirds of those are male.</p> <p>119.3.2. 19% (78) indicate that their decision to visit Northumberland is likely to be affected by wind farms.</p> <p>119.3.3. 30% of respondents will definitely or may be encouraged to book a holiday / visit to somewhere other than Northumberland in the future because of the presence of wind farms.</p> <p>119.4. It is thus evident that only the “positive” conclusions (i.e. those conclusions which are intended to enhance or promote the positive socio-economic benefits of the</p>		<p>The SEIA Report presents a summary of the studies reviewed. It is concluded that “<i>it can be surmised that it cannot be ruled with confidence whether wind farms have or do not</i></p>

No.	Comment	Raised by	Response
	<p>proposed Wind Garden and Fronteer WEFs) were selected by the authors of the SEIAs, without providing information on the negative feedback. This one-sided and selective reporting is not indicative of an unbiased and objective opinion which is required in terms of the impact assessment process. This one-sided approach casts doubt over the unqualified use of these reports and the objectivity of the authors of the SEIAs.</p>		<p><i>have a negative impact on tourism but, those studies that pointed to the possible negative effects report marginal and not detrimental impact on tourism (Aitchison, 2012; Moffatt Centre, 2008; The Tourism Company, 2012; Sæþórsdóttir &amp; Ólafsdóttir, 2020; Broekel &amp; Alfken, 2015). It appears that many other factors such as the size and range of wind farms, the demographics of tourists (families with kids are more accepting of wind farms), the landmarks, location of the wind farm in relation to the tourist destination, and other physical and environmental attributes of the destinations all contribute to the decision of tourists to visit or re-visit an area. One trend that seems to be common though is that the outcry against wind farms is generally considerably greater during the pre-construction stage than during operations suggesting that initially perceived negative impacts to be associated with wind farms do not always come to fruition."</i></p>
	<p>120. <u>The following points are noteworthy from the Scottish Study, undertaken in 2008:</u></p> <p>120.1. Key findings from the in-person survey showed that some 44% of respondents did not like to see several wind farms in the same view. The general trend was that wind farms had a limited effect on decisions to visit the area again.</p> <p>120.2. The internet survey focussed on two groups, from UK and US, respectively. Of the 606 UK residents surveyed, only 34% (206) indicated that the reason for their visit was "to see Scotland". The remainder were in Scotland for destination based purposes (such as shopping, visiting friends and family or attending an event or business). Of the 103 US based visitors, 68% (70) indicated their reason to visit as "to see Scotland".</p>		<p>According to the summary of the tourism overview provided in the SEIA:</p> <ul style="list-style-type: none"> <li>» <i>Scottish tourism depends heavily on the country's landscape, with 92% of visitors stating that scenery was important in their choice of Scotland as a holiday destination, the natural environment being important to 89% of visitors (Tourism Attitudes Survey 2005).</i></li> <li>» <i>Scotland prides itself on its countryside, hills and landscapes, ancient landmarks and coastal seascapes</i></li> </ul> <p>The study was considered due to commonalities between the study areas considered in the literature, and the study area dynamics.</p>

No.	Comment	Raised by	Response
	<p>120.3. From the total number that was surveyed (709), only 267 indicated the reason for their visit as "to see Scotland". This means that less than 38% of the people who had been surveyed were visiting to view the scenery of the area. This fact alone brings the relevance of this study into question, given that majority of visitors to the neighbourhood area of the Wind Garden and Frontier WEFs visit in order to see the country side and the scenic beauty that the area offers. The study is therefore not suitable to be used in the SEIAs as a basis for the potential or the actual impacts of the proposed WEFs on tourism in the Eastern Cape province of South Africa.</p>		
	<p>121. <u>The Ireland Study undertaken in 2012 was a follow-up on a previous study, concluded in 2007:</u></p> <p>121.1. As such it is more focussed on changes in behaviour and attitudes in the intervening period rather than on future decisions. The differences indicate that over time, the percentage of respondents that had no opinion decreased from 49% to 23%. Those opinions that were positive changed from 32% to 47% and those opinions that were negative changed from 17% to 30%. This indicates that people either grew accustomed to the wind farms over time, or that they had more negative experiences with them. This study does not show the initial impact of wind farms on tourism, so its value in informing the content of the SEIAs is limited.</p>		<p>According to the summary of the tourism overview provided in the SEIA:</p> <ul style="list-style-type: none"> <li>» "Ireland is seen as a major tourist attraction most notably for its green hills, unspoilt cliffside views, culture and romantic scenery"</li> <li>» Ireland's scenery has been a cornerstone of international tourism marketing campaigns for decades. In 2012, 91% of overseas holidaymakers to Ireland rated scenery as an important part of a destination with natural/unspoilt environment also rated highly at 91%. The future sustainability of Ireland's tourism industry is, therefore, inextricably linked to the maintenance of the character and scenic qualities of the Irish landscape.</li> <li>» Wind farms tend to be located in upland areas and areas close to the coast where the wind speeds are greatest, and these areas also contain some of the most valuable scenic landscapes</li> </ul>

No.	Comment	Raised by	Response
	<p>122. <u>The Portugal study conducted in 2017 is of very limited use</u>, as only 68 visitors and 21 residents were interviewed. In terms of demographics, 17% were foreign tourists (of the 68 visitors, 53 were Portugese and 15 were Spaniard). The reason for visiting the area is not mentioned in the study. If, for instance the reason was to visit friends and family, then the existence of a wind farm will have a limited impact on the visitor experience. This could well be reason for the anecdotal comment that “visitors continue to come to Sortelha” Furthermore, the sample size of this study makes it a poor comparison for the Wind Garden and Fronteer WEFs and it adds limited value to the findings of the SEIAs.</p>		<p>The study was considered due to commonalities between the study areas considered in the literature, and the study area dynamics.</p> <p>According to the summary of the tourism overview provided in the SEIA:</p> <ul style="list-style-type: none"> <li>» “Sortelha is a village located in a mountainous area, with stone outcrops of granite, in the municipality of Sabugal, some 30 km from the city of Guarda in central eastern Portugal, close to the border with Spa.”</li> <li>» “Sortelha includes two separate places: the walled village, a designated built heritage site, and the outskirts of the village, where the great majority of its about 150 permanent residents live.”</li> <li>» “The main sources of income for local families are employment in public or municipal administration, small-scale retail, money transfers from pension and retirement payments, and tourism, complemented by small-scale agriculture for family consumption. Today, tourism occupies 12% of residents – who work in tourist accommodations (8 units, providing a total of 19 bedrooms), restaurants (2), cafés/snack-bars (4), the tourist office, handicrafts, or home-made food products, but also relies on the built heritage site and its rural setting/landscape.”</li> </ul> <p>The study was considered due to commonalities between the study areas considered in the literature, and the study area dynamics.</p>
	<p>123. <u>With regard to “RSA Studies”, the authors requested that several accommodation establishments complete questionnaires.</u> In this regard, we comment as follows:</p>		<p>Comments are responded to in the sections below.</p>

No.	Comment	Raised by	Response
	<p>124. Limited or no information is supplied on the type of questions posed or the responses received and I&amp;APs cannot comment on the accuracy of the conclusions that were drawn from this survey. The following concerns are raised in respect of the South African studies:</p> <p>124.1 Only eight establishments were contacted. This is not a basis for legitimate, accurate or credible conclusions for the assessment. The EAP is requested to motivate the reasons for why this level of study is deemed accurate.</p> <p>124.2 Of the eight establishments that were contacted, three are situated in Makhanda (these include: a bed and breakfast establishment, a backpackers lodge and a guesthouse). None of these establishments are focussed on game reserves, ecotourism, the landscape around our clients or the experience of nature, but rather cater for over-night guests or visitors to the town. This is a fatal flaw for the following reasons:</p> <p>124.2.1 Being located in Makhanda, a wind farm some 5km from the town will have a limited impact on guest numbers or income.</p> <p>124.2.2 This is due to the limited visual and other disturbances that it causes in Makhanda.</p> <p>124.2.3 The type of guests frequenting these type of establishments in Makhanda has no resemblance to the type of guests to the farms and lodges in the neighbourhood area surrounding the projects.</p> <p>124.2.4 The guest requirements for establishments in Makhanda will, therefore, vary significantly making a meaningful comparison in terms of impacts impossible.</p> <p>124.3 Three establishments that were contacted are based in Jeffrey's Bay / Oyster Bay. These include a multi-use venue,</p>		<p>The SEIA does not seek to present these primary engagement findings as being peer-reviewed, academic, and statistically relevant research. These are included so as to add value to the research. It is acknowledged that the information is presented in an anecdotal manner by participants, however, when contrasted with the findings from the secondary research, it is evident that the observations of the local estate agents largely correlate with the findings from other international studies.</p> <p>The data collected for the SEIA was not only focussed on determining impacts on game reserves or ecotourism. Impacts on other sectors was also required to be considered, including small businesses such as guest houses. The section in the SEIA report where these interviews are detailed deals with <i>Effects of Wind Farms on Business Tourism</i>. This information has informed the assessment of impacts on other tourism industries in the broader area within Chapter 8 of the SEIA Report.</p>

No.	Comment	Raised by	Response
	<p>a lodge and self catering accommodation, making a meaningful comparison in terms of impacts impossible.</p>		
124.4	<p>As similarly pointed out in the comments relating to the Makhanda establishments, the distance from wind farms is not reflected, so the evaluation of the evidence presented is impossible.</p>		
124.5	<p>It may well be that these three establishments are shielded from the wind farms by mountains or vegetation, with the only effect being a drive-by rather than having a view affected.</p>		
124.6	<p>Based on knowledge of the hospitality market in the area, it is safe to assume that the type of guest to these three ventures will have completely different hospitality requirements, most likely not aimed at seeing nature / experiencing the eco-tourism market. The information obtained from these establishments is in no way comparable to the circumstances prevailing on the ecotourism operations of our clients.</p>		
124.7	<p>The last two respondents are located in Cookhouse. The same issues noted above are also applicable to the two ventures in Cookhouse.</p>		
125.	<p>With this in mind, we are of the opinion that limited value can be placed on any of the conclusions drawn from either the international or local studies used in the two SEIAs. The type of project impact specific to the receiving environment, the type of tourist, the purpose of visits and the level of visual and other impacts differ vastly between the studies and the neighbourhood area. The studies are of limited value in this context.</p>		
126.	<p>The SEIAs ignore studies which conclude that there is a significant change in tourist behaviour once a wind farm is developed. We draw attention to key issues and conclusions</p>		<p>Several I&amp;APs have acknowledged one specific study (Broekel &amp; Alfen, 2015) that they feel emphasises the negative correlation between presence of turbines and</p>

No.	Comment	Raised by	Response
	<p>drawn from the study "<i>Gone with the wind? The impact of wind turbines on tourism demand</i>" that was completed in August 2015, by Tom Broekel and Christoph Alfken:</p> <p>126.1. Contrary to other studies relying on surveys and interviews, this study focusses on statistics on tourism and a comparison to the location of turbines in Germany.</p> <p>126.2. Spatial panel regression techniques are used to determine their relationship.</p> <p>126.3. Four other studies are also noted in this report, all based on surveys. This was used to show the anomalies in this type of study and also to determine the pitfalls that had to be avoided in the new study.</p> <p>126.4. As in South Africa, Germany experienced a significant growth in wind farms, from close to 0 in 1984 to 23,095 turbines at the end of 2012.</p> <p>126.5. There is a difference in the relationship between inland tourism and wind turbines, and coastal tourism and wind turbines. This is ascribed to the visitor requirement being different, with coastal visitors requiring "<i>close to nature</i>" vacations. This will therefore be comparable to the type of tourism in the SEIAs study areas.</p> <p>126.6. The study found a negative relationship between the installed capacity of wind turbines in municipalities and tourist demand. Moreover, tourist demand is negatively related to the ratio between the number of wind turbines installed within and in the vicinity of municipalities. This second conclusion was however only observed in one model.</p> <p>126.7. One conclusion that is still open for discussion is the positive relation between the number of installed wind turbines in the surroundings of a municipality and tourist demand. The</p>		<p>tourist visitor numbers. This study (<i>Gone with the wind? The impact of wind turbines on tourism demand</i> (Broekel &amp; Alfken, 2015)) has been added to Section 6.1 of the revised SEIA report included in Appendix L of the Revised BA Report.</p>

No.	Comment	Raised by	Response
	<p>authors' explanation for this is that tourists avoid areas with high and further increasing turbine densities. Tourists prefer to stay in the same district, but another location, not more than approximately 20km away, where the density of wind turbines is lower. This is evident from the fact that areas with a lower density of turbines show an increased tourist demand when the density in other close-by areas are increased.</p>		
	<p>126.8. Furthermore, <i>"tourists tend to avoid their preferred destinations when these are characterised by large wind turbine numbers and the surrounding regions offer locations less exposed to wind turbines. These tourists want to stay in the greater region and therefore close locations in the vicinity of their original destinations, with less turbines"</i>.</p>		
	<p>126.9. The studies revealed a negative relationship (in log form) of -0.01. This implies that a 1% increase in the installed wind turbine capacity relates to a reduction of 0.01% in the occupancy rates in the same and subsequent years. However, as general occupancy rates increase on an annual basis, this negative impact is difficult to observe in reality.</p>		
	<p>127. In case of negative externalities, the BARs and specialist studies do not fully account for social and economic costs, and social welfare. Research or policy concerned with internalisation must be informed about the categories and scope of externalities as well as the state of knowledge. However, as the application of a narrow externality concept can be quickly stretched to its limits, this literature review pursues a more encompassing and pragmatic approach. Providing a qualitative map of the public economics of wind power, this paper surveys the literature to identify external effects, whether triggered or mitigated, as well as further</p>		



No.	Comment	Raised by	Response
	<p>unintended consequences. Evidence is structured according to scope and effect, with central findings synthesised. There is no existing comprehensive literature review, consolidating evidence from otherwise disparate sources: economics, ecology, geography, public health, as well as economics and engineering which is a gap this paper addresses.</p>		
	<p>128. The EAP and the specialists did not attempt to engage our clients or their guests about the potential impacts of the Wind Garden or Fronteer WEFs. The same applies to other game reserves and ecotourism operations in the affected area. In relation to a similar application for a renewable energy facility, Kwandwe consulted its client base in order to offer insight into how its clients would respond to the construction of wind farms which are in close proximity to it. It was also to determine how tourists who are familiar with the landscape and the eco-tourism product offered by Kwandwe would perceive the development of a wind farm in close proximity to Kwandwe. This shows how these tourists perceive wind farm related impacts and also how it might influence their behaviour and choices in future, regarding tourism destinations.</p>		<p>All parties represented by Mr Summers are registered on the project database and have been part of the consultation process. An information meeting was held by the public participation consultant and member of the EAP team with Kwandwe Private Game Reserve (at which Mr Summers was present) in November 2020 where the project was presented, and initial inputs requested from the I&amp;AP prior to the release of the BA Report.</p> <p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. Kwandwe was amongst them and was visited by the VIA specialist.</p> <p>Based on comments received during the public review period for the BA report, additional interviews were undertaken by the socio-economic specialist. Contact was attempted with a total of 14 adjacent and nearby landowners within viewshed of the proposed developed, with only 5 completed responses received (refer to Annexure A meeting was held with Mr Angus Sholto-Douglas (Kwandwe) &amp; Dr William Fowlds (Amakhala), 18 May 2021. A of the revised SEIA Report included in Appendix L of the Revised BA Report).</p>

No.	Comment	Raised by	Response
	<p>129. The opinions of the respondents of that survey can be supplied on request, but the following comments can be viewed as a summary:</p>		<p>The comments provided are noted. The questions asked and responses provided can however not be verified as they were not provided to the project team, and could therefore not be used to inform the revised SEIA.</p>
	<p>129.1. The scale and location of wind turbines would appear as visually intrusive and alien features in an otherwise undisturbed landscape. This would be harmful to the special character and natural beauty of Kwandwe Game Reserve.</p>		
	<p>129.2. <i>"The visual dominance of the wind turbines throughout the day and night would inevitably impact on my choice to visit Kwandwe as a tourist destination".</i></p>		
	<p>129.3. <i>"The visibility of wind farm from within Kwandwe would mean that unfortunately I would no longer visit Kwandwe to enjoy the unique tourist experience currently offered".</i></p>		
	<p>130. One respondent is a Chartered Town Planner and Senior Director at Pegasus Group, one of the UK's leading planning consultancies. He has extensive experience of preparing and assessing Environmental Impact Assessment for major development proposals. He further states: <i>"I acknowledge the contribution that wind farms can make in addressing climate change. Nevertheless, wind farm developments need to be sited in appropriate location and avoid sensitive landscapes. In this instance, the benefits of wind power should be balanced against the harmful environmental impacts on the natural landscape and the harmful economic impacts on the local tourist industry".</i></p>		
	<p>131. The loss of rates revenue to the Municipality as a consequence of reductions in property values (which for the reasons set out herein is unassessed and unresolved project-related impact) is not addressed.</p>		<p>The SEIA (Appendix L of the Revised BAR) finds that the potential impact on property values is expected to be low, see reasons provided in Chapter 6. Any future changes to the Makana Valuation Role and resultant 'loss of rates' are not anticipated to be significant in the context of the municipality as a whole. Potential small changes in isolated</p>

No.	Comment	Raised by	Response
			individual property values need to be appreciated in contrast of the various positive socio-economic impacts presented in the study.
	132. There is a general failure to consider the full range of externalities that are created by enterprises in the nature-based value chain and how this stands to be affected. The full impact (direct, indirect, consequential and cumulative impacts) on the value chain needs to be considered.		The regional contribution of the tourism industry and its various facets included as part of the Standard Industry Classification sector contributions have been updated and included in the updated SEIA report, see Section 3.
	133. The IDP expressly recognises the interrelatedness of various industries and, by implication, the danger for ripple effects to be experienced across a range of different services, industries and sectors. Section 2.3.13 of the Makana Municipality IDP states that <i>"although manufacturing is a relatively small portion of the Makana GDP, it is still an important industry that supports the agriculture and ecotourism industries. This further contributes value to the other sectors in the economy."</i>		Impacts on services, industries and other sectors as a result of the proposed project are included within Section 8 of the SEIA Report. These include: <ul style="list-style-type: none"> <li>» Temporary increase in the GDP and production of the national and local economies during construction, including consideration of sectors and industries that will receive a stimulus during construction.</li> <li>» Negative impact on the local tourism, game industry and associated industries during construction and operation.</li> <li>» Impact on economic and social infrastructure during construction.</li> </ul>
	134. The entire assessment is based on the unsubstantiated proposition that these competing land uses can co-exist in this specific context. The conclusion is flawed as it underplays (to the extent that such concerns are ignored) the possible negative consequences of the proposed Wind Garden and Fronteer WEFs. The resultant land use conflict places the proposed development entirely at odds with key aspects of applicable policies, including the Municipal IDP and various biodiversity conservation sector plans and guidelines.		The SEIA study has identified 10 short-term (construction related) impact indicators and 10 operational related socio-economic impact indicators. Over both phases of the proposed development seven impacts are forecasted to be negative before and after mitigation, while 13 are anticipated to be positive, before and after mitigation. These impacts are assessed and the outcomes inform the conclusions and recommendations made.  The Makana Municipality has identified alternative energy production as a key aspect in securing energy for future

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	<p>135. The SEIAs conclusions on the impact on tourism (i.e. that the wind farms will not significantly negatively influence the tourism industry or impede the influx of visitors to tourist facilities or lodges within the region) are flawed. The studies used as basis for the conclusions are not comparable, nor compatible to the situation in the receiving environment. Literature indicating a conclusion to the contrary of the reported studies was disregarded and there was no engagement with Kwandwe, one of the largest hospitality enterprises in the area and our other clients who are all directly impacted stakeholders. In fact, none of the other tourist operations in the area were consulted regarding tourism impacts. There is no evidence of primary research on the tourism market, nor was there any meaningful attempt to assess the actual impact of the proposed Wind Garden and Fronteer WEFs on tourism in the area. The conclusion that tourist numbers will not be affected is thus, in our opinion incorrect and not representative of actual trends.</p>		<p>development of the municipality. The municipality has also stated their desire to produce a policy which will enable the evaluation of renewable energy generation infrastructure to be developed in a manner that will limit the potential negative impacts thereof. Furthermore, the IDP also indicates the presence of existing wind energy facilities in securing energy and developing a sustainable future (key principle). The project is therefore in line with the IDP for the local municipality.</p> <p>Although the Wind Garden Wind Farm is within the greater vicinity of the Indalo Protected Environment, the proposed site does not fall within any protected environment or conservancy.</p> <p>Based on comments received during the public review period for the BA report, additional interviews and research were undertaken by the socio-economic specialist. Refer to Appendix A of the revised SEIA Report included in Appendix L of the Revised BA Report.</p>

No.	Comment	Raised by	Response
	<p><b>Note: The Footnotes included in the submissions above have not been captured in this C&amp;RR – please refer to the original submission in Appendix C7 of the <u>Revised</u> BA Report.</b></p> <p><b>APPENDIX A: Appraisal Kwandwe</b></p> <p><b>APPENDIX B: Appraisal Clifton</b></p> <p><b>APPENDIX C: VIA Review</b></p> <p><b>APPENDIX D: HIA Review</b></p> <p><b>APPENDIX E: BARs Review</b></p> <p><b>APPENDIX F: Avifaunal Review (WindGarden)</b></p>		<p>The EAP acknowledges the information content of the Appraisal submitted.</p> <p>The EAP acknowledges the information content of the Appraisal submitted.</p> <p>Refer to <b>Appendix C9g</b> of this CRR for the Visual Specialist's response.</p> <p>Refer to the revised HIA included in Appendix I of the Revised BAR</p> <p>Refer to <b>Appendix C9h</b> of this CRR for the EAP's response.</p> <p>Refer to <b>Appendix C9i</b> of this CRR for the Avifaunal Specialist's response.</p>
4.	<p>Let me take this opportunity to thank you on bringing the development close to our rural area. I thank you for the information.</p>	<p>Ntombobidi Solo                      Director                      Dbongs Trading (Pty) Ltd</p> <p>E-mail: 04 March 2021</p>	<p>The positive comment is acknowledged.</p>
5.	<p>Ek sien die skakel op julle webwerf benodig 'n kode voordat ek die dokumente kan aflaai, ek kan nie 'n kode kry op die epos waarin my registrasie bevestig is nie.</p> <p>Kan jy asseblief vir my 'n kode stuur sodat ek toegang tot die dokumente kan kry.</p> <p><b>Translation:</b>                      It is noticed that a code is required to enable downloading of the documents – the code is not included in the e-mail received in response to my registration.</p>	<p>Magnus van Rooyen                      I&amp;AP</p> <p>E-mail: 04 March 2021</p>	<p>The automated registration and release code function malfunctioned. The link and release code were e-mailed to the I&amp;AP (refer to <b>Appendix C6</b> of the final BA Report).</p>

No.	Comment	Raised by	Response
	Please provide me with the code to download the documents.		
6.	Please can you provide me with the shapefile/s of the locality for this project.	Shanè Gertze Environmental Planner Eastern Cape Parks & Tourism Agency  E-mail: 05 March 2021	The requested KMZ file was emailed to the stakeholder on 05 March 2021 (refer to <b>Appendix C6</b> of the final BA Report).
7.	Hope you are well?  Whilst our company is extremely well versed in the renewable space, I am fairly new to it and would like to connect with you if you don't mind.  Just to ask a few questions around the 9 eastern cape projects.  Would you be open to a teams chat tomorrow sometime?	Bronwyn Jackson Area Sales Manager – Border Region Workforce staffing  E-mail: 09 March 2021	As employment, construction and operation of the proposed wind farm is not part of Savannah Environmental's scope of work, the request for a meeting was forwarded to the applicant for their attention.
8.	We own and operate a local and International hunting operation and it is a requirement that we offer an unspoilt environment, which includes visual pollution.	Patrick Billson Owner Buffalo Billson Farming & Wildlife  Registration & Comment Form: 12 March 2021	Comment noted. The visual impact for the project was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be high.
9.	I received your notice regarding the meeting on Monday.  To be 100% crystal clear - Woodlands Safari Estate Opposes any wind farm development in the Fish River Valley and surrounding regions to Grahamstown, namely; <b>WIND GARDEN WIND FARM AND FRONTIER WIND FARM, EASTERN CAPE PROVINCE.</b>  As a game reserve/ecotourism/hunting operator we have major concerns with these proposed wind farms. Please could you address the following:	Carl van Zyl Woodlands Safari Estate  E-mail: 12 March 2021	Opposition to the projects is noted. No further action required.  No Cape Vultures were recorded on the Wind Garden site. The developer is committed to implement an Ornithological Mitigation Plan that is being developed with

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	<p>1. Cape Vultures - We have a large Cape Vulture flock 20-60 birds regularly visiting Woodlands Safari Estate. How do you propose that these endangered vultures are protected and not harmed? I would gladly provide video evidence. We have hundreds of videos and evidence of their regular presence.</p>		<p>stakeholders, to ensure the delivery of the proposed mitigation and enhancement measures. This includes the removal of any carcasses from the site to ensure that no birds such as vultures are attracted to the site.</p> <p>The promotion of a vulture restaurant by Woodlands is considered to be counterproductive to conservation considering its location to the known Aggiesvlei Vulture Roost and the large number of existing turbines situated between these two which more than likely unnecessarily promotes increased vulture fatalities due to collision.</p>
	<p>Bats - It is common knowledge that the endangered bat species are being wiped out on the Bedford flats due to the existing wind farms located there. Farmers openly talk about the amount of dead bats found under the towers. How will a new wind farm have any less effect on the bats?</p>		<p>The unfortunate reality is that wind farms may cause bat fatalities, however, the precautionary principal approach is to prevent as many bat fatalities as possible so that it doesn't affect the overall population. The most effective way to mitigate bat fatalities is the correct placement of turbines, constant monitoring of fatalities (including which species are getting killed) and adaptive mitigation plans for wind farm operations. This is the universal approach and has been proven effective, if appropriate mitigation plans are approved and included as part of the EA.</p>
	<p>The view - Towers spread across our view will have a negative impact on our tourism business. How do you propose we deal with this matter? Who will be accountable for damages?</p>		<p>Woodlands Safari Estate is located more than 20km from the Wind Garden Wind Farm. In terms of the VIA, the visual impact is expected to be of low significance at this distance.</p>
	<p>Birds of Prey - We provide a large amount of hectares for these birds to nest and thrive in - How will these birds be affected? Many of them are endangered.</p>		<p>The avifauna impact assessment (Appendix E of the BAR) identifies sensitive bird species in the area and assesses the potential impact of the project on these. No significant disturbance impacts have been identified, though mitigation measures should still be considered in order to minimise the contribution of the Wind Garden Wind farm site</p>

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	<p>Lastly, your convenient choice of an on-line meeting largely excludes our previously disadvantaged communities who do not have access to technology. While Covid restrictions limit the options on public meetings, it is still imperative that these people who WILL be affected negatively be included as to be heard.</p>		<p>to the cumulative impact of the whole renewable energy cluster.</p> <p>The public participation process was conducted in accordance with the approved Public Participation Plan (refer to <b>Appendix C1</b> of the Revised BA Report) by the DFFE. Virtual meetings were held in order to reduce the risks associated with spread of COVID-19 from public gatherings.</p> <p>Subsequent to the virtual meetings, however, Savannah accommodated the request from I&amp;APs for face-to-face meetings and have accommodated availability of I&amp;APs where this was requested. Four (4) meetings were held across 2 days to provide sufficient opportunity for I&amp;APs to attend while still ensuring compliance with the COVID-19 Regulations (specifically the requirement relating to 50% capacity not being exceeded at the venue in Makhanda). All registered parties were invited to these meetings and were requested to register their attendance. They were also requested to extend the invitation to any other person that they believe should attend the meetings, and request that they also register their attendance. Where I&amp;APs are unable to attend in person, provision was made for them to attend virtually via MS Teams.</p> <p>Community members within the study area were reached through the consultation with the Councillor of Ward 1 in which the development site is located. A Community Brochure/Question &amp; Answer document which provided information regarding the development of a wind farm in laymans terms and included pictures of construction of a wind turbine, etc was distributed on 29 April 2021 to community members on the project database, including to</p>



No.	Comment	Raised by	Response
			<p>the Ward Councillor, Ward Committee Members and landowners – requesting them to distribute it to occupiers on their property/properties (refer to <b>Appendix C6</b> of the Revised BA Report).</p> <p>The EIA process and report availability was also announced on Radio Grahamstad 102.1FM on 04 March 2021 and 12 March 2021. A third live read done was on Monday 29 April 2021 announcing the extended review period.</p>
	<p>I look forward to an honest assessment of the above mentioned issues.</p>		<p>As per the NEMA EIA Regulations, 2014, as amended, that the EAP and all specialists are independent.</p>
10.	<p><b><u>EIA Regulations, 2014, as amended, Regulation 43(1): Disclosure of any direct business, financial, personal or other interest which may have in approval or refusal of the application</u></b></p> <p>I declare that I do not have a direct interest in the bidding entities and the outcome of the application in relation to the bidding parties' interest in the proposed projects.</p> <p>There are, however, have a range of business, financial, personal and other interests that will be directly and irreversibly harmed in the event that the applications are approved, separately and jointly as a whole project and in combination with other projects.</p> <p><b><u>Comments:</u></b>                      I reserve my rights to comment on the Environmental Impact Assessment process and the outcomes of the Environmental Impact assessment and any other assessments and reports that flow from this process.</p>	<p>Danie Jordaan                      I&amp;AP</p> <p>Registration &amp; Comment Form: 15 March 2021</p>	<p>Impacts on services, industries and other sectors as a result of the proposed project are included within Section 8 of the SEIA Report. These include:</p> <ul style="list-style-type: none"> <li>» Temporary increase in the GDP and production of the national and local economies during construction, including consideration of sectors and industries that will receive a stimulus during construction.</li> <li>» Negative impact on the local tourism, game industry and associated industries during construction and operation.</li> <li>» Impact on economic and social infrastructure during construction.</li> </ul> <p>The conclusions of the SEIA and all other studies undertaken, as well as comments received on the project from I&amp;APs and stakeholders will inform the decision on the project from the DFFE.</p>
11.	<p>I would hereby reserve our right to strongly oppose this planned windfarm, which has already failed on 2 separate occasions before.</p>	<p>Chris Pike                      Lukhanyo Game Reserve</p>	<p>The objection to the project, as an adjacent landowner, has been noted.</p>

No.	Comment	Raised by	Response
	<p>As a direct neighbour to the proposed properties for development, the windfarm will have a strong negative effect on land use.</p>	<p>E-mail: 15 March 2021 @ 17h09</p>	<p>Concerns pertaining to the impact on current land-use was confirmed and additional information was requested regarding the current land-use on the property to enable the team to address the concerns accordingly. The information shared that the property forms part of a game reserve has been acknowledged.</p>
	<p>I will be attending this evening's online meeting but will not be able to attend tomorrow's due to Load shedding.</p> <p>This however brings into question why there will only be online meetings.</p> <p>With Covid regulations set at Level 1 there is an allowance for gatherings of up to 100 persons indoors and 250 outdoors. Why is this not being done?</p> <p>Online meetings discriminate highly against those within the affected area that do not have access to devices, or signal and or data that allows them to participate.</p> <p>I find this to be an unacceptable practice that has been adopted.</p> <p>A fully inclusive meeting plan needs to be found!</p>	<p>E-mail: 15 March 2021 @ 16h31</p>	<p>The virtual meetings scheduled were in accordance with the approved Public Participation Plan that was included as <b>Appendix C1</b> of the BA Reports that was made available prior to the scheduling of and invitation to the two virtual public meetings of 15 &amp; 16 March 2021. The use of the virtual meeting platform also allowed for people who were unable to attend scheduled meetings to arrange alternative times to meet with the project team, if required.</p> <p>Subsequent to the virtual public meeting held on 15 March 2021, and at the request of I&amp;APs, Savannah Environmental scheduled a series of four (4) face-to-face public meetings on Friday, 26 March 2021 and 27 March 2021.</p>
	<p>In the BA 8.4.3 / IV CBAs.</p> <p>You state that 1 turbine will be situated in CBA 1 and 7 in CBA 2 and most of the affected area is in ESA zones.</p> <p>You then disregard this (the East Cape Biodiversity plan) over assumptions on why the areas were proclaimed as such and place the turbines in this area.</p>	<p>E-mail: 15 March 2021 @ 17h29</p>	<p>The Ecological Specialist (as per the Ecological Impact Assessment which is included as Appendix D of the Basic Assessment Report) has considered the impact of the project on the CBAs as well as the on-ground conditions and reasons for the areas being defined as CBA. The specialist report indicates (section 3.6 of Appendix D):</p> <p><i>The majority of the site is classified as ESA, while there is a small extent of CBA 1 within the central part of the site and</i></p>

No.	Comment	Raised by	Response
	<p>Please could you explain this?</p> <p><b>Note that it was clarified in an email of 16 March that this query relates to the Wind Garden Wind Farm.</b></p>		<p>some CBA 2 in the south and west of the site. The areas classified as "other natural areas" are simply natural areas that do not fall into any of the other categories and are not required to meet any targets. The reasons layer associated with the CBA map indicates that the CBA 1 is based on the presence of two vegetation types (Albany Broken Veld and Kowie Thicket) as well as the presence of a listed reptile, which although not specified can be assumed to be the Albany Sandveld Lizard. Although this reptile was previously listed as Near Threatened, it has been down listed to Least Concern in the most recent assessment. The CBA 2 in the west of the site is based on the presence of two vegetation types (Albany Broken Veld and Bhissho Thornveld), while the CBA 2 in the south of the site is due to the presence of the same two vegetation types as well as the presence of a listed plant species which isn't identified.</p> <p>Based on the above information, the CBAs within the site are based largely on ecological processes such as transitions between vegetation types. The development of the wind farm would add to transformation in the area and increase fragmentation of the landscape to some degree. However, the total footprint is however low and very unlikely to compromise the overall ecological functioning of the affected CBAs and the landscape in general. Since, the CBAs are not based on the known presence of specific biodiversity features of high value, the wind farm is considered largely compatible with biodiversity maintenance in the area and as such, the potential impact on the affected CBAs and ESAs is considered acceptable.</p>

No.	Comment	Raised by	Response
	<p>On looking through your Avifaunal reports I have found a few things I would like clarified.</p> <ol style="list-style-type: none"> <li>1. You have noted a Verreaux's Eagle nest and its buffer zones - but then still place a turbine in this zone?</li> <li>2. As a direct neighbour to the development, you have not attempted to make contact to do studies of areas that fall within the proclaimed buffer zones around your turbines.</li> <li>3. Lukhanyo has several cliff areas that hold raptors which are in close proximity to the proposed turbine positions!</li> </ol> <p>Please could you explain how a complete study of the area was done considering the Extended lockdown period in 2020 where you would not have been allowed to operate? This would include all your study programs?</p>	<p>E-mail: 15 March @ 17h39</p>	<p><i>Considering the above, the CBAs have not been disregarded, but rather considered in terms of what on-ground features and characteristics the CBAs represent, as well as the extent of the development footprint proposed within such areas. The specialist indicates that due to the lack of specific biodiversity features of high value the project is largely acceptable in terms of impact considering the on-ground conditions.</i></p> <p><b>Avifaunal Specialist Response:</b></p> <p>The consultancy East Cape Diverse Consultants' permit to undertake their field assessment was attached for the property's owner's information.</p> <p>It was requested that the landowner confirm the location of Lukhanyo to enable a detailed response. However, it is believed that the property is located within the Hellspoor area.</p> <p>It was confirmed that the team conducted monthly vehicle driving transect surveys (85km to survey the larger area around the proposed site) and through the poort and recorded Verreaux's eagles (VE) on a few occasions.</p> <p>The rocky habitat of poort is prime VE habitat, and it was therefore suspected that a nest would be present in the area and for this reason the buffer of 1.5km, which is a precautionary method to avoid turbine installations in that area.</p> <p>It was requested that should the property owners be aware of a nest in the area or concerned regarding the buffer size, the team would look into it.</p>

No.	Comment	Raised by	Response
	<p>Surely you should have investigated the surrounding land use during your basic assessment?</p>	<p>E-mail: 23 March 2021 @ 09h06</p>	<p>The surrounding land use and activities of the area have been investigated and where sensitive land use activities have been identified these are assessed within the specialist studies (such as the Visual Impact Assessment (Appendix K of the BA Report) and the Socio-Economic Impact Assessment (Appendix L of the Basic Assessment Report)) and considered in the Basic Assessment Report. This includes impacts to eco-tourism and the related activities.</p> <p>The request for more detail of the specific land use on the game reserve in question is to obtain the landowner's inputs in terms of understanding whether there are any other specific sensitive land use activities that must further be considered or addressed by the specialists and included in the BA Report. The aim of the public participation process was for the sharing of information between the EAP and the I&amp;APs which enables a thorough process in providing the DFFE with all information to make an informed decision.</p>
	<p>I would like to point out what I find to be a fatal flaw in both the proposed Fronteer and Wind Garden Windfarms.</p> <p>The water usage figures during construction are stated at 24 453 430L for the Fronteer Wind Farm and 31 701 100L for the Wind Garden Wind Farm.</p> <p>That is an overall usage of just over 56 Million Litres of water, which your BA report states will be taken from local boreholes.</p> <p>As a farmer directly neighbouring this proposed windfarm, I find this figure to be unattainable.</p>	<p>E-mail: 30 April 2021</p>	<p>A groundwater feasibility study was undertaken by JG Afrika, including consideration of water availability and feasibility of use for the project, as well as indications of areas to investigate further for the establishment of boreholes. This report is included in Appendix R(6) of the Revised BAR with a summary provided in Chapter 2 of the BA Report.</p> <p>Based on DWS data, the project site falls within the P10A, P10B, Q91B and Q91C quaternary catchments. Groundwater in all catchments is classified as under-utilised. The dominant groundwater use is for livestock watering.</p>

No.	Comment	Raised by	Response
	<p>Please can you share the studies conducted showing the availability of this water and assist in answering the following questions:</p> <p>A: What will the permanent effect on ground water levels be on the properties where the proposed windfarms will be situated?</p> <p>B. Water availability for the watering and production of stock on these properties - how will this be affected during construction and after.</p> <p>C. What cumulative effect will this withdrawal have on the surrounding area's ground water levels?</p> <p>Please consider this a subject close to every farmer in the area's heart! We are in an extended period of drought and ground water is the lifeline our stock, our wildlife and ourselves rely on for survival!</p> <p>I have been online to your information portals and have not found any updated information on any of the BAR reports or appendices?</p> <p>Please advise!</p> <p>I/Lukhanyo, as an Interested and Affected party, would like to state formally that once again we have been treated with extreme disrespect in that we have not received any feedback, in the form of minutes or answers, to the MANY questions that were posed at the public meetings on the 26 and 27th of March 2021 until the 3rd of May 2021 - 3 DAYS before the date for close of comments (6th May)!</p> <p>These Updates are now ON the 6th of May still not available?</p>	<p>E-mail: 06 May 2021</p>	<p>The Revised BA Report was not yet available at the time this email was received. As communicated to all registered I&amp;APs, notification of the availability of the Revised BA Report for review and comment, which will include the updated information, will be communicated.</p> <p>No disrespect was intended with the late distribution of the public meeting minutes. It was important that the key issues raised at the series of public meetings held during the BA Report review and comment period (i.e. 04 March to 06 May 2021) were recorded in the draft meeting notes.</p> <p>Notes of the meetings were distributed to all attendees, who were provided with a 14-day verification period on the draft meeting notes. The final meeting notes are included within <b>Appendix C</b> of the Revised BAR.</p>

No.	Comment	Raised by	Response
12.	<p>I want it registered that I did not receive an email invitation to a Teams meeting at 18h00 today as part of the public process meeting. Also, I believe that there will be a physical meeting some time next week in Grahamstown as discussed in last night's Teams meeting which didn't get off the ground. I have not received an invitation to either of the above mentioned as a highly affected party. Please confirm acknowledgment of this.</p>	<p>Nick Orphanides                      Landowner                       Email: 16 March 2021</p>	<p>The e-mail content was acknowledged. The invitation to the series of face-to-face public meetings arranged in response to the request from the stakeholders was sent to the landowner as well as all other registered parties.</p>
	<p>I wish to table following as concerns as I don't see the discussions we had at the public forum reflected in your recent documents.</p> <p>In the wind relic BARs the entire western boundary of Clifton farm boundary has been impinged upon by the Wind garden footprint by between 600m and 700m. This must be rectified, it is a glaring oversight and an unacceptable display of lack of attention to detail.</p>	<p>Email: 06 May 2021 @ 14h50</p>	<p>The project team could not trace the discrepancy as mentioned by the I&amp;AP as the Title Deeds, as registered by the Deeds Office, confirmed that the property boundaries as reflected in the reports are correct.</p>
	<p>The very proximity of the windmills on Thursford will be intrusively visible from the main dwelling on Clifton, as they are approximately 800m away. The one is destined to occupy prime position on top of a hill adjacent to the homestead. This pertains not only to the visual effect of the turning blades, potential flicker but also the bright strobe lights. The Waainek windmills 20km away are glaringly visible as are the industrial scale wind farms near Cookhouse, a minimum of 55 km away.</p>		<p><u>Extract from the VIA report:</u> <i>The operation of the Wind Garden/Fronteer WEF is expected to have a <b>high</b> visual impact on observers/visitors residing at homesteads within a 5km radius of the wind turbine structures. This includes:</i></p> <ul style="list-style-type: none"> <li>• Vaalkrans (Grant Soule)</li> <li>• Aylesbury 1 (Chris Pike)</li> <li>• Thornkloof (Gerhard von Haissein)</li> <li>• Clifton (Nick Orphanides)</li> </ul>
	<p>The sound generated by the windmills being upwind (south and south west) most of the year constitutes a totally unacceptable invasion on the quiet, rural setting in which we have invested and tried to capture for the future.</p>		<p>According to the noise impact assessment (Appendix J of the BA Report), potential impacts on Noise Sensitive Developments (NSDs) within 1000m are expected to be moderate during construction (before mitigation) and can be reduced to low significance with the implementation of mitigation. Noise impacts on NSDs beyond 500m during operation are expected to be of low significance.</p>

No.	Comment	Raised by	Response
	<p>In both of the BARs it claims that there will be 52 million litres of water used in the construction to commissioning phase of the frontier and wind garden developments. How is that magnitude or volume of water to be found in an area that has such a notoriously fragile subterranean water system? I would be extremely concerned if that amount of water was attempted to be extracted. Many boreholes in the area are generally being utilized on a minimal extraction basis, if at all, and we have just had the supposed rainy season!</p>		<p>A groundwater feasibility study was undertaken by JG Afrika, including consideration of water availability and feasibility of use for the project, as well as indications of areas to investigate further for the establishment of boreholes. This report is included in Appendix R(6) of the Revised BAR and summarised in Chapter 2 of the BA Report.</p> <p>Based on DWS data, the project site falls within the P10A, P10B, Q91B and Q91C quaternary catchments. Groundwater in all catchments is classified as under-utilised. The dominant groundwater use is for livestock watering.</p>
	<p>Given that we are employing a decent number of staff from neighbouring properties, the destructive effect of the wind farm on the prospects of the commercial viability of the investments made in the property, these employees will lose their jobs - fact. Many of these people are employed to remove alien and invasive plant species in a concerted effort to restore the biodiversity integrity of the property.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). However, the claims that staff will lose their jobs should be viewed as an opinion of the respective I&amp;AP.</p>
	<p>The underlying premise of our business proposition at Clifton is that we have made significant investment in the lodging and infrastructure gearing toward the peaceful experience and the notorious East Cape sense of place. This has been designed to combine strongly with the striking natural features and vast unimpeded views from various parts of the property. The result of the wind farm development will be to completely eradicate any prospect of a natural experience and also the investments to date as well as the future investments on the property.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance).</p>
	<p>Diminution of value of the surrounding properties. I saw a link on your online documents somewhere that referred to a Danish system whereby a valuation is done and if the decrease in value is &gt;1% then the developer has to compensate the landowner in full! Interesting.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance).</p>



No.	Comment	Raised by	Response
	<p>The concept of 200-600 workers in the area for a period of 2-3 years will have potentially threatening consequences vis a vis security, traffic, transgressions and potential crime. The word "mitigate" doesn't magically make these types of problem disappear.</p> <p>The premise that the wind farm generates employment does not sit well. There are a mooted 31 employees, of which 5 or so I worked out were to be locals. It's well known that the same teams and contractors move around from site to site and cobble together the windmills and then move on. I struggle to see the pouring of money into local economy.</p> <p>As I raised in the public meeting in Grahamstown the boundary for of the eastern side of the Portion 4 Remainder of Van der Merwes Kraal no 132 is completely incorrect. It encroaches upon approximately 700m of Clifton property all the way down the western boundary. The boundary of Clifton has a fair amount of land on the WEST of the R350 along the old R350 to Bedford as well. Please redraw your documents accordingly. This is an oversight of some gravity.</p>	<p>Email: 06 May 2021 @ 14h51</p>	<p>There are strict security and management measures that will be put in place for the project, coupled with the SED&amp;ED initiatives over and above this to minimise risks associated with safety and security.</p> <p>Benefits to the local economy are not only limited to direct job opportunities from the wind farm. Chapter 5 of the SEIA Report (Appendix L of the Revised BAR) provides a description of the economic impacts during construction and operation.</p> <p>The project team could not trace the discrepancy as mentioned by the I&amp;AP as the Title Deeds, as registered by the Deeds Office, confirmed that the property boundaries as reflected in the reports are correct.</p>
13.	<p>Giles Gush commenting as an owner of Woodbury Tented Camp on Amakhala Game Reserve, which is part of the Indalo Protected Environment.</p> <p>The Eastern Cape has become a world renown wildlife tourism and safari destination over the last twenty years, in spite of great competition from other more well know areas such as in Mpumalanga and Limpopo. This has created many job opportunities for a wide spectrum of people from unskilled labour, through to house keepers, barmen, maintenance staff, cooks, chefs, guides, anti-poaching units, ecologists, lodge and wildlife managers and business owners. The positive knock on effect of the wildlife tourism and safari industry to the whole economy of the Eastern Cape should not be underestimated.</p>	<p>Giles Gush                      Owner                      Woodbury Tented Camp                      (Amakhala Game Reserve)</p> <p>E-mail: 17 March 2021</p>	<p>Urban-Econ Development Economists undertook an independent specialist Socio-economic Impact Assessment Report (SEIA) for both proposed wind farms of Fronteer and Wind Garden.</p> <p>In both studies, an entire chapter was dedicated to exploring the business potential impacts on the local tourism industry. [Note Chapters 6 in both aforementioned studies]. In addition, a specific chapter also explored potential impacts associated with property values of surrounding farms and tourism business enterprises. [Note Chapters 7 in both aforementioned studies].</p>

No.	Comment	Raised by	Response
	<p>It is my opinion that the development of wind farms in the Eastern Cape puts the whole wildlife tourism and safari industry at risk of collapse. The industry has developed in an environment which is already in a fairly developed space, with main roads and towns already detracting from the guest experience. I am fairly certain that the visual impact of wind farms will tip the balance in favour of other wildlife destinations with our guests and tour operators closing down a whole industry.</p> <p>I believe that the negative impact on the safari and tourism industry will be far greater than any benefit that the wind farms will generate.</p>		<p>From a scientific research methodology perspective, a combination of primary and secondary research analysis and reviews were undertaken. Of worthy mention:</p> <ul style="list-style-type: none"> <li>• Reviews of internationally published literature exploring the impacts of wind farms on nearby tourism businesses and similar enterprises (pertaining to changes in visitor numbers and business performance)</li> <li>• Reviews of South African studies exploring the impacts of existing SA wind farms on nearby tourism businesses and similar enterprises (pertaining to changes in visitor numbers and business performance)</li> <li>• Interviews with local property agents ascertaining changes in property values in areas close to where wind farms have been developed in SA</li> <li>• Trend analysis of published property data indicators in areas where wind farms have been developed</li> <li>• Interviews with tourism businesses in areas where wind farms have already been developed</li> </ul> <p>Regarding profiling of existing business activity within the broader study areas of Fronteer and Wind Garden, a sample of 22 landowners were contacted to inform the status of existing business (land) use in the broader area. Section 3.3.2 details the characteristics of economic activity taking place based on the information/data obtained.</p> <p>Reference is hereby made to some of the key findings stated in both reports pertaining to the potential impacts of the proposed wind farms on the local tourism industry:</p>

No.	Comment	Raised by	Response
			<ul style="list-style-type: none"> <li>• Scenery can be said to have a monetary value, and attractive landscapes and natural beauty are important factors for tourists visiting a specific area.</li> <li>• The overall attitude towards wind farms (either positive or negative) does not always translate into action, i.e. a negative attitude towards wind farms does not imply that a tourist will not visit or come back to the area. Therefore, research undertaken reveals that the actual losses of tourists, if any, are usually considerably smaller than the share of people with a negative attitude towards wind farms.</li> <li>• Local residents in close proximity to wind farms, are more likely to have negative perceptions and attitude towards wind farms than tourists due to the NIMBY syndrome. This is particularly the case for those residents or stakeholders who are not involved and benefiting from the project.</li> <li>• Overall, public opinion with regard to the negative impacts of wind farms on tourism is higher during the planning and construction stage and considerably lower during the operation stage.</li> <li>• Studies undertaken in other Eastern Cape areas in which windfarms have been developed have shown that game farm business owners have not noted any material change to their business activities post-development.</li> <li>• The net positive impacts associated with the development and operation of the proposed wind energy facility are expected to outweigh the net negative effects. The project is also envisaged to have an overall positive stimulus on the local economy.</li> </ul>

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14.	<p>Raymond Goncalves commenting on behalf of Owners of Bukela and Hlosi Game Lodge on Amakhala Game Reserve, which is part of the Indalo Protected Environment.</p> <p>The Eastern Cape has become a world renowned wildlife tourism and safari destination over the last twenty years, in spite of great competition from other more well know areas such as in Mpumalanga and Limpopo. This has created many job opportunities for a wide spectrum of people from unskilled labour, through to house keepers, barmen, maintenance staff, cooks, chefs, guides, anti-poaching units, ecologists, lodge and wildlife managers and business owners. The positive knock on effect of the wildlife tourism and safari industry to the whole economy of the Eastern Cape should not be underestimated.</p> <p>Development of wind farms in the Eastern Cape puts the whole wildlife tourism and safari industry at risk of collapse. The industry has developed in an environment which is already in a fairly developed space, with main roads and towns already detracting from the guest experience. I am fairly certain that the visual impact of wind farms will tip the balance in favour of other wildlife destinations with our guests and tour operators closing down a whole industry.</p> <p>The negative impact on the safari and tourism industry will be far greater than any benefit that the wind farms will generate.</p>	<p>Raymond Goncalves                      Chief Operating Officer                      Lion Roars Hotels &amp; Lodges</p> <p>E-mail: 18 March 2021 @ 12h27</p>	<p>Urban-Econ Development Economists undertook an independent specialist Socio-economic Impact Assessment Report (SEIA) for both proposed wind farms of Fronteer and Wind Garden.</p> <p>In both studies, an entire chapter was dedicated to exploring the business potential impacts on the local tourism industry. [Note Chapters 6 in both aforementioned studies]. In addition, a specific chapter also explored potential impacts associated with property values of surrounding farms and tourism business enterprises. [Note Chapters 7 in both aforementioned studies].</p> <p>From a scientific research methodology perspective, a combination of primary and secondary research analysis and reviews were undertaken. Of worthy mention:</p> <ul style="list-style-type: none"> <li>• Reviews of internationally published literature exploring the impacts of wind farms on nearby tourism businesses and similar enterprises (pertaining to changes in visitor numbers and business performance)</li> <li>• Reviews of South African studies exploring the impacts of existing SA wind farms on nearby tourism businesses and similar enterprises (pertaining to changes in visitor numbers and business performance)</li> <li>• Interviews with local property agents ascertaining changes in property values in areas close to where wind farms have been developed in SA</li> <li>• Trend analysis of published property data indicators in areas where wind farms have been developed</li> <li>• Interviews with tourism businesses in areas where wind farms have already been developed</li> </ul>

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			<p>Regarding profiling of existing business activity within the broader study areas of Fronteer and Wind Garden, a sample of 22 landowners were contacted to inform the status of existing business (land) use in the broader area. Section 3.3.2 details the characteristics of economic activity taking place based on the information/data obtained.</p> <p>Reference is hereby made to some of the key findings stated in both reports pertaining to the potential impacts of the proposed wind farms on the local tourism industry:</p> <ul style="list-style-type: none"> <li>• Scenery can be said to have a monetary value, and attractive landscapes and natural beauty are important factors for tourists visiting a specific area.</li> <li>• The overall attitude towards wind farms (either positive or negative) does not always translate into action, i.e. a negative attitude towards wind farms does not imply that a tourist will not visit or come back to the area. Therefore, research undertaken reveals that the actual losses of tourists, if any, are usually considerably smaller than the share of people with a negative attitude towards wind farms.</li> <li>• Local residents in close proximity to wind farms, are more likely to have negative perceptions and attitude towards wind farms than tourists due to the NIMBY syndrome. This is particularly the case for those residents or stakeholders who are not involved and benefiting from the project.</li> <li>• Overall, public opinion with regard to the negative impacts of wind farms on tourism is higher during the</li> </ul>

No.	Comment	Raised by	Response
			<p>planning and construction stage and considerably lower during the operation stage.</p> <ul style="list-style-type: none"> <li>• Studies undertaken in other Eastern Cape areas in which windfarms have been developed have shown that game farm business owners have not noted any material change to their business activities post-development.</li> <li>• The net positive impacts associated with the development and operation of the proposed wind energy facility are expected to outweigh the net negative effects. The project is also envisaged to have an overall positive stimulus on the local economy.</li> </ul>
	<p><u>VISUAL POLLUTION</u></p> <p>I am not opposed to windfarms in general however I am opposed to their visual pollution from any natural tourism attraction or business.</p> <p>I own The Safari Lodge on Amakhala Game Reserve, which is part of the <b>Indalo Protected Environment</b> in the Eastern Cape.</p> <p>Our businesses are based on visual or photographic tourism so it would be catastrophic to our sustainability to have any form of <b>visual pollution</b>.</p> <p><b>Finance:</b> I need not explain how much turnover in foreign currency this industry brings into the country</p> <p><b>Community:</b> For every guest staying in the lodge there are 2 people looking after them which equals massive employment at higher earnings levels</p> <p><b>Conservation:</b> Conserving the Albany Biome hotspot and the Eastern Capes biodiversity</p> <p>Please put the windfarms in visually polluted industrial areas not the income generating wilderness.</p>	<p>E-mail: 18 March 2021</p>	<p>The Visual Specialist has considered the comments, and the location of the Wind Garden Wind Farm and Fronteer Wind Farm in relation to the Amakhala Game Reserve.</p> <p>The specialist has noted that the Amakhala Game Reserve forms part of the Indalo Protected Environment. It was indicated that the Game Reserve is located south of the N2 and the Shamwari Nature Reserve, which is located more than 35km from both the Wind Garden and Fronteer Wind Farms. Considering this, the game reserve will not be visually exposed to the wind turbine structures at these two wind farms due to the Suurberge and other mountains blocking visual exposure from the south.</p> <p>In terms of biodiversity, the Ecological Specialist has considered the impact of the two respective projects on the ecology of the project sites (please see <b>Appendix D</b> of each of the BA Reports). No impacts of high significance have been identified. The majority of the Wind Garden and Fronteer Wind Farm project sites falls within the Albany</p>

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	<p>Once you lose the tourists there will be no money to save the environment and the people on it.</p>		<p>Broken Veld and Bhisho Thornveld vegetation types, with a smaller proportion of Kowie Thicket in the north of the site. All three of these vegetation types are classified as Least Threatened. Please advise if there are any other specific queries relating to biodiversity.</p>
	<p>Thank you for your response.</p> <p>I assume that you are suggesting that the windfarms are not visible from any Indalo properties or Addo National park and any hunting farms in that area.</p> <p>They all play a significant role in conservation that would be affected by any of this visual pollution.</p> <p>There are wind farms 50 km from us near Grahamstown that have a significant impact on my night drives.</p> <p>I also have had to change the location of my lodge due to the attention seeking flashing lights of windfarms at night.</p>	<p>E-mail: 24 March 2021</p>	<p>Please refer to the Visual Impact Assessment (Appendix K of the BARs for Wind Garden and Fronteer Wind Farms) which provides feedback on the areas that will be visually affected by the respective projects within a specific distance from the wind turbines. The feedback provided on the email below by the visual specialist provides input from a visual perspective considering specifically the locations of the Wind Garden and Fronteer Wind Farms and the Amakhala Game Reserve.</p> <p>Section 8.2.8 of the Visual Impact Assessment specifically considers the lighting impact of the facilities. The visual impact of operational, safety and security lighting of the facility at night was assessed as being of a high significance, which can be reduced to a medium significance through the implementation of mitigation measures. The Visual Impact Assessment Report refers to ground-breaking new technology in the development of strobing lights that only activate when an aircraft is detected nearby that may aid in restricting light pollution at night and should be investigated and implemented by the project proponent, if available and permissible by the CAA. This new technology is referred to as needs-based night lights, which basically deactivates the wind turbine's night lights when there is no flying object within the airspace of the WEF. The system relies on the active detection of aircraft by radar sensors,</p>

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	<p>Thank you for your mail. I have included communication from a local travel destination management company which is the ground handler of the biggest inbound wholesaler from the UK into South Africa. They brought in nearly R100 Million rands worth of business or the eastern cape alone and this is only one of many agents.</p> <p>International guests have the choice to visit Eastern Cape Game Reserves or competing reserves such as the Kruger National Park. The Visible site of these windmills will be a real cause for international travelers to choose another destination.</p> <p>I need to questions where the research was conducted as not all tourism is the same and not all tourism is effected equally. We own and operate a guest house in Port Elizabeth. If wind farms had to go up in this area it would not negatively effect our guest house in any way.</p> <p>Our Game Reserve is very different where people are booking to stay specifically at a place without any visible solution included light pollution, noise pollution and visible winds farms that detract from the natural environment these guests specifically pay to come see.</p> <p>If these wind farms go ahead, as in the case bellow and many more like it, we will lose this revenue to our area and in most cases our lodges will be forced to close and we will have to lay off all effected staff.</p> <p>When in normal operations Lion Roars Employs 245 staff members of which a big portion are allowed to the game reserve functions.</p>	<p>E-mail: 30 March 2021</p>	<p>which relays a switch-on signal to the central wind farm control to activate the obstacle lights.</p> <p>Urban-Econ Development Economists undertook an independent specialist Socio-economic Impact Assessment Report (SEIA) for both proposed wind farms of Fronteer and Wind Garden.</p> <p>In both studies, an entire chapter was dedicated to exploring the business potential impacts on the local tourism industry. [Note Chapters 6 in both aforementioned studies]. In addition, a specific chapter also explored potential impacts associated with property values of surrounding farms and tourism business enterprises. [Note Chapters 7 in both aforementioned studies].</p> <p>From a scientific research methodology perspective, a combination of primary and secondary research analysis and reviews were undertaken. Of worthy mention:</p> <ul style="list-style-type: none"> <li>• Reviews of internationally published literature exploring the impacts of wind farms on nearby tourism businesses and similar enterprises (pertaining to changes in visitor numbers and business performance)</li> <li>• Reviews of South African studies exploring the impacts of existing SA wind farms on nearby tourism businesses and similar enterprises (pertaining to changes in visitor numbers and business performance)</li> <li>• Interviews with local property agents ascertaining changes in property values in areas close to where wind farms have been developed in SA</li> <li>• Trend analysis of published property data indicators in areas where wind farms have been developed</li> </ul>



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	<p>Many Jobs and revenue will be lost in all game reserves that have and are in view of these wind farms.</p> <p>Please can you forward this email on from one of the biggest tour operators from the UK.</p> <p><b><i>E-mail received from Followme2AFRICA (Anthony Brink, Commercial and General Manager) included in Appendix C7 of the Revised BA Report as part of Mr Goncalves comment submitted</i></b></p>		<ul style="list-style-type: none"> <li>• Interviews with tourism businesses in areas where wind farms have already been developed</li> </ul> <p>Regarding profiling of existing business activity within the broader study areas of Fronteer and Wind Garden, a sample of 22 landowners were contacted to inform the status of existing business (land) use in the broader area. Section 3.3.2 details the characteristics of economic activity taking place based on the information/data obtained.</p> <p>Reference is hereby made to some of the key findings stated in both reports pertaining to the potential impacts of the proposed wind farms on the local tourism industry:</p> <ul style="list-style-type: none"> <li>• Scenery can be said to have a monetary value, and attractive landscapes and natural beauty are important factors for tourists visiting a specific area.</li> <li>• The overall attitude towards wind farms (either positive or negative) does not always translate into action, i.e. a negative attitude towards wind farms does not imply that a tourist will not visit or come back to the area. Therefore, research undertaken reveals that the actual losses of tourists, if any, are usually considerably smaller than the share of people with a negative attitude towards wind farms.</li> <li>• Local residents in close proximity to wind farms, are more likely to have negative perceptions and attitude towards wind farms than tourists due to the NIMBY syndrome. This is particularly the case for those residents or stakeholders who are not involved and benefiting from the project.</li> </ul>

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			<ul style="list-style-type: none"> <li>• Overall, public opinion with regard to the negative impacts of wind farms on tourism is higher during the planning and construction stage and considerably lower during the operation stage.</li> <li>• Studies undertaken in other Eastern Cape areas in which windfarms have been developed have shown that game farm business owners have not noted any material change to their business activities post-development.</li> <li>• The net positive impacts associated with the development and operation of the proposed wind energy facility are expected to outweigh the net negative effects. The project is also envisaged to have an overall positive stimulus on the local economy.</li> </ul>
15.	<p>The below invitations to public meetings refer. I would have very much liked attend these meetings but I live mostly in Cape Town and it is impossible for me to reschedule my busy program accordingly, not to mention the significant expense that I would have to incur. I also find the highly technical and digital nature of the PPP conducted so far to be beyond my own ability and electronic facilities to manage (I have recently twice tried to participation in "Zoom" meetings but was unsuccessful). Not to mention load-shedding and associated difficulties. With the easing of National Covid precautions to Level 1 it is surely possible to conduct proper, meaningful public engagements safely even if such are scheduled at outdoor venues.</p> <p>I am also left to wonder how it is expected of the generally ruralised and wholly unequipped "occupier" sector of the affected society (which is a significantly large sector for anyone properly familiar with the environment within which these projects are proposed) to participate in any way in the PPPs under your management. Many</p>	<p>Andre van der Spuy I&amp;AP</p> <p>E-mail: 23 March 2021</p>	<p>E-mail was acknowledged on 23 March 2021 @ 05h37</p> <p>E-mail dated 24 March 2021 @ 13h04 was responded to on the same day @ 18h27</p> <p><u>Response:</u> The public consultation being undertaken for the Wind Garden and Fronteer Wind Farms is in accordance with the approved public participation plan for the project. This plan considers the requirements of the EIA Regulations as well as the restrictions imposed by the Regulations to reduce the risks associated with COVID-19. As such, virtual public meetings were arranged to present the findings of the BA Reports for the projects and obtain comments and inputs from I&amp;APs. The face-to-face public meetings were requested by I&amp;APs during the virtual public meeting held on Microsoft Teams virtual platform on 15 March 2021 at 19h00. To accommodate as many I&amp;APs as possible four (4)</p>

No.	Comment	Raised by	Response
	<p>weeks ago when I was in the area I stopped (twice) by the side of the road to collect large litter pieces scrunched up at the road side only to discover that they were actually your site notices. I have photos to prove this. It appears that the current Covid pandemic is being conveniently used to run an abbreviated and effectively unavailable PPP for all but the most highly skilled and equipped of society and which in this case is most likely a single digit percentage of the real number of potentially interested and affected parties. From casual enquiry I am aware of 3 potentially interested parties (2 landowners and 1 "occupier") affected who as of this morning are unaware of any of the PPP.</p> <ol style="list-style-type: none"> <li>1. Please advise whether this PPP has been endorsed by the Competent Authority. If so, please provide me with proof of such endorsement.</li> <li>2. Please advise how and when you intend to advise "occupiers", especially those who are partially or fully illiterate (of which there are many in the area), of these applications which will ultimately affect their livelihoods.</li> <li>3. Please provide all of the information related to the complete Wind Relic Renewable energy Project that is intended within the Cookhouse REDZ in order to place the current Eastern and Western Cluster phases thereof in proper context within the company's greater development goal and other wind farm projects with which it will interact directly and/ or indirectly</li> <li>4. Please advise who the appointed case officers (and details) are at the DEFF (if same have been allocated as yet).</li> <li>5. Please register my strong objection against the current public participation process for the reasons stated above.</li> <li>6. Please also provide me with an electronic copy of the currently available Draft Report and all other information inclusive of the documentation associated with the pre-application</li> </ol>		<p>public meetings were scheduled and I&amp;APs also had the opportunity to join virtually on Microsoft Teams. Details of the public meetings and virtual platform were provided in the invitation letter and to be COVID-19 compliant to Level 1 Regulations, I&amp;APs were requested to register their attendance for the face-to-face public meetings, although anyone could join the public meetings virtually. To avoid the link becoming corrupt or technical issues arising, I&amp;APs who registered their attendance virtually, the Microsoft Teams link was e-mailed to them.</p> <p>Your comment regarding landowners who have not been consulted is noted. It will be appreciated if you can provide us with the two (2) landowners and the one (1) occupier affected by these proposed developments who informed you that they are unaware of the public participation process being undertaken.</p> <p>Responses to I&amp;APs numbered comments:</p> <ol style="list-style-type: none"> <li>1. The Public Participation Plan (refer to Appendix C1 of both the BA Reports and the attached was approved by the Department of Environment, Forestry and Fisheries (DEFF) – refer to e-mail approval from the DEFF dated 02 November 2020 attached, included in Appendix B of the BA Reports.</li> <li>2. Occupiers of the affected and adjacent properties are consulted and will continue to be consulted, as per the approved Public Participation Plan, through the Ward Councillor and subsequently, her Ward Committee Members, property owners and identified / informed community representative organisations. Written notice (letters and background information document) has</li> </ol>

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	<p>engagement between the Applicant, yourself or those of Savannah and/ or the DEFF. The latter is required in order to guide a proper review of the Draft BAR.</p> <p>Thank you, I look forward to receiving the requested information</p>		<p>been supplied to all identified adjacent landowners. Proof of this notice is contained in Appendix E of both BARs. Although not all landowners may have been identified at the start of the EIA process, this is an on-going process during the EIA. Consultation with the directly and adjacent property owners are also being undertaken to determine the best way to consult with occupiers / tenants on their properties.</p> <ol style="list-style-type: none"> <li>3. All information relating to all projects is included in the BID for the project (attached hereto for ease of reference), and is also detailed in the BA Reports.</li> <li>4. The appointed Case Officer for both the applications is Lunga Dlova (LDlova@environment.gov.za).</li> <li>5. Your objection regarding the public participation process has been captured in the Comments &amp; Responses Report that will be submitted to the DEFF with the final BA Reports.</li> </ol> <p>As your request for an electronic copy was not specified, i.e. CD or other platforms, please be informed that the BA Reports were send on Thursday, 01 April 2021 via WeTransfer. You were also notified by e-mail and WhatsApp on 01 April 2021. Following your request for a CD, a CD and a USB containing the two BA Reports have also been couriered to you (please refer to attached proof of delivery – waybill). The minutes of the pre-application meeting with the DEFF are included in Appendix B of the BA Reports and attached for ease of reference.</p>
	<p>Who is the team you are referring to?</p>	<p>E-mail: 24 March 2024</p>	<p>The team referred to in the e-mail is:</p> <ul style="list-style-type: none"> <li>• Jo-Anne Thomas, Registered EAP and Project Manager</li> <li>• Lisa Opperman: EAP</li> </ul>

No.	Comment	Raised by	Response
	<p>Below refers in regard to the opportunity provided to me to meet with the team and have a "discussion" on the relevant projects (per your telephone message of Friday 26/3/2021).</p> <p>It is a condition of the NEMA EIA Regulations that I&amp;APs be granted a "reasonable" opportunity to comment on the application. Your current actions do not constitute such a "reasonable" opportunity and are clearly more of a charade and are merely a disingenuous effort to tick a procedural box.</p> <p>How can you as the person evidently responsible for the public participation process continue to permit the withholding of the DBAR (and other important information) from us and which I requested (my email of 23/3/2021) over a week ago and yet you allow the continuance of the current comment period? Why are you withholding this information from us? You have offered a meeting opportunity in the absence of having provided me with this critically important information which is an obvious prerequisite for me to engage in any such meeting in a properly informed manner - I would never accept a meeting under such prejudicial circumstances as those that you offered and as a professional PPP consultant I would have expected you to ensure that such proper and obvious conditions and associated rights were correctly established prior to the suggested meeting. Your below effort to describe my failure to respond as a "missed ...opportunity" leads me to question your independence and integrity and you have accordingly not upheld my NEMA-prescribed rights.</p> <p>For the record, I was out of town (and office) from Friday until Monday night and thus received your telephone message re the proposed meeting yesterday morning in the first instance (and I had</p>	<p>E-mail: 31 March 2021</p>	<ul style="list-style-type: none"> <li>• Nicolene Venter: Public Participation</li> </ul> <p>In order to provide I&amp;APs a reasonable opportunity to comment on the project, Savannah Environmental has, to date, undertaken the following:</p> <ul style="list-style-type: none"> <li>• Distribution of the project BID on 17 November 2020, providing identified parties with information on the project and inviting comment on the projects.</li> <li>• Advertising of the EIA process in two (2) newspapers i.e. a local community newspaper and a provincial newspaper on 12 November 2020 inviting parties to register on the project database, obtain information on the projects and provide comments.</li> <li>• Advertising of the availability of the BA Reports and the virtual public meetings for Wind Garden and Fronteer Wind Farms on 04 March 2021 in the same local and regional newspapers.</li> <li>• Radio announcements on Radio Grahamstad.</li> <li>• Face-to-face public meetings (at the request of I&amp;APs) in Grahamstown.</li> <li>• Extension of the review period for the reports to 06 May 2021 at the request of registered parties. This extension was advertised in the above-mentioned newspapers on 01 April 2021 and 08 April 2021 respectively and all registered parties were notified via email. A third live read done was on Monday 29 April 2021 announcing the extended review period.</li> </ul> <p>As Savannah Environmental had been informed in the e-mail dated 23 March 2021 that you live in Cape Town and not possible for you to attend the face-to-face public meetings, Savannah Environmental offered the I&amp;AP the opportunity to meet with our team member, Lisa</p>

No.	Comment	Raised by	Response
	<p>important matters to deal with yesterday). Despite your past numerous emails to me you strangely failed to also issue the meeting invitation by email to me – had you done so you would have received an automated message informing you of my absence. I have no idea why my cellphone did not provide opportunity for you to leave a message but I had a number of other messages on it. Also, why did you fail to send me a sms which would have registered your message? With this in mind you will agree that it is rather hypocritical of you to rely solely upon cellphone and sms means to pretend to engage the “occupier” sector of the affected community when this technology’s failings are clearly apparent even here in the urban context.</p> <p>To issue an invitation to meet with me on only the (business) day before implies that you think I am readily available to respond to you interests instantaneously – and your below response implies that you even consider that you have acted reasonably in the instance. Notwithstanding my work and other commitments you should also realize that I require sufficient time beforehand to liaise with other entities and the legal advisor before any meeting.</p> <p>And so for the record:</p> <ul style="list-style-type: none"> <li>• I was anyway not available on Monday for any meeting.</li> <li>• I did/do not anyway have the (requested) information necessary for me to engage in a proper “discussion”.</li> <li>• I am extremely busy and will be so for the next 2 weeks or so (and will be away) and thus unable to meet. However, I can meet with you thereafter conditional upon having inter alia been timeously provided with the DBAR and other requested information. I would also appreciate having the purpose of the meeting set out in writing beforehand.</li> </ul>		<p>Opperman, who was in Cape Town on Monday 29 March 2021. The purpose of this meeting would have been for her to present the same presentation as provided at the public meetings (virtual and face-to-face), providing a key summary of the environmental findings as documented in the BA Reports, and give the I&amp;AP an opportunity to raise any issues or comments on a one-on-one engagement platform.</p> <p>Note has been taken of the I&amp;AP’s ‘out of office’ notice (refer to <b>Appendix C6</b> of the final BA Report) applicable to the extension of the BA Reports’ review and comment period notification. Unfortunately, the ‘out of office’ notice did not indicate clearly when and for how long the I&amp;AP would be out of office and how to be contacted, should it be necessary.</p> <p>As the review period for the BA Reports is ending on Thursday, 06 May 2021, you are most welcome to request a meeting once you have had an opportunity to review the reports. The purpose of such a meeting would be to provide you with an opportunity to raise any issues and comments regarding the proposed projects and provide an opportunity to discuss these further and provide responses as far as possible.</p> <p>Your notes for the record is noted and addressed above.</p> <p>As requested, and as per my response dated 24 March 2021, the e-mail correspondence to date, is shared with Jo-Anne Thomas, the registered EAP for the projects.</p>

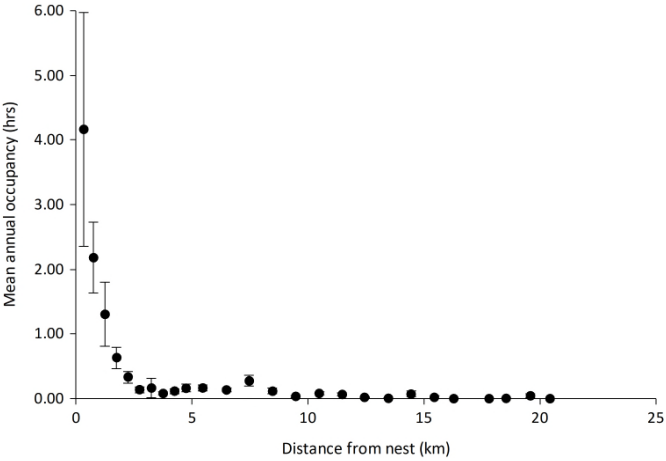
No.	Comment	Raised by	Response
	<ul style="list-style-type: none"> <li>For the stated reasons your above email heading "Attempts to secure a face-to-face discussion" is misleading and false.</li> </ul> <p>Please kindly advise which persons you have sent your below email to and to whom persons my above response will be sent.</p>		<p>Mr Van der Spuy, please confirm whether your comments are applicable to both the Wind Garden Wind Farm and the Fronteer Wind Farm applications</p>
16.	<p>Please could I get the shapefile(s) for the properties associated with the WEF EIAs. We need to assess it against the Albany</p> <p>If possible, please can you send the shapefile of the affected properties to me (as per your email below)?</p> <p>Nick Orphanides, including Indalo Private Game Reserves (Indalo Protected Environment) and Wilderness Foundation Africa, as an Interested and affected party (IAP) would like to receive the information and compare it against the Addo to Great Fish Biodiversity Corridor, as well as other protected areas and private game reserves (conservation oriented).</p> <p>I am assisting them with mapping this.</p> <p>Biodiversity Corridor Network - Addo to Great Fish Biodiversity Assessment (by Wilderness Foundation Africa, also associated with INDALO PE - which is an amalgamation of nine private game reserves that have PA status).</p> <p>I have the latest DEFF data, but would prefer the associated data direct from Savannah as I have experienced errors with the DEFF data.</p> <p>I did email last week and have not received a response. Please kindly respond.</p>	<p>Deborah Vromans                      Environmental Scientist:                      Biodiversity Services                      Professional</p> <p>E-mail: 13 March 2021</p> <p>E-mail: 24 March 2021 @ 09h26</p>	<p>It was confirmed telephonically that the required information was obtained through other avenues. No further comments were received from the stakeholders.</p>

No.	Comment	Raised by	Response
	<p>I am assisting Wilderness Foundation Africa, associated with the Nick Orphanides correspondence.</p> <p>This might make it easier - kml and shapefile attached - These are the properties that I have managed to source from the data I have on EC cadastres from the SG.</p> <p>I am missing Thursford 183/1 on the BID list.</p> <p><b>.KML &amp; Zip file was attached to e-mail.</b></p>	<p>E-mail: 24 March 2021 @ 09h49</p>	
17.	<p><b><u>EIA Regulations, 2014, as amended, Regulation 43(1): Disclosure of any direct business, financial, personal or other interest which may have in approval or refusal of the application</u></b></p> <p>I was involved in the EIA as field observer for avifaunal assessments on the Fronteer and Wind Garden sites.</p> <p><b><u>Comments:</u></b></p> <p>I wish to object in principle to the proposed Fronteer and Wind Garden developments, based on the following points:</p> <ol style="list-style-type: none"> <li>1. the presence of resident populations of threatened (Red Listed) bird species on the sites</li> <li>2. the proximity of the sites to protected areas</li> <li>3. the location of the sites adjacent to a route (R350) of scenic beauty and tourism significance</li> </ol> <p>Points 1 and 2 are beyond dispute and are well documented (in the EIR). Point 3 could be debated, but is relevant in our opinion.</p> <p>I refer to the specialist report on avifauna and to the peer review of that report (both obtained from the Savannah Environmental website). My comments are these:</p> <ol style="list-style-type: none"> <li>1. While I have no fundamental problems with the manner in which the avifaunal study was carried out, I do wish to note that,</li> </ol>	<p>James Harrison                      Resident: Riebeek East</p> <p>Registration &amp; Comment                      Form: 25 March 2021</p> <p>Letter Undated (attached to e-mail dated 15 April 2021)</p>	<p>The objection to the projects and reasons in this regard are noted. No further action required.</p>



No.	Comment	Raised by	Response
	<p>as a contributing consultant (listed as JAH Environmental Consultancy), I was at no stage asked to comment on a draft report, which I believe to be an unfortunate oversight on the part of East Cape Diverse Consultants</p> <p>2. I draw attention to comments made in the peer review. That review highlights various deficiencies in reporting and interpretation of data.</p> <p>3. My most important objection related to birds is the fact that it is abundantly clear that there is significant potential for negative impact on birds, included Red Listed species. These impacts include collision with wind-turbine blades. To characterize the impacts on birds as "low to medium" (Executive summary, page 4 of the specialist report) is illogical. I say this because:</p> <p>a) The Red Listed species, especially those classified as Vulnerable or Endangered, are at levels of threat of extinction which require that every individual bird be viewed as being of high importance.</p>		<p>The report was drafted by East Cape Diverse Consultants as the appointed specialist for the project, with inputs from Dr Steve Percival and a peer review by Owen Davies, a SACNASP registered scientist.</p> <p>The peer review report states that <i>"The report aims and scope are clearly defined to assess the avifaunal impact of the proposed development of a commercial wind farm and associated infrastructure"</i> and <i>"Overall the contents of the report appear to comply largely with the requirements of Regulation GNR 326 of 4 December 2014, as amended 7 April 2017, Appendix 6 and to a reasonable degree with the requirements prescribed by Government Gazette 43110 (Published in Government Notice No. 320) of 20 March 2020 "Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Avifaunal Species by Onshore Wind Energy Generation Facilities where the electricity output is 20 Megawatts or more"."</i> A number of points are raised for consideration to add clarity to the report. These have been considered and the report updated (refer to Appendix E of the Revised BA Report).</p> <p>The avifauna impact assessment (Appendix E of the BAR) identifies sensitive bird species in the area and assesses the potential impact of the project on these. No significant disturbance impacts have been identified, though mitigation measures should still be considered in order to minimise the contribution of the Wind Garden Wind farm site to the cumulative impact of the whole renewable energy cluster.</p>

No.	Comment	Raised by	Response
	<p>b) The relevant species of eagle and bustard are species with very low reproductive rates and are also very sensitive to disturbance when breeding. This means that, although relatively few individuals are at risk of negative impacts, the consequences of such impacts on the species populations in the district may be very high.</p>		
	<p>c) The exclusion zones for wind turbines, as defined in the report, are not adequate. The distribution modelling maps (Appendix 2) clearly show that relevant birds are likely to occur well within the development areas, even if only occasionally. A bird of a threatened species needs to hit a turbine blade only once to be eliminated from the breeding population, with the consequences highlighted under point (b), above.</p>		<p>As Murgatroyd et al (2021) have highlighted in their recent paper – circular buffers have limited benefit and are inefficient in defining areas of higher collision risk, as these eagles do not randomly move around a specific distance from their nests but choose to forage and fly over specific areas and habitats within their range. This is why buffers based on actual bird use of an area (and spatial modeling using those data) provide a more robust solution. The spatial modelling undertaken by the avifauna specialist has shown the importance of distance from the nest, but also altitude (higher flight activity in the 600-800m range), distance from ridge lines (higher closer to ridge lines), and slope (higher in areas of steeper slope).</p> <p>In relation to the design of the site buffers, the analysis used to inform the 2.5km distance for Martial Eagle is set out in Appendix 2. Figure 1 from that appendix is reproduced here as it illustrates the evidence base for the use of that specific distance. The survey data showed a strong relationship between flight density and distance from the nest, but this relationship flattened out beyond 2.5km. The highest densities were recorded within 500m of nests and there was a steady decline in flight density with distance from the nest, but only up to a distance of 2.5km. Beyond 2.5km flight density was consistently lower. Any exclusion of turbines beyond 2.5km would be of much less benefit in reducing</p>

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			<p>collision risk. A similar result was found for the Choje East Block, though there, higher flight activity was noted within 1.5km of the nest (though with a smaller amount of baseline data available a precautionary approach was adopted and a 2.5km applied in the East and as well as the West).</p> <p><i>Appendix 2. Figure 1. Martial Eagle flight density and distance from the nest, Choje West June 2019 - August 2020 (mean ± 95% confidence limits).</i></p>  <table border="1"> <caption>Estimated data for Figure 1: Martial Eagle flight density and distance from the nest</caption> <thead> <tr> <th>Distance from nest (km)</th> <th>Mean annual occupancy (hrs)</th> </tr> </thead> <tbody> <tr><td>0</td><td>4.2</td></tr> <tr><td>0.5</td><td>2.2</td></tr> <tr><td>1</td><td>1.3</td></tr> <tr><td>1.5</td><td>0.6</td></tr> <tr><td>2</td><td>0.3</td></tr> <tr><td>2.5</td><td>0.2</td></tr> <tr><td>3</td><td>0.1</td></tr> <tr><td>4</td><td>0.1</td></tr> <tr><td>5</td><td>0.1</td></tr> <tr><td>6</td><td>0.1</td></tr> <tr><td>7</td><td>0.1</td></tr> <tr><td>8</td><td>0.1</td></tr> <tr><td>9</td><td>0.1</td></tr> <tr><td>10</td><td>0.1</td></tr> <tr><td>11</td><td>0.1</td></tr> <tr><td>12</td><td>0.1</td></tr> <tr><td>13</td><td>0.1</td></tr> <tr><td>14</td><td>0.1</td></tr> <tr><td>15</td><td>0.1</td></tr> <tr><td>16</td><td>0.1</td></tr> <tr><td>17</td><td>0.1</td></tr> <tr><td>18</td><td>0.1</td></tr> <tr><td>19</td><td>0.1</td></tr> <tr><td>20</td><td>0.1</td></tr> </tbody> </table>	Distance from nest (km)	Mean annual occupancy (hrs)	0	4.2	0.5	2.2	1	1.3	1.5	0.6	2	0.3	2.5	0.2	3	0.1	4	0.1	5	0.1	6	0.1	7	0.1	8	0.1	9	0.1	10	0.1	11	0.1	12	0.1	13	0.1	14	0.1	15	0.1	16	0.1	17	0.1	18	0.1	19	0.1	20	0.1
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	<p>d) I am aware that the proposed wind farms fall within a REDZ, meaning that numerous wind farms already exist in the area, and many more are planned. Without wanting to enter into a discussion on the questionable nature of the REDZ itself, it must be noted that the cumulative impact of many wind farms in the region will be significant for highly mobile species such as birds.</p>		<p>A cumulative assessment in relation to impacts on avifauna is presented within Section 12.8 of the Avifauna Impact Assessment (Appendix E of the BAR). It is concluded that the cumulative impact of wind projects on avifauna in the region (within 30km of the proposed project) is expected to be of moderate significance (with mitigation), with the contribution from the Wind Garden Wind Farm being low (with mitigation).</p>																																																		

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	<p>4. The proposed wind farms lie on either side of the R350 which is the main arterial road linking Makhanda, Riebeek East and Bedford. This is a region in which game farms and game reserves are numerous and an important sector of the local economy, through the hospitality, hunting and game breeding industries. The wind farms will radically alter the wild sense of place and negatively impact this sector. I am aware that relevant IAAPs are making submissions in this regard, therefore I will not expand on this point.</p> <p>5. As a resident and property owner (in the name of my wife, Dr G.D. Harrison) in Riebeek East, I object to the impact of the wind farms on the local sense of place. Although the wind farms would not be visible from Riebeek East, they would lie on the commute route between Riebeek East and Makhanda which all residents of Riebeek East need to drive very regularly.</p> <p>In view of all of the above, I register my fundamental and strong objection to the proposed Wind Garden and Fronteer wind farms which I believe should not proceed in any form or configuration.</p> <p>I request that this letter be entered into the record of the public participation process, and be responded to.</p>		<p>Impacts on game farms and tourism are assessed within the SEIA Report (Appendix L of the BAR).</p> <p>The objection to the projects is noted.</p> <p>Potential visual impact on sensitive visual receptors (observers travelling along roads) located within a 5km radius of the wind turbine structures is assessed within the Visual Impact Assessment (Appendix K of the BAR) and is indicated to be of high significance.</p> <p>The objection to the projects is noted. No further action is required.</p> <p>The letter and responses to issues raised are included in this CRR (see above). The letter is also included within Appendix C7 of the <u>Revised</u> BAR.</p>
18.	<p>1. We represent the Indalo Private Game Reserve Association ("Indalo"), the statutory assigned Management Authority in terms of section 38(2)(b) of the National Environmental Management: Protected Areas Act, No. 57 of 2003 ("NEMPAA") of the Indalo Protected Environment ("Indalo PE"), a declared Protected Area ("PA"). The Indalo PE includes nine (9) internationally renowned private game reserves ("member reserves") in the Eastern Cape Province of South Africa which has brought some 76 000 ha of land under formal protection. The Indalo PE borders and/or is located within the buffer zone of the</p>	<p>Dr Ernst Basson                      Ernst Basson Attorneys                      Representative: Indalo Private Game Reserve Association                       Letter: 25 March 2021</p>	<p>The detail of the Indalo Protected Environment ("Indalo PE") is noted. To date, representatives from Kwande, Amakhala and Shwamwari have registered on the project database. Details of other members were requested such that they could also be registered on the project database.</p> <p>With regards to the request for additional review time (point 7 of the letter submitted), this was considered by the project team in relation to the legislated timeframe to which the EAP is required to comply. While Savannah is not in</p>

No.	Comment	Raised by	Response
	<p>Addo Elephant National Park and Great Fish Provincial Nature Reserve and other provincial protected areas and is a Biodiversity Stewardship site under the National Environmental Management: Biodiversity Act, No. 10 of 2004 ("NEMBA"). Various members of the Indalo PE and, or other nearby declared protected areas are directly or indirectly affected by the cumulative impacts of various planned and or constructed Wind Energy Facilities ("WEFs"), amongst other by the proposed Wind Garden and Frontier projects.</p> <p>2. Indalo is competent to make these representations as Interested and Affected Party ("IAP") to protect the rights of all its members as well as other affected proclaimed protected areas in the interest of the environment. Indalo's comments will also support the concerns of one its members, Kwandwe Game Reserve ("Kwandwe"), with whom you have been communicating in the past through its own legal representative Messrs Richard Summers Inc. The submissions by Indalo must be read in support of and not exclusionary of the comments by Kwandwe.</p> <p>3. We refer to your public Notice of Availability of Basic Assessment Reports for Review and Comment ("Savanah Notice") of 3 March 2021 in which you indicated that the draft BAR for Wind Garden and Frontier are available from 4 March 2021 until 7 April for the 30 period of review and comment by Interested and Affected Parties ("IAPs"). The Savanah Notice also advised that online public meetings will have taken place on 15 March 2021 at 18h00 and on 16 March 2021 at 10h00.</p> <p>4. Our instructions are that Indalo member reserves as well as other neighbouring property owners made attempts to join the public meeting of 15 March 2021. It is understood that the meeting was abandoned after participants that eventually succeeded in obtaining access to the meeting resolved that the meeting should be cancelled and a physical public meeting be held.</p>		<p>agreement with all the sentiments expressed in your letter in this regard, an additional review period as requested was provided. The review period for the Wind Garden and Frontier Basic Assessment Reports was extended until 06 May 2021 in order to provide adequate opportunity I&amp;APs to have a reasonable time period to review and comment on the draft reports.</p> <p>With regards to the public meeting held on 15 March 2021, it must be noted that the connection issues which some participants experienced was as a result of load shedding and storms in the area. This was no fault of Savannah's. The meeting held on 16 March 2021, which was attended by some of the same attendees from 15 March, was successfully concluded. Savannah has accommodated the request for face-to-face meetings and have accommodated availability of I&amp;APs where this was requested. 4 meetings were across 2 days to provide sufficient opportunity for I&amp;APs to attend while still ensuring compliance with the COVID-19 Regulations (specifically the requirement relating to 50% capacity not being exceeded at the venue in Makhanda). All registered parties were invited to these meetings and have been requested to register. Where I&amp;APs were unable to attend in person, provision was made for them to attend virtually.</p>

No.	Comment	Raised by	Response
	<p>You are hereby requested to include Indalo and its member reserves in your list of registered IAPs (if they have not already been added) and that you will inform them about the future physical meeting(s) and other information so that their representatives can attend and respond, where necessary.</p>		
5.	<p>We also refer to the letter of 10 March 2021 by Messrs Richard Summers Inc. ("Request for Extension") to you requesting a further extension of 21 days to comment on the draft BARs due to the voluminous nature of the information contained in these two draft reports and the accompanying specialists reports which exceeds 4000 pages.</p>		
6.	<p>Furthermore, we refer to your response on the same day (10 March 2021) to the Summer's Request for Extension wherein you only agreed to extend the period of public comment with 10 calendar days until 19 April 2021. This is 11 calendar days short of the requested period and is clearly inadequate in the factual context of the Wind Garden and Frontier applications.</p>		
7.	<p>Our instructions are to <u>respectfully request you, which we hereby do, to reconsider your decision of 10 March 2021 and to extend the deadline for public comments with 30 days from 7 April 2021 until 6 May 2021.</u></p>		
8.	<p>The reasons for our Client's request are as follows:</p> <p>8.1. The High Court in Earthlife Africa v Director General Department of Environmental Affairs and Tourism confirmed that the constitutional right to procedural fairness of IAPs in terms of section 24(4)(a)(v) of NEMA means that Indalo must have a <b>reasonable opportunity</b> to make comments to which regulation 3(8) of the EIA regulations stipulates a minimum timeframe of 30 days for public comment.</p> <p>8.2. The public participation process forms a key component of the process by which landowners will discover the impact of</p>		

No.	Comment	Raised by	Response
	<p>new developments on their property and environmental rights. The Courts have held landowners (such as the traditional communities involved in those cases) to be a special category of interested and affected parties (IAPs) whose rights will be infringed by a deficient public participation process that hinders the timely discovery and adequate investigation of defects in the reports of planned developments. Consequently, affected landowners have the right to <b>adequate and meaningful consultation</b> during the public participation process for environmental (and mining right) authorisations.</p> <p>8.2.1. As recent as 11 September 2020 in Baleni and Others v Regional Manager: Eastern Cape Department of Mineral Resources and Others the High Court accepted that the early availability of the requested information through the public participation process is necessary to provide adequate opportunity for the landowner (community) to meaningfully consult with the applicant and relevant authorities about the impact of the mining development on their land.</p> <p><i>“Meaningful consultation entails discussion of ideas on an equal footing, considering the advantages and disadvantages of each course and making concessions where necessary.”</i></p> <p>8.2.2. In Bangwenyama Minerals Pty Ltd and Others v Genorah Resources (Pty Ltd and Others the Constitutional Court confirmed, amongst other, that:</p> <p><i>“The Community was entitled to adequate notice of the nature and purpose of the administrative action that was proposed in relation to the Genorah application. <b>It was entitled to a reasonable opportunity to make</b></i></p>		

No.	Comment	Raised by	Response
	<p><i>representations in relation to the Genorah application. Once the administrative decision was taken the Community was entitled to a clear statement of the administrative action..." [Our emphasis.]</i></p>		
8.2.3.	<p>The above jurisprudence confirms that IAPs must have adequate time to receive and engage with the information provided in the two BARs about the two WEFs. The IAPs must have adequate time to employ scientists and specialists to do so on their behalf should the need for this become clear in their process of evaluating the reports. This will enable IAPs to comment meaningfully on the information in the reports about how the proposed wind farms will affect their property and environmental rights. In the present matter of Wind Garden and Frontier, the EAP allowed <b>inadequate</b> time for the IAPs to meaningfully consider and respond to the information in the BARs about the two wind farm developments.</p>		
8.3.	<p>As alluded to by the Summers Request for Extension, IAPs are required to comment on applications for two WEFs which comprise about 20 specialist reports covering more than 4000 pages of information. This is a vast volume of information that IAPs must critically evaluate and where necessary familiarise themselves with specialist studies comprising complex subject material, including but not limited to sense of place and visual impact, the noise impact assessment and relevant SANS Standards, the socio-economic assessment, and the use of social accounting matrices, to mention but a few. It is an unreasonable expectation that the IAPs can complete this process within the allowed 40 days if comments are to be comprehensive and reasonably informed as the EIA regulations require.</p>		



No.	Comment	Raised by	Response
	<p>8.4. We remind you that Indalo is exercising its fundamental rights to protect the environment and its members' property and environmental rights, to receive relevant information, and that a fair process is followed to do so during the Basic Assessment. These rights are protected in sections 24, 25, 32 and 33 of the Constitution read with their statutory provision in section 24 of the National Environmental Management Act, No. 107 of 1998 ("NEMA") and the EIA Regulations, 2014 and sections 3 and 6 of the Promotion of Administrative Justice Act 3 of 2000 ("PAJA"), amongst other.</p>		
	<p>8.5. To fulfil these constitutional rights, regulation 3(8) of the EIA regulations provides <b>discretionary power</b> to the EAP to allow more time if requested by IAPs such as the Summers Request for Extension and presently by Indalo. It is established law that a decision-maker's discretionary power must be exercised in a reasonable manner which is objectively evaluated in accordance with the fundamental rights and values of the Constitution. We submit that the EAP's decision to only allow 10 calendar days extension are unreasonable as it merely pays lip service to these fundamental rights and values to ensure that IAPs fairly participate in environmental decision-making. Given the limitations brought about by the public holidays and COVID pandemic, the EAP effectively denied IAPs' the right to a substantially fair comment process which is why Indalo makes this request to you to provide a proper period of 60 calendar days for public comments.</p>		
	<p>8.6. Further to the above reasons, the failure to hold a <b>properly constituted and accessible public meeting</b> on 15 March 2021 as well as focus group meetings with amongst others property owners and conservation groups is reason to further extend the comment period to allow for such meetings to take place. If this does not happen in future, the public</p>		

No.	Comment	Raised by	Response
	<p>participation process will not be procedurally fair as it does not provide a reasonable opportunity as envisaged by section 24(4)(a)(v) of NEMA and regulation 41(6)(b) of the EIA Regulations during which IAPs can effectively (adequately and meaningfully) participate in environmental decision-making.</p>		
	<p>9. We advise that the failure of the EAP to comply with Indalo's request for further extension –</p>		
	<p>9.1. will constitute a material breach of the EAP's constitutional duty to ensure a substantially fair and reasonable EIA process for public participation by IAPs in accordance with statutory and constitutional prescripts that may affect the authorisation of the Wind Garden and Frontier WEFs</p>		
	<p>9.2. may reflect poorly on the independence of the EAP by pointing to a reasonable appreciation of bias in favour of the applicant that arguably fall short of the high standard of professional conduct that is expected of EAPs; and</p>		
	<p>9.3. will infringe upon to Indalo's rights and may cause damages to its members.</p>		
	<p>10. Indalo strictly reserves all its rights, including the right to continue to submit further comments directly to the competent authority at the Department after expiry of the EAPs allocated time for public comment which the latter is obliged to consider before taking a decision. In Earthlife Africa referred to above, the Court confirmed that section 24(4)(a)(v) of NEMA allows Indalo a reasonable opportunity to raise its concerns directly with the DEFF before it takes a decision. Also refer to the judgement in Escarpment Environment Protection Group and Another v Department of Water Affairs and Others, 2013.</p>		
	<p>11. We trust that you will reconsider your decision and act in a reasonable manner by extending the time for public comment</p>		

No.	Comment	Raised by	Response
	<p><b>until 6 May 2021</b> as requested above. Kindly confirm to us in writing your decision before <b>17h00 on 1 April 2021</b>, failing which it is assumed that you have refused to grant the requested extension, whereupon our Client will exercise its legal remedies.</p> <p>12. Please confirm written receipt of this letter by <b>17h00 on 29 March 2021</b>, failing which receipt of same is assumed.</p> <p><b>Note: The Footnotes included in the submissions above have not been captured in this C&amp;RR – please refer to the original submission in Appendix C7 of the Revised BA Report.</b></p>		<p>The request was responded to on 25 March 2021 (refer to <b>Appendix C6</b> of the Revised BA Report).</p>
19.	<p>Will there be a follow up meeting with WR its directors, its partners Dimsum and Energy exchange. If you are going to arrange a meeting could you please not on a Monday and Friday. I have children I need to pick up from school</p> <p>could you pls provide me with Wind Relics offices address</p> <p>I noted at the meeting a lot of amendments were going to be made to the individual study. Would this involve a extended review period once the study have been amended.</p> <p>When will the notes of the meeting be made available to the us. If you have any available I would like them please</p> <p>I would also like you to clarify who is the applicant as the application was granted to WR from the DEA .in the adverts and pamphlets it was the SPV</p>	<p>Chad Comley I&amp;AP</p> <p>E-mail: 13 April 2021</p>	<p>Depending on the EIA time frames, feedback meetings could be arranged and the client for Wind Garden (Pty) Ltd and Fronteer (Pty) Ltd would be requested to attend.</p> <p>The physical address was provided as requested.</p> <p>As changes to some of the specialists reports have been made in response to comments raised during the review period, revised reports will be made available for a 30-day review and comment period as per the provisions of Regulation 19(b) of the EIA Regulations (2011), as amended.</p> <p>The draft meeting notes have been distributed to all those I&amp;APs who attended the applicable meeting for their review. The meeting notes are included in Appendix C8 of the <u>Revised</u> BAR.</p> <p>The applicant for the Wind Garden Wind Farm is Wind Garden (Pty) Ltd and the applicant for Fronteer Wind Farm is Fronteer (Pty) Ltd</p>
20.	<p>I have been through the BAC report and have some objections to what seems to be a biased report.</p> <p>1. The effects of the wind farm on property prices: Being an eco-tourism/Hunting operation our business/Farm relies mainly on foreign visitors, I have engaged and documented clients</p>	<p>Grant Soulé Director</p> <p>E-scape Airtours Charters &amp; Transfer</p> <p>Inyahi Game Services</p>	<p>Responses to specific comments raised are provided in the sections which follow.</p> <p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values</p>

No.	Comment	Raised by	Response
	<p>reactions to the possibility of a windfarm being on our boundaries, and they have stated that they would not be interested in visiting properties that have wind farms surrounding them. This would result in a loss of income and a business that has no clients. Your report states that the wind farm would have little impact on property prices. Has your report taken into consideration the effect of these developments on game reserves, or just rural properties in general?? Please explain why the direct correlation between wind farms and property value / market value has been disregarded. Homesteads, residences, lodges, game reserves and tourism operations are all directly affected.</p>	<p>Email: 15 April 2021</p>	<p>are anticipated to be negative (medium and low significance). It is anticipated that the significance of impacts on specific properties within close proximity to the proposed WEF could be higher than that on properties removed from the facility. This conclusion is based on a review of international research and local case studies.</p>
	<p>2. Socio economic effect. We currently employ 12 staff on our reserve and in season that number increases to 23. The net result would be a loss of about 80% of our work force. The reality of these farms is that post construction phase, very few local people are employed by the wind farm. Job losses will exceed any possible employment creation. Has a proper study been done to evaluate, or weigh up the difference between short term job creation versus long term losses in the tourism sector, or is your evaluation just a general one.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). However, the claims that +80% of staff will lose their jobs should be viewed as an opinion of the respective I&amp;AP.</p>
	<p>3. Visual/ Noise/ Traffic impact. Our lodge and housing will be severely affected by all of these, we have full view of all turbines on the Browns, Dells and Whites farm. The visual impact as a neighbouring farm is immense. There is no part of our farm that will not see most if not all Turbines as they are mostly erected on higher ground. As a neighbour we have not been visited to assess the visual/noise impact. Have simulations/ photomontages been provided from all sensitive viewing areas as informed by local conditions and I&amp;APs.</p>		<p>The visual impact assessment includes assessment of potential visual impact on sensitive visual receptors (residents and visitors) located within a 5km radius of the wind turbine structures. The impact is rated as high.</p> <p>A site visit was undertaken by the visual specialist (July 2020) in order to verify the results of the spatial analyses and to identify any additional site-specific issues that may need to be addressed in the VIA report.</p>

No.	Comment	Raised by	Response
			<p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. It is not possible to consult with all of these, nor is it possible to provide photo simulations for all that are affected. The photo simulations are representative of what the wind turbine would look like from varying distances and not intended to show the wind farm from all directions.</p>
	<p>4. You speak of the increase in income for farms that benefit from the wind farms, but make no mention of the loss of income to game reserves/Eco tourism properties.</p>		<p>Impacts on game farms and tourism are assessed within the SEIA Report (Appendix L of the BAR). The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance).</p>
	<p>5. As a direct neighbour to the proposed development, we have not been asked to comment on the development, nor have any of our other neighbours. They however stated that farms in cookhouse and Oyster bay were asked to comment. Please explain what relevance this development has on those properties, and why we were not afforded the opportunity to comment.</p>		<p>The landowner was contacted during the additional interviews undertaken by the socio-economic specialist in May 2021 and has submitted a completed questionnaire (refer to Annexure A of the SEIA report included in the Revised BAR).</p>
	<p>6. Are there any material project flaws identified by specialists where the impact is not capable of mitigation?</p>		<p>No environmental fatal flaws were identified by specialists within the BA process.</p>
	<p>7. What information gaps were known to the specialists undertaking the assessment and that were not declared / adequately articulated in the specialist reports that were released to I&amp;APs?</p>		<p>All assumptions and limitations of specialist studies and the BA process are detailed within the BA Report and associated appendices. All known gaps were declared and articulated in the specialist reports.</p>
	<p>On the basis of the public meeting process, (Where your expert for the socio economic study, eventually conceded that his report was flawed) is the report going to be redrafted, or is the BAC report your final submission. We were also told that we would be provided with details of all the parties interviewed for the socio economic study,</p>		<p>Comments received during the public consultation process are being considered and will be included in the reports, where relevant. A revised report will be made available to I&amp;APs for review and comment.</p>

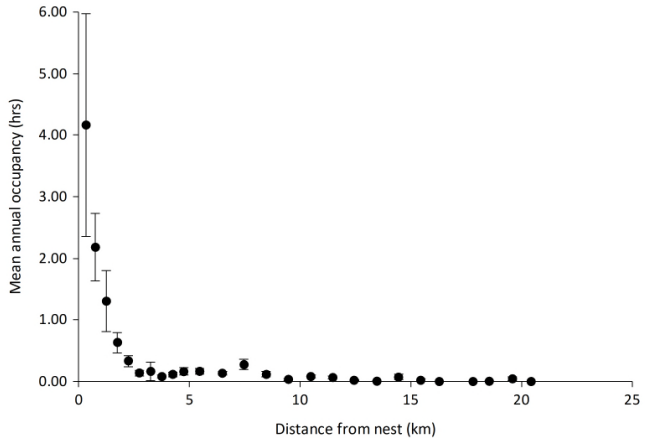
No.	Comment	Raised by	Response
	<p>can you please provide those details. Please also provide me with the minutes of all the public meetings held.</p>		<p>Details of all parties contacted for interviews and to complete the socio-economic survey/questionnaire are included in Annexure A of the SEIA Report (Appendix L of the Revised BAR).</p> <p>Notes of the public meetings held have been distributed to all attendees (refer to <b>Appendix C8</b> of the Revised BA Report)..</p>
21.	<p>BirdLife South Africa supports the responsible development of renewable energy in South Africa. We recognise the contribution renewable energy can make towards mitigating climate change whilst meeting our country's energy needs. However, renewable energy must be deployed with due sensitivity to the natural environment.</p> <p>The proximity of the proposed development sites to protected areas and the overlap with Critical Biodiversity Areas suggest that a precautionary approach must be adopted when evaluating the impacts. The desired state of most of the site and surroundings is that it remains in natural or near-natural condition. With this in mind, we have the following comments:</p> <ol style="list-style-type: none"> <li>1. We welcome the inclusion of a peer review of the avifaunal assessments. However, many of the recommendations in the peer reviews have not been addressed in updated avifaunal assessment reports. We suggest that the avifaunal assessments should updated in response to those recommendations.</li> <li>2. Several key references are missing from the assessments, including SANBI's Species Environmental Assessment Guidelines (2020), Perold et al. 2020 (which summarises the diversity of birds killed by turbine collisions in South Africa) and BirdLife South Africa's Guidelines on Black Harrier (<i>Circus maurus</i>) and Wind Energy. The avifaunal assessments also do not reference</li> </ol>	<p>Samantha Ralston-Paton                      Birds and Renewable Energy                      Project Manager                      SA BLSA</p> <p>Letter: 21 April 2021</p>	<p>Comment noted. No further response required.</p> <p>The avifaunal impact assessment report (Appendix E of the Revised BAR) has been updated to consider the comments and recommendations of the peer review report.</p> <p>Recent references have been included into the revised AIA Report, including discussion of Murgatroyd et al's 2021 Verreaux's Eagle modelling work.</p>

No.	Comment	Raised by	Response
	<p>a single scientific paper by Dr Murgatroyd, South Africa's leading expert on Verreaux's Eagle (<i>Aquila verreauxii</i>), despite the potential risk the proposed development poses to this species.</p>		
3.	<p>The avifaunal assessment reports do not include species' scientific names, and common names were not consistently used (e.g. Southern Black Korhaan (<i>Afrotis afra</i>) and Southern Black Bustard were used interchangeably).</p>		<p>List of species and scientific names has been added and taxonomy made consistent throughout the revised AIA. The standard BirdLife International/Handbook of the Birds of the World (HBW) list was used as the primary source for taxonomy.</p>
4.	<p>The avifaunal assessments claims to have complied with Best Practice and with the Guidelines for Verreaux's Eagle and Wind Energy "as far as possible". The reports do not highlight the shortfalls or justify changes to the recommended approach.</p>		<p>There has been full transparency about the data collection methods. Further details have been added to the limitations section of the report to clarify further.</p>
5.	<p>We question if the monitoring approach was in line with the above guidelines. The Best Practice Guidelines recommend increased survey effort in potentially sensitive environments and it does not appear that the guidelines for Black Harrier and Wind Energy have been applied. Similarly, the Guidelines for Verreaux's Eagle recommended increased survey effort (i.e. 72 hours per vantage point) if there is a potential overlap with Verreauxs Eagle territories. If a precautionary approach to avoidance is not adopted for the proposed layout of turbines, the guidelines recommended that monitoring continues for two years. These recommendations have not been implemented. At most, vantage points were surveyed for 52 hours, and only the smallest nest buffers for Verreaux's Eagle have been applied. Development has not been excluded from the recommended precautionary buffers or other features associated with a high collision risk.</p>		<p>The avifaunal specialist has indicated that there were very few records of black harrier during the baseline surveys and no indication of breeding within the survey area, so buffers for this species are not relevant at these sites. The key point in relation to Verreaux's Eagle and baseline survey was that the nests were avoided in the initial design process so detailed surveys of flight activity close to nests sites was not undertaken as those areas would be unaffected by the development. Rather the focus was the areas where turbines would be located, and sufficient data have been collected to quantify Verreaux's Eagle flight activity within the potential impact zones of the wind farms.</p>
6.	<p>The avifaunal assessments do not address the implications of a recent paper by Murgatroyd et al. 2021. This study highlights that the previously recommended nest buffer (3 km) for</p>		<p>The avifaunal specialist has indicated that its paper post-dates most of the analytical work that was carried out for the assessment. The approach that it takes is very similar to</p>

No.	Comment	Raised by	Response
	<p>Verreaux's Eagle nests is inadequate and suggests that a precautionary buffer of 5.2km would be more appropriate (in the absence of applying the Verreaux's Eagle Risk Assessment Model). This oversight is surprising given that the peer review drew attention to the paper.</p>		<p>that which adopted by the specialist (though they have used local survey data rather than data on tagged individuals). Both studies model eagle flight activity spatially on the basis of environmental conditions such as topography and distance from the nest. The site-based spatial modelling used by the avifaunal specialist has been used to inform the site design, based on data from the wind farm site itself. BLSA notes that the paper "suggests that a precautionary buffer of 5.2km would be more appropriate". However, as set out in the Murgatroyd et al. paper, even that enlarged distance of 5.2km only captured 50% of reported collisions. As the paper concludes:</p> <p><i>"Our collision risk potential (CRP) model included the variables distance to nest, distance to conspecific nest, slope, distance to slope and elevation. Using our model, rather than a circular buffer, resulted in c. 4%–5% improvement in eagle protection while excluding development from the same amount (but not shape) of area. For an equal level of eagle protection, our model can make c. 20%–21% more area available for wind energy development compared to a circular buffer."</i></p> <p>If the Verreaux's Eagle Risk Assessment Model can be made available, the specialist could use it to help inform the assessment for this species. Unfortunately, the paper as published describing that model does not include sufficient detail to be able to replicate it without further information on the model parameters.</p> <p>What is clear, however, is that even adopting very wide buffers, the collision risk to eagles is not removed and that a</p>



No.	Comment	Raised by	Response
	<p>7. The proposed buffers for Martial Eagle nests are also significantly less than recommended in most other impact assessments (i.e. 5-6 km). Van Eeden et al. (2017) 's research tracking Martial Eagles in the Kruger indicated a 50% Kernel Density with an average of 16.5km<sup>2</sup> - which would suggest a buffer with a radius of 2.9 km from a nest would be necessary to avoid just the core territory. Martial Eagle territories are likely to be much larger in the area of the proposed development.</p>		<p>residual collision risk will remain. That will remain the case however much modelling and analysis is carried out, as both Murgatroyd et al's work and the specialist's local studies have shown that these birds range widely from their nests. Avoiding the close proximity to nests can reduce the risk, but not remove it altogether.</p> <p>This follows on from the same principle as above, where Murgatroyd et al highlighted the limited benefit of simple circular buffers and their inefficiency in defining areas of higher collision risk, as these eagles do not randomly move around a specific distance from their nests but choose to forage and fly over specific areas and habitats within their range. The spatial modelling undertaken by the specialist has shown the importance of distance from the nest, but also altitude (higher flight activity in the 600-800m range), distance from ridge lines (higher closer to ridge lines), and slope (higher in areas of steeper slope).</p> <p>In relation to the design of the site buffers, the analysis used to inform the 2.5km distance for Martial Eagle is set out in Appendix 2 of the AIA (Appendix E of the BAR). Figure 1 from that appendix is reproduced here as it illustrates the evidence base for the use of that specific distance. The survey data showed a strong relationship between flight density and distance from the nest, but this relationship flattened out beyond 2.5km. The highest densities were recorded within 500m of nests and there was a steady decline in flight density with distance from the nest, but only up to a distance of 2.5km. Beyond 2.5km flight density was consistently lower. A ny exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk. A similar result was found for the Choje East Block, though</p>

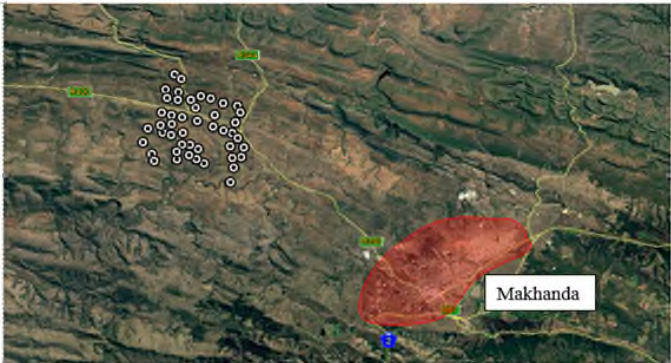
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			<p>there, higher flight activity was noted within 1.5km of the nest (though with a smaller amount of baseline data available a precautionary approach was adopted and a 2.5km applied in the East and as well as the West).</p> <p><i>Appendix 2. Figure 1. Martial Eagle flight density and distance from the nest, Choje West June 2019 - August 2020 (mean ± 95% confidence limits).</i></p>  <table border="1"> <caption>Estimated data for Figure 1: Martial Eagle flight density and distance from the nest</caption> <thead> <tr> <th>Distance from nest (km)</th> <th>Mean annual occupancy (hrs)</th> </tr> </thead> <tbody> <tr><td>0</td><td>4.2</td></tr> <tr><td>0.5</td><td>2.2</td></tr> <tr><td>1</td><td>1.3</td></tr> <tr><td>1.5</td><td>0.8</td></tr> <tr><td>2</td><td>0.5</td></tr> <tr><td>2.5</td><td>0.4</td></tr> <tr><td>3</td><td>0.3</td></tr> <tr><td>4</td><td>0.2</td></tr> <tr><td>5</td><td>0.2</td></tr> <tr><td>6</td><td>0.2</td></tr> <tr><td>7</td><td>0.3</td></tr> <tr><td>8</td><td>0.2</td></tr> <tr><td>10</td><td>0.1</td></tr> <tr><td>12</td><td>0.1</td></tr> <tr><td>14</td><td>0.1</td></tr> <tr><td>16</td><td>0.1</td></tr> <tr><td>18</td><td>0.1</td></tr> <tr><td>20</td><td>0.1</td></tr> </tbody> </table>	Distance from nest (km)	Mean annual occupancy (hrs)	0	4.2	0.5	2.2	1	1.3	1.5	0.8	2	0.5	2.5	0.4	3	0.3	4	0.2	5	0.2	6	0.2	7	0.3	8	0.2	10	0.1	12	0.1	14	0.1	16	0.1	18	0.1	20	0.1
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	<p>8. We welcome the inclusion of spatial modelling, but we are concerned that the model may lack statical rigour due to the limited input data (discussed above). It is also unclear how the thresholds for the predicted use categories for were determined. Importantly it is not clear how the output of these models has influenced the layout (or development envelope), if at all. As far as we can ascertain, only avoidance of small nest buffers has been proposed, and all other areas are "available" for development.</p>		<p>The avifaunal specialists strongly challenge the BLSA claim of a lack of statistical rigour in their spatial modelling and note (a) the huge survey effort that has provided the baseline data for the modelling (over 3,000 hours of vantage point survey) and (b) the modelling results that are presented in Appendix 2 that show strong statistically significant relationships. The work has informed the site design, primarily through the investigation of the relationship between eagle flight activity and distance from the nest, using a robust evidence base.</p>																																						

No.	Comment	Raised by	Response
	<p>9. The map indicating the location of nests (Figure 4) suggests that nests of Secretarybirds are surrounded by proposed turbines, but the reports note that no breeding sites were found. The potential locations of roosts, breeding sites and leks of large terrestrial birds requires further investigation and assessment, and clearer reporting.</p>		<p>The avifaunal specialist has indicated that an old Secretarybird nest was located in the Frontier area during initial surveys at the site, and a bird was present nearby, but they did not return to that site and were seldom seen in the survey area after that. A similar situation was observed in the Wind Garden area, with occasional observations but no specific nest site identified in the early part of the baseline surveys but few records thereafter. Further clarification has been added to the report in included in Appendix E of the Revised BAR.</p>
	<p>10. The avifaunal assessments make no reference to National Environmental Screening Reports, which flag that there is potential Black Harrier breeding habitat on sites. This is not explicitly interrogated further and it is unclear if these areas were verified or not, and how this influenced the impact assessment and mitigation strategy.</p>		<p>The avifaunal specialist has indicated that whilst the National Environmental Screening Reports post-date the time that the baseline surveys were designed, all potential black harrier nesting habitat was checked for the presence of this species across the survey area.</p>
	<p>11. Appendix 2 refers to buffers around Cape Vulture roosts. This is confusing since no Cape Vultures were recorded on site. We presume that this relates to other proposed development sites, but this should be clarified.</p>		<p>This refers to buffers applied in the Choje Western Block.</p>
	<p>Confidence in the fatality rates predicted by the Collision Risk Model is very low for a number of reasons, including:</p> <p>a) Inadequate vantage point data. This is discussed above. Furthermore, Scottish Natural Heritage (2017) recommends 72 hours per vantage point per year and two years of data collection to account for interannual variation. Given the current drought, we expect marked interannual variation at these sites and monitoring reports from other South African wind farms suggests that there can be was substantial interannual variation in both eagle activity and in fatality rates.</p>		<p>The avifaunal specialist has indicated that there has been a huge amount of survey effort to inform this assessment. With any assessment there will always be an issue of predicting impacts into the future based on a limited timescale for baseline surveys (with one, two or even three years of data), which is why the assessment here has been conducted on a precautionary basis (and why it has been proposed that a specific Ornithological Mitigation Plan should be developed and implemented for all of the Choje wind farms).</p>

No.	Comment	Raised by	Response
	b) Avoidance rates and flight speeds for different species were used instead of drawing on data and knowledge of local species experts for the species actually at risk.		<p>The avifaunal specialist has indicated that if avoidance rates had been available from local studies, then they would have been used. However, post-construction monitoring studies that have been produced in South Africa have not, as far as we are aware reported any such rates, and have not compared predicted pre-construction risk with actual post-construction collisions, nor flight activity pre-construction and subsequent collision levels. Until such information is available, there is no alternative to using other studies from similar species elsewhere to inform any quantitative analysis.</p> <p>For the flight rates too, the specialists have applied the principle of using the best available data, but if there are any specific values that BLSA considers could be improved, then they can readily update the modelling to reflect those input data. They are aware that Murgatroyd (2016) presented 'average trip speeds' for four tagged Verreaux's Eagles of 15.2 km h<sup>-1</sup> with a wide 95 % confidence interval of 1.2–38.5 km h<sup>-1</sup>), which indicates a rather slower speed than that used in the collision modelling (43 km h<sup>-1</sup>). Applying the Murgatroyd value would reduce collision risk, so the value applied in the model is more precautionary.</p>
	c) The predicted fatality rates vary markedly depending on the assumptions - this highlights that the assumptions and limitations require careful consideration.		<p>As stated in the report, the assessment took a precautionary approach, making reasonable worst-case assumptions that should mean that the predicted risk is a worst case than would be unlikely to be exceeded.</p>
	d) Monitoring reports from South African wind farms suggest that Verreaux's Eagle may be at greater risk of collisions than predicted by the collision risk models. Five out of six wind farms that overlap with Verreaux's Eagle territories have reported two or more fatalities of Verreaux's Eagle (these wind farms have		<p>The avifaunal specialist has indicated that it would be helpful if BLSA could provide more information on their quoted collision risk of 0.05 per turbine per year from Thaxter et al (2017), how that has been derived and how it relates to Verreaux's Eagle specifically, as no such value appears</p>

No.	Comment	Raised by	Response
	<p>been operational between two and five years). The average fatality rate across the six wind farms was 0.02 Verreux's Eagle per turbine per year, not far from the 0.05 per year predicted by Thaxter et al. (2017). but these data do suggest that that fatality rates could be higher than predicted by the collision risk models.</p>		<p>to be mentioned in the published paper. The whole point in obtaining baseline data on key species flight activity at a site is to enable a site-specific assessment to be made. Generalised values across other wind farms are of very limited use in predicting collision risk at other sites without information on bird activity at the site. Verreux's Eagle collision risk at Wind Garden is low in comparison because the site is not well-used by this species. It was even lower at Fronteer because this species hardly ever used the site at all.</p>
	<p>12. The output of Collision Risk Models should therefore be considered with caution, but it does give a sense of the potential magnitude of risk under different scenarios. It is, therefore, disappointing that reports did not assess the predicted impacts associated with different layouts. It is therefore unclear if the best practicable environmental option has been identified.</p>		<p>The avifaunal specialist has indicated that whilst this could be done retrospectively if it was considered helpful, it is not clear what layouts would be tested/modelled, as the initial layouts already took into account the eagle buffers, so there are not any higher-risk layouts to test.</p>
	<p>13. The predicted impacts were also not contextualised (e.g. with reference to the local or regional population size, background mortality, and/or population viability analysis). This is problematic as a) it is difficult to interrogate the claim that the impacts will not be significant, and b) there is no benchmark to test if impacts observed during operation are significant and will require further mitigation. BirdLife South Africa suggests that unless evidence is presented to indicate otherwise, the management objective (reflected in the EMPr) for threatened species, especially species with declining populations, should be zero fatalities.</p>		<p>As stated in the report, it was not considered possible to carry out a detailed population analysis on any of the species at this site because of a lack of data on the key species from local population studies. The avifaunal specialists are not aware of such information being available (or presented in any other avifaunal assessments in this region). Rather an alternative approach was taken, making a professional judgement on the collision impacts, informed by the predicted risk from the collision modelling. If the data inputs for such an approach could be agreed with BLSA then these analyses could be undertaken, and the avifaunal specialists would welcome their contribution. However, it is also important to consider the final point raised here about zero fatalities. Collision risk modelling will never show zero risk unless there are no flights at all at risk height</p>

No.	Comment	Raised by	Response
	<p>In conclusion, given the desired state of the habitat and surroundings (i.e. natural or near-natural) and the number of threatened species potentially affected, BirdLife South Africa is of the opinion that a) the survey effort has been inadequate, b) insufficient effort has been made to minimise impacts through amending the layout of turbines, and c) it is not appropriate to adopt a "wait and see" approach to mitigate impacts during the operational phase - a much more proactive approach to minimising predictable risks to biodiversity will be necessary.</p>		<p>through the site, so whatever is done in this respect a mitigation package will be needed to deliver that zero risk.</p> <p>The avifaunal specialists strongly disagree that the survey effort has been inadequate, as set out above. They also do not accept that there has not been sufficient effort to minimise risks. There has been a detailed analysis of the use of the area by key species and avoidance of locating turbines in higher risk areas, with those areas informed by both BLSA guidance and detailed site-specific data analysis.</p> <p>Lastly, the mitigation proposed does not adopt a 'wait and see' approach and is proactive. Further details are given in the draft Ornithological Mitigation Plan included within the AIA included as Appendix E of the Revised BAR.</p>
22.	<p><b>1. Introduction</b></p> <p>1.1. The following report was commissioned at the request of Theo Fischer of EScience Associates (Pty) Ltd, email: theo@escience.co.za, tel: 011 718 6380, mobile: 082 094 9990 on behalf of Indalo Chairman of Indalo PGRA and General Manager: Park Planning and Development SANParks.</p> <p>1.2. This report has been written to review the Noise Impact Assessment conducted by Enviro Acoustic Research</p> <p><i>De Jager, M. 2020: "Environmental Noise Impact Assessment for the proposed Wind Garden Wind Farm and associated Infrastructure Near Makhanda (Grahamstown), Eastern Cape Province". Enviro-Acoustic Research, Pretoria</i></p> <p>1.3. Henceforth referred to as the Wind Garden NIA.</p> <p>1.4. Wind Garden Wind Power (Pty) Ltd proposes to construct a Wind Energy Facility (WEF) of up to 264 Megawatts (MW) installed capacity on a number of farms situated 17 km north-west of Makhanda (Grahamstown). The wind farm will host up</p>	<p>Terry Mackenzie-Hoy                      Mackenzie Hoy consulting                      Acoustics engineers</p> <p>Letter: 04 May 2021</p>	<p>Specific comments raised are responded to in the sections below.</p> <p>The noise report considers the sound power emission levels of the WTG that the client indicated they are considering. However, due to various reasons, a developer does not want to reveal the actual WTG that they may consider,</p>

No.	Comment	Raised by	Response
	<p>to approximately 47 turbines, each with a capacity of 5.63 MW. It is indicated in the noise impact assessment by Enviro-Acoustic Research CC that the hub height for each turbine will not exceed 120 m “worst case scenario” and rotor tip is anticipated to reach a maximum of 200m “worst case scenario”. The Wind Garden WEF will be immediately north-west of Makhanda / Grahamstown. The situation is geographically as below:</p>  <p><b>Proposed turbine locations shown as white circles / black dots</b></p>		<p>whether for commercial/economic reasons, possible Non-Disclosure Agreements etc. However, the details of the actual WTG are totally irrelevant to a noise analyses, as the major factors that determine the noise levels are:</p> <ul style="list-style-type: none"> <li>a) The layout of the WEF (which would include the number of WTG as well as the distance from various receptors); and</li> <li>b) The sound power emission levels of the WTG (or noise source) selected/that the developer is considering. Minor factors in the noise levels are:</li> <li>c) The spectral characteristics of the WTG;</li> <li>d) Temperature and Humidity;</li> <li>e) Noise abatement technologies implemented by the manufacturer;</li> <li>f) Topography and wind shear effects;</li> <li>g) Ground surface characteristics. Insignificant factors are:</li> <li>h) The hub height of the WTG;</li> <li>i) The rotor diameter of the WTG;</li> <li>j) The manufacture of the WTG, the model name or number. The sound power emission levels are provided by the manufacturer either as the maximum warranted sound power levels, a calculated sound power level – for new WTG where the noise levels were not previously measured – or measured sound power levels as reported in terms of IEC 61400-11.</li> </ul> <p>It is unique for each make and model and the sound power levels already include the effect of the hub height, rotor diameter and abatement technologies. There are smaller</p>

No.	Comment	Raised by	Response
			<p>WTG with a higher sound power emission levels, and larger WTG with a lower sound power emission level.</p> <p>It is definitely unscientific and a sweeping statement/classification to say that a wind turbine with a higher generating capacity will have a higher sound power emission level.</p>
	<p><b>2. Discussion</b></p> <p>2.1. <b>Ad. Paragraph 2.2: Project Description.</b></p> <p>2.1.1. The report indicates that the capacity of the installation will be 264 MW and that there will be 47 wind turbines. This implies that each turbine is rated at 5,5 MW. The noise impact assessment by Enviro-Acoustic Research CC uses the data for a Vestas V150-4.2 WTG at a height of 120 m. This is a 4.2 MW turbine.</p> <p>2.1.2. It is not known why a 4.2 MW turbine is used for the noise impact assessment by Enviro-Acoustic Research CC since it makes less noise than a 5.63 MW turbine. The 4.2 MW turbine has a sound power of 105 dBA while a 5.63 MW turbine has a sound power of 107 dBA. Due to the logarithmic nature of the decibel scale this is a 30 % increase in loudness. To use a turbine with lower power and lower noise than the proposed turbine is misleading and unscientific.</p> <p>2.1.3. The report further states that "Land use is mostly wilderness (ecotourism) with agricultural activities (game, sheep and cattle farming).</p>		<p>The noise report considers the sound power emission levels of the WTG that the client indicated they are considering. However, due to various reasons, a developer does not want to reveal the actual WTG that they may consider, whether for commercial/economic reasons, possible Non-Disclosure Agreements etc. However, the details of the actual WTG are totally irrelevant to a noise analyses, as highlighted in the previous answer.</p> <p>See comments above.</p> <p>The definition of Ecotourism from Oxford Languages is: "tourism directed towards exotic, often threatened, natural environments, intended to support conservation efforts and observe wildlife." The report however does briefly discuss Noise Impact on Animals in section 7.1.</p> <p>The following should be noted: There are no noise limits or guidelines that can be used to determine what noise levels</p>

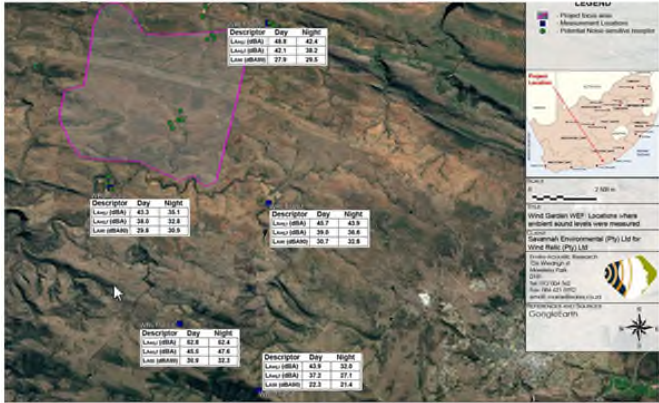


No.	Comment	Raised by	Response
			<p>will impact on animals. There are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals. Animal communication is generally the highest during no and low wind conditions. It has been hypothesized that this is one of the reasons why birds sing so much in the mornings (their voices carry the farthest and there are generally less observable wind). Machoy is ignoring the fact that background noise levels in remote areas are not always low in space or time.</p> <p>The site is windy and this generates significant noise itself and also significantly changes the ability of fauna to hear the environmental noises around them. Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.).</p> <p>In February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive. Wind is a significant source of natural noise, with a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range. Wind turbines do not emit</p>

No.	Comment	Raised by	Response
			<p>broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed. · The wind turbines will only operate during periods of higher wind speeds, a period when background noise levels are already elevated due to wind-induced noises. · The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with periods of higher winds also correlating with lower faunal activity, particularly with regard to communication. · This fact is also discussed in the paper referred to by Machoy (Garstang, 2003) that discuss the role that wind play in determining the range and detection of elephant communication.</p>
	<p>2.1.4. The report ignores impacts on other sensitive environmental receptors. The report fails to mention that the turbine placement area is located within an area which has extensive game reserves with elephants, rhino and other wildlife as well as game farms. By confining the noise impact assessment to only consider noise impact on human beings the effect of the turbine noise on animals is ignored. For instance Garstang (2003) some 15 years prior NIA comprehensively investigated elephant communication and reports that “The pervasive use of low-frequency sounds by elephants is now well established together with increasing evidence of the distances traveled and complex social functions of vocalizations at low frequencies.” In view of the wide spread literature relating to elephant communication between elephants which occurs at low frequencies (including infrasound - below audible range) this omission is fundamentally incorrect.</p>		<p>The definition of Ecotourism from Oxford Languages is: “tourism directed towards exotic, often threatened, natural environments, intended to support conservation efforts and observe wildlife.” The report however does briefly discuss Noise Impact on Animals in section 7.1.</p> <p>The following should be noted: · There are no noise limits or guidelines that can be used to determine what noise levels will impact on animals. · There are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals. · Animal communication is generally the highest during no and low wind conditions. It has been hypothesized that this is one of the reasons why birds sing so much in the mornings (their voices carry the farthest and there are generally less observable wind). Machoy is ignoring the fact that background noise levels in remote areas are not always low in space or time.</p>

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No.	Comment	Raised by	Response
	<p><b>2.2. Ad. Para 3: Policies and Legal Context</b></p> <p>The report cites many regulations and standards but fails to note that the project area for the location of the Wind Garden Wind Energy Farm (WEF) falls within the Metropolitan Area of the Nelson Mandela Metropolitan Municipality (NMMM). This means that the noise pollution caused by the WEF is regulated by the NMMM Noise Control By-Law (LAN. 37 of 2010 published in PG No. 2322 of 24 March 2010) which requires measurement of environmental noise under SANS 10103:2008.</p>		<p>determining the range and detection of elephant communication.</p> <p>The ambient sound level measurements were done as per the requirements of NGR 320 of 20 March 2020 as well as SANS 10103:2008 (as required by LAN 37 of 2010), while considering the conditions and well as the limitations of each measurement location. This is to ensure that the resulting sound level measurements provide data that is not significantly influenced by the surrounding environment or the effects of higher wind speeds. Following SANS 10103:2008 is therefore in compliance with LAN 37 of 2010.</p> <p>The report considers both local legislation, regulations and guidelines, as well as international guidelines. Of the more than 340,000 wind turbines operation in the rest of the world (more than 2,000 wind farms), less than 500 are currently operational in South Africa (36 wind farms). The rest of the world have had experience with the effects and impacts of wind farms since 1980, South Africa since 2002.</p> <p>Almost all the scientific articles, papers, publications and presentations available are based on the research and experiences gained from these international wind farms. As such, discarding the knowledge and experiences gained by the rest of the world would be irresponsible and unwise.</p>
	<p><b>2.3. Ad Para 3.6: International Guidelines</b></p> <p>2.3.1. There is an extensive list and listing of various international guidelines, none of which are relevant to South Africa.</p>		<p>The report considers both local legislation, regulations and guidelines, as well as international guidelines. Of the more than 340,000 wind turbines operation in the rest of the world (more than 2,000 wind farms), less than 500 are currently operational in South Africa (36 wind farms). The rest of the world have had experience with the effects and impacts of wind farms since 1980, South Africa since 2002.</p>

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			Almost all the scientific articles, papers, publications and presentations available are based on the research and experiences gained from these international wind farms. As such, discarding the knowledge and experiences gained by the rest of the world would be irresponsible and unwise.
	<p><b>2.4. Ad Para 4.2 : Ambient Sound Levels</b></p> <p>2.4.1. The measurement protocols are noted as being in accordance with the South African National Standard SANS 10103:2008 "<b>The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication</b>", which is correct.</p>		This is a statement. No response required.
	<p>2.4.2. The measurements were conducted at five locations.</p>		This is a statement. No response required.
	<p>2.4.3. At none of the eight noise sensitive locations within the proposed WEF area were ambient sound levels measured, see below:</p>  <p>The report records residual / ambient noise measurements at five locations. There are however twenty three noise sensitive locations</p>		<p>There are a number of factors that determine the suitability of a measurement location when deploying sound level measurement equipment (SLMs), including:</p> <ul style="list-style-type: none"> <li>k. Access and permission to deploy the SLMs;</li> <li>l. Potential safety and security concerns;</li> <li>m. Type of trees and faunal activity in the vicinity of the proposed measurement location. E.g. no instruments are deployed at properties with certain fruit trees due to constant bird communication significantly influencing the measurements;</li> <li>n. Presence of standing water, especially wetlands (same reason as above, with frogs being a significant noise source);</li> <li>o. Potential presence of dogs and baboons that may damage equipment, etc.</li> </ul> <p>The markers representing NSD 15, 16, 17, 18 and 20 is a number of dwellings identified using aerial images. It was however reported that only dwelling 15 is used by the owner, with dwelling 20 being used on a temporary basis during the hunting season. The owner of this property is a willing participant in the wind farm development.</p>

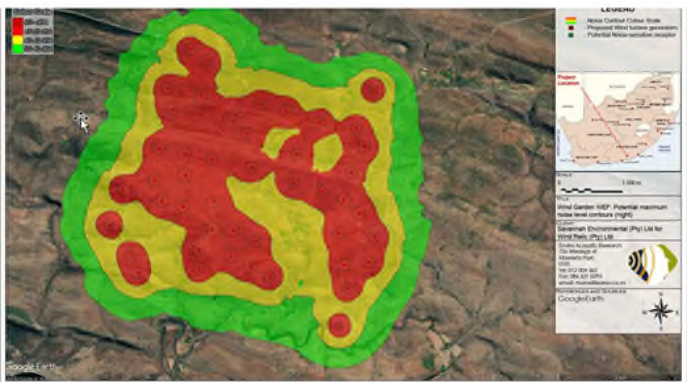
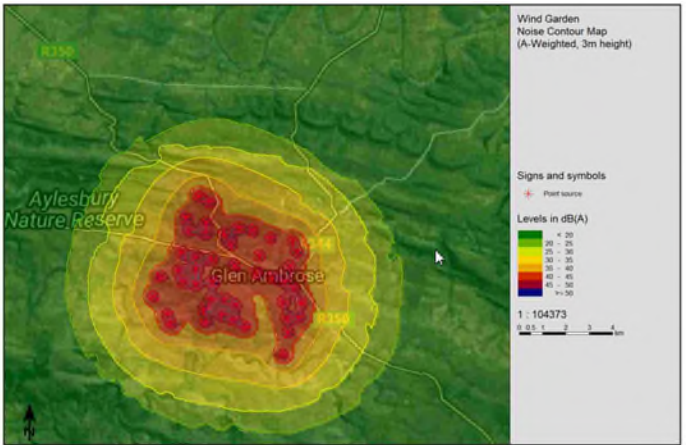
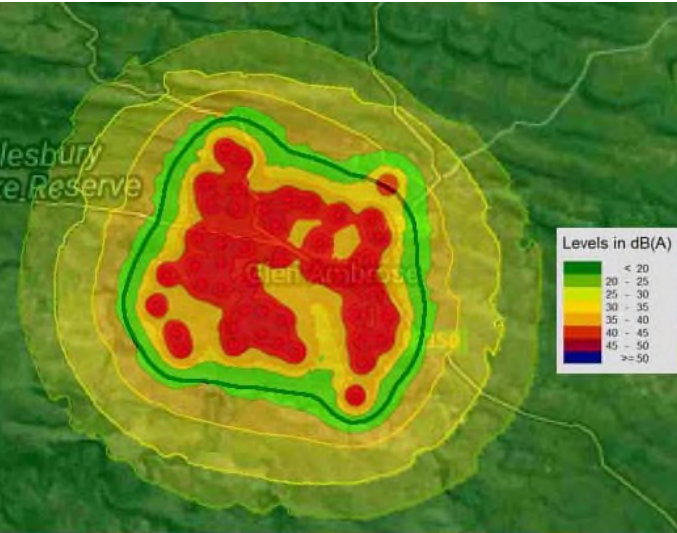
No.	Comment	Raised by	Response
	<p>(as stated in the report) and thus for eighteen of them there is no measurement record of existing conditions.</p>		<p>The author of the report could however not gain access initially to the farm of NSD 15 to assess the site to deploy an SLM. However, considering the proximity of the river, this measurement location was excluded in lieu of a location at NSD 11. The site visit at NSD 11 highlighted that the river had little standing water and that the closest wetland was further than 300 m (a dam was visible approximately 100 – 200 m from potential measurement locations at NSD 15/20). In addition, SANS 10103:2008 does not require the measurements of ambient sound levels (the residual noise) at each potential receptor, nor does this guideline define, set or propose locations where sound levels should be measured. Nor are the author aware of any acoustic consultant in South Africa that would measure the ambient sound levels at all identified receptors. In addition, the measurement of future ambient sound levels is normally recommended once a noise study are completed, identifying potential receptors where noise levels may be of concern. Machoy fails to highlight that more than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from the noise study determined that "ambient sound levels are generally low and typical of a rural noise district during low wind conditions". This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this. In a focus area with a more complex sound character more measurement locations may be more beneficial. This would be a location with a combination of significant noise sources (e.g. industry, mines, railways and roads). This project does not have these noise sources, and such,</p>


No.	Comment	Raised by	Response																				
	<p>2.4.4. No residual / ambient noise measurements were taken with in the proposed WEF area. It is impossible to evaluate turbine noise effect on residual / ambient noise levels if none are known.</p>		<p>additional sound level measurement locations would not provide better information.</p>																				
	<p>2.4.5. Thus:</p> <p>a) No measurements were taken within the WEF area.                      b) No measurements were taken at the noise sensitive locations.                      c) The choice of residual / ambient measurement location seems to be arbitrary and thus meaningless.</p>		<p>As highlighted at point 2.4.3: · Ambient sound levels indicate an area with a rural character with a high potential to have low sound levels. Additional measurement locations or data will not change this finding. · As highlighted in Section 7.3.3 of the report, acceptable rating levels did consider the rural night-time zone sound level (from SANS 10103:2008). As discussed in point 2.4.3., measurements collected at other locations will not provide greater quality data or better information, and the data is not meaningless.</p> <p>See comment above.</p>																				
	<p>2.4.6. Of the five residual / ambient noise level measurements, four have equipment measurement lists similar to that as below:</p> <p><b>Table 4-1: Equipment used to gather data at WRLTSL01</b></p> <table border="1"> <thead> <tr> <th>Equipment</th> <th>Model</th> <th>Serial no</th> <th>Calibration Date</th> </tr> </thead> <tbody> <tr> <td>SLM</td> <td>SVAN 977</td> <td>36176</td> <td>January 2020</td> </tr> <tr> <td>Microphone</td> <td>ACO 7052E</td> <td>49596</td> <td>January 2020</td> </tr> <tr> <td>Calibrator</td> <td>Quest CA-22</td> <td>J 2080094</td> <td>June 2020</td> </tr> <tr> <td>Weather Station</td> <td>WH3081PC</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p><small>* Microphone fitted with the RION WS-03 outdoor all-weather windshield.</small></p> <p>Comment:</p> <p>i. To determine existing noise levels with just five measurements in a ~650 Hectare is not in accordance with section 5 of SANS 10103: The measurement and rating of environmental noise with respect to annoyance and to speech communication. Conformance with SANS 10103 is required by the regulations.</p> <p>ii. Thus these measurements are meaningless.</p> <p>iii. Note must be taken of the above:</p>	Equipment	Model	Serial no	Calibration Date	SLM	SVAN 977	36176	January 2020	Microphone	ACO 7052E	49596	January 2020	Calibrator	Quest CA-22	J 2080094	June 2020	Weather Station	WH3081PC	-	-		<p>This is a misrepresentation, as measurements were collected at 5 locations, which is not the same as 5 measurements. Machoy fail to highlight that more than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from the noise study determined that "ambient sound levels are generally low and typical of a rural noise district during low wind conditions". This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this.</p> <p>This statement is refuted based on the above responses.</p> <p>The statement is incorrect, as the sound level data can be guaranteed as accurate within the accuracy of a Class 1</p>
Equipment	Model	Serial no	Calibration Date																				
SLM	SVAN 977	36176	January 2020																				
Microphone	ACO 7052E	49596	January 2020																				
Calibrator	Quest CA-22	J 2080094	June 2020																				
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No.	Comment	Raised by	Response																				
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Equipment	Model	Serial no	Calibration Date																				
SLM	SVAN 977	36176	January 2020																				
Microphone	ACO 7052E	49596	January 2020																				
Calibrator	Quest CA-22	J 2080094	June 2020																				
Weather Station	WH3081PC	-	-																				




No.	Comment	Raised by	Response
			<p>calculated accurately, because the frequency response of the Rion WS-03 windshield are available. As such the sound levels can be calculated with a high degree of accuracy. However, normally, this is not calculated as the error is generally insignificant (within the accuracy of a Type 1 instrument). Because of this, and various other reasons, the Rion WS-03 is currently one of the best windshields to use for accurate measurement of sound levels during period of increased wind speeds, and the windshield used by a number of researchers in the world. The reader is again referred to Annexure C.</p> <p>Why Machoy would recommend the use of a 7 - 9 cm windshield when there are numerous studies that highlight the potential error when using such windshields in an area where higher winds are expected, is mind-boggling. Also refer to Annexure C. The use of such a windshield would have resulted in a significantly higher ambient sound level, resulting in a higher rating level with a significantly higher uncertainty. As highlighted in Annexure C, the use of a smaller (such as the SA 270) windshield would have increased the uncertainty significantly, potentially over-measuring the sound level with more than 10 dB at higher wind speeds (especially low frequencies).</p>
	b) Thus the reading of existing noise levels must be repeated		This statement is not correct as responded to and highlighted in the above-mentioned response.
	<p>2.5. <b>Ad Figure 8-4</b></p> <p>2.5.1. The above figure shows a noise contour map, as per below:</p>		The Figure from Machoy is duplicated below, with the 35 dBA contour highlighted by the author in black. Overlaid on this Figure are the contours developed by the author, using the German software SoundPlan Essentials, purchased

No.	Comment	Raised by	Response
	 <p>Figure 8-4: Projected maximum night-time operational noise rating levels due to operation of Wind Garden WF</p>		<p>from Machoy. From the Figure depicted above, the following should be noted:</p> <ul style="list-style-type: none"> <li>· Machoy appears to left out the top-most right wind turbine (turbine E25);</li> <li>· The contours developed by Machoy calculated noise levels slightly less (approximately 2 – 3 dB less) than the author. The reasons may be numerous, including that Machoy using a different ground surface constant, etc.</li> <li>· The author did not include the contours below 35 dBA because showing these contours are meaningless, as it is highly unlikely to impossible for ambient sound levels to be significantly less than 35 dBA during periods when the wind turbines will be operating. This is due to wind-induced noises that would raise ambient sound levels. The statement of Machoy that the contours are not computer generated is disingenuous.</li> </ul>
2.5.2	<p>On the following page is shown a noise contour map, produce using the German software, SoundPLAN:</p>  <p>SoundPLAN Noise Contour Map for Wind Garden</p>		
2.5.2	<p>The Figure 8.4 map and the SoundPlan map differ in many respects:</p>		<p>Please refer to the above-mentioned response.</p>

No.	Comment	Raised by	Response
	a) Sound levels in the Figure 8.4 map are not the same as the SoundPlan Map. b) The contour shapes differ.		
	2.5.3. On this basis it must be concluded that the Figure 8.4 map is not computer generated and is thus incorrect.		The statement of Machoy that the contours are not computer generated is disingenuous.
	2.6. <b>Ad. Appendix E: Photos of Measurement Locations</b>  2.6.1. Photographs are provided of measurement locations. These are as follows:   <p>Photo B.1: Measurement location at WRLTSL01</p>		This is a statement. No response is required.

No.	Comment	Raised by	Response
	 <p>Photo B.2: Measurement location at WRLTSL02. Section Break (Next Page)</p>  <p>Photo B.4: Measurement location at WRLTSL04. Section Break (Next Page)</p>		

No.	Comment	Raised by	Response
	 <p>Photo B.5: Measurement location at WRLTSL05</p> <p>2.6.2. It is noted that:</p> <p>a) In paragraph 2.4.4 above it is noted none of the measurement locations is at an identified noise sensitive location or with in the WEF area.</p> <p>In SANS 10103:2008 "<b>The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication</b>" it specifically states that "At each measuring point, the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, if practicable, at least 3,5 m away from walls, buildings and other large flat vertical surfaces." It is clear that from photographs B3 and B4 that the microphones are less than 3,5 m from "walls, buildings and other large flat vertical surfaces" and consequently these measurements are not valid.</p>		<p>As highlighted by SANS 10103:2008 (underlined and bolded by the author), "the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, if practicable, at least 3,5 m away from walls, buildings and other large flat vertical surfaces". When this is not possible, the data can be adjusted (reduced) with a value between 1 and 6 dBA (due to reflections from the flat surfaces). On this project the microphone was at 1.3 m, and, placed at locations to ensure that the equipment is safe, secure and will provide data that are not unduly influenced by the surrounding environment. At two locations this was not possible, due to numerous reasons. The author however did not adjust the data because: - At location WRLTSL03 the influence of the wall was much lower than the microphone and the influence of the wall was considered to be minimal; and - At location WRLTSL04 the wall is uneven with large openings, with the surface behind it well vegetated. The wall is more likely to act as a diffuser than a reflecting wall.</p>

No.	Comment	Raised by	Response
	<p>b) Further, to only measure near domestic dwellings and to extrapolate these to be residual / ambient levels for a 600 hectare area is clearly incorrect. 2.7 Conclusions</p>		<p>This was discussed in points 2.4.3, 2.4.4, 2.4.5 and 2.4.6(i), highlighting that the statement is distorting the measurements and that the data collected is valid.</p>
	<p>2.7. Conclusions</p> <p>2.7.1. The report examines the impact of a 4.2 MW Turbine on noise levels when a 5.5 MW turbine, 30% louder, is proposed.</p>		<p>The statement is incorrect, as a larger wind turbine is not automatically louder.</p>
	<p>2.7.2. The report ignores impacts on other sensitive environmental receptors. The report fails to mention that the turbine placement area is located within an area which has extensive game reserves with elephants, rhino and other wildlife as well as game farms.</p>		<p>The noise study states in section 2.4.3 that the surrounding land use is wilderness (ecotourism) with agricultural activities (including game farming).</p>
	<p>2.7.3. The report cites many regulations and standards but fails to note that the project area for the location of the Wind Garden Wind Energy Farm (WEF) falls within the Metropolitan Area of the Nelson Mandela Metropolitan Municipality (NMMM). This means that the noise pollution caused by the WEF is regulated by the NMMM Noise Control By-Law (LAN. 37 of 2010 published in PG No. 2322 of 24 March 2010) which requires measurement of environmental noise under SANS 10103:2008.</p>		<p>The wind farm and associated infrastructure will be located in the Makana Local Municipality and the Sarah Baartman District Municipality, Eastern Cape Province, and not in the Nelson Mandela Metropolitan Municipal metropolitan area.</p>
	<p>2.7.4. At none of the eight noise sensitive locations within the proposed WEF area were ambient sound levels measured.</p>		<p>There are a number of factors that determine the suitability of a measurement location when deploying sound level measurement equipment (SLMs), including:</p> <ul style="list-style-type: none"> <li>a. Access and permission to deploy the SLMs;</li> <li>b. Potential safety and security concerns;</li> <li>c. Type of trees and faunal activity in the vicinity of the proposed measurement location. E.g. no instruments are deployed at properties with certain fruit trees due to constant bird communication significantly influencing the measurements;</li> </ul>

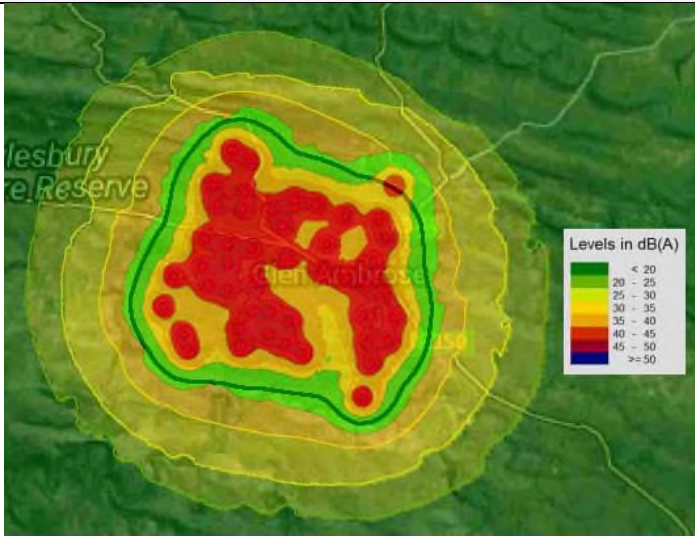
No.	Comment	Raised by	Response
			<p>d. Presence of standing water, especially wetlands (same reason as above, with frogs being a significant noise source);</p> <p>e. Potential presence of dogs and baboons that may damage equipment, etc.</p> <p>In addition, SANS 10103:2008 does not require the measurements of ambient sound levels (the residual noise) at each potential receptor, nor does this guideline define, set or propose locations where sound levels should be measured. Nor are the author aware of any acoustic consultant in South Africa that would measure the ambient sound levels at all identified receptors.</p> <p>In a focus area with a more complex sound character more measurement locations may be more beneficial. This would be a location with a combination of significant noise sources (e.g. industry, mines, railways and roads). This project does not have these noise sources, and such, additional sound level measurement locations would not provide better information.</p>
	<p>2.7.5. The report records residual / ambient noise measurements at five noise sensitive locations. There are however twenty three noise sensitive locations (as stated in the report) and thus for eighteen of them there is no measurement record of existing conditions.</p>		<p>More than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from the noise study determined that "<i>ambient sound levels are generally low and typical of a rural noise district during low wind conditions</i>". This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this.</p> <p>In a focus area with a more complex sound character more measurement locations may be more beneficial. This would</p>

No.	Comment	Raised by	Response
	<p>2.7.6. No residual / ambient noise measurements were taken with in the proposed WEF area. It is impossible to evaluate turbine noise effect on residual / ambient noise levels if none are known.</p> <p>2.7.7. The measurements are incorrect due to mismatched equipment: In discussion with Joanna Werner at Svantek calibration laboratory in Poland she stated that the readings of the Svan 977 meter with a Rion weather shield (as was done) could not be guaranteed as accurate and should not be accepted.</p>		<p>be a location with a combination of significant noise sources (e.g. industry, mines, railways and roads). This project does not have these noise sources, and such, additional sound level measurement locations would not provide better information.</p> <p>As highlighted at point 2.4.3: · Ambient sound levels indicate an area with a rural character with a high potential to have low sound levels. Additional measurement locations or data will not change this finding. · As highlighted in Section 7.3.3 of the report, acceptable rating levels did consider the rural night-time zone sound level (from SANS 10103:2008). As discussed in point 2.4.3., measurements collected at other locations will not provide greater quality data or better information, and the data is not meaningless.</p> <p>The statement is <b>incorrect</b>, as the sound level data can be guaranteed as accurate within the accuracy of a Class 1 instrument.</p> <p>SANS 10103:2008 requires the use of a windscreen specified by the manufacturer and that does not detectably influence the accuracy of the measurement.</p> <p>The author of the report did peruse the User Manual of the Svan 977 and could <b>not find any statement recommending, or specifying that the SA270 windshield should be used</b>. The Svan 977 is supplied with the SA 22 windshield and the SA 270 windshield must be purchased in addition.</p> <p>It was also discussed with Mr. Laurence Olivier (the local distributor of Svan instruments for more than 15 years), whom highlighted that, to his knowledge, Svantek never specified any particular windshield with the 977 instruments. When the</p>



No.	Comment	Raised by	Response
			<p>author originally purchased the SA270 windshield (with the dehumidifier unit), the Svantek did not supply the frequency response of this windshield after being asked.</p> <p>It is critical to note that microphone windshields are designed to be acoustically transparent. The primary purpose of the windshield is to reduce the noise created by turbulence around the microphone in wind, and all windshields do change the frequency response of the microphone slightly at higher frequencies. This change is normally negligible, but it should be considered if one needs a high degree of accuracy.</p> <p>Some instrument manufacturers do specify certain windshields for their microphones, as the instrument automatically compensates for the effect of the windshield (such as Norsonic) where the compensation filter cannot be disabled.</p> <p>The Svan 977 however has a setting where one can set the compensation filter to be used. Measurements for this project were done with the <b>compensation filter off</b>, and, because the <b>third-octave data are also collected at the same time</b>, the <b>actual third-octave data can be calculated accurately</b>, because the frequency response of the Rion WS-03 windshield is available. As such the sound levels can be calculated with a high degree of accuracy. However, normally, this is not calculated as the error is generally insignificant (within the accuracy of a Type 1 instrument).</p>

No.	Comment	Raised by	Response
	<p>2.7.8. The noise contour map and a calibrated SoundPlan map (as used by the German government) differ in many respects:</p> <ul style="list-style-type: none"> <li>a) Sound levels in the noise contour map are not the same as the Sound Plan map and in some instances differ greatly.</li> <li>b) The contour shapes differ.</li> </ul>		<p>Because of this, and various other reasons, the Rion WS-03 is currently one of the best windshields to use for accurate measurement of sound levels during period of increased wind speeds, and the windshield used by a number of researchers in the world.</p> <p>The Figure from Machoy is duplicated below, with the 35 dBA contour highlighted by the author in black. Overlaid on this Figure are the contours developed by the author, using the German software SoundPlan Essentials, purchased from Machoy. From the Figure depicted above, the following should be noted: ·Machoy appears to have left out the top-most right wind turbine (turbine E25); ·The contours developed by Machoy calculated noise levels slightly less (approximately 2 – 3 dB less) than the author. The reasons may be numerous, including that Machoy using a different ground surface constant, etc. · The author did not include the contours below 35 dBA because showing these contours are meaningless, as it is highly unlikely to impossible for ambient sound levels to be significantly less than 35 dBA during periods when the wind turbines will be operating. This is due to wind-induced noises that would raise ambient sound levels. The statement of Machoy that the contours are not computer generated is disingenuous.</p>

No.	Comment	Raised by	Response
			
	<p>2.7.9. In SANS 10103:2008 "The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication" it specifically states that "At each measuring point, the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, if practicable, at least 3,5 m away from walls, buildings and other large flat vertical surfaces." It is clear that from photographs B3 and B4 that the microphones are less than 3,5 m from "walls, buildings and other large flat vertical surfaces" and consequently these measurements are not valid.</p>		<p>As previously discussed, it is the opinion of the author of the noise study that the surfaces were not reflective.</p>
	<p>2.7.10. Further, to only measure residual / ambient levels domestic dwellings and to extrapolate these to be residual / ambient levels for a 600 hectare area is clearly incorrect</p>		<p>More than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from the noise study determined that "ambient sound levels are generally low and typical of a rural noise district during low wind conditions". This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and</p>

No.	Comment	Raised by	Response
	<p><b>Note: The Footnotes included in the submissions above have not been captured in this C&amp;RR – please refer to the original submission in Appendix C7 of the <u>Revised</u> BA Report.</b></p>		<p>more data, or more measurement locations will not change this.</p> <p>In a focus area with a more complex sound character more measurement locations may be more beneficial. This would be a location with a combination of significant noise sources (e.g. industry, mines, railways and roads). This project does not have these noise sources, and such, additional sound level measurement locations would not provide better information.</p>
23.	<p>Jennifer Gush commenting as Director of the Amakhala Foundation which operates within the communities in and around Amakhala Game Reserve, an Indalo Protected Environment.</p> <p>The Eastern Cape has become grown into a well-known wildlife tourism and safari destination over the last twenty years, providing significant levels of employment, for people with little or no skills all the way through to highly skilled ecologists and business owners. The economic activity within the areas in which game reserves occur has also drastically increased along-side this industry. The knock on effect of the wildlife tourism and safari industry to the whole economy and community development of areas around game reserves of the Eastern Cape should not be underestimated.</p> <p>I am of the opinion that the development of wind farms in the Eastern Cape puts the wildlife tourism industry at a high risk of collapse. The industry has developed in an already fairly developed space, with towns and roads networks detracting from the guest experience. I am fairly certain that the visual impact of wind farms will tip the balance in favour of other wildlife destinations with our guests and tour operators closing down a whole industry which contributes greatly to the communities and economy within the</p>	<p>Jennifer Gush                      Director                      Amakhala Foundation</p> <p>E-mail: 04 May 2021</p>	<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). However, the claims that +80% of staff will lose their jobs should be viewed as an opinion of the respective I&amp;AP.</p> <p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). However, the claims that the project will result in the closing down of the whole industry should be viewed as an opinion of the respective I&amp;AP.</p>

No.	Comment	Raised by	Response
	<p>Eastern Cape. The closing down of such an industry would have devastating effects on the economy and communities.</p> <p>I believe that the negative impact on the safari and tourism industry will be far greater than any benefit that the wind farms will generate.</p>		<p>The comment is noted. All information on the assessment of the project is included in the BAR (including inputs from the public) and will be considered by the DFFE in the decision-making process.</p>
24.	<p>We as landowners strongly believe that the positive impact of such a proposed wind farm will be greatly beneficial not only to the local area but the Eastern Cape as a whole.</p> <p>The advantages of wind energy are more apparent than the disadvantages. The main advantages include an unlimited, renewable resource (the wind itself), economic value that enables SA industry growth and creates much needed job opportunities. Land is available to construct turbines on, without effecting food security and sustainability, and it is an efficient use of land space.</p> <p>The proposed wind farm will help grow the agricultural industry in our area as more resources will be available to expand our businesses and create more permanent job opportunities. Not only will it positively impact the rural areas but the town as well. Wind is recognised as a key source of renewable energy and has broad public support for the industry. It is generally accepted in the community.</p> <p>We are extremely impressed with the studies done in the proposed area and cannot commend enough the persons who undertook these studies.</p> <p>Some of the effective parties has lodge grievances regarding the visual aspect of such a project, but they fail to acknowledge that we had to take on large power lines running though our properties to accommodate them in the past with little to non-regards to the visual impact it holds. The visual impact on our properties will not affect us as landowners and residence and will not negatively</p>	<p>James &amp; Aletta Brown                      Landowner: Brackkloof Farm</p> <p>Letter: 04 May 2021</p>	<p>The positive comments and support for the project are noted. No further action is required.</p> <p>The benefits for the region are noted. No further action is required.</p> <p>The positive comments regarding the studies are noted by the EAP and specialists. No further action is required.</p> <p>The comments have been noted. No further action is required.</p>

No.	Comment	Raised by	Response
	<p>impact our lively hood or our tourism business. From our properties the Waainek turbines are visible, and just a short drive the Bedford projects. The turbines have become part of our visual life with hardly any negative comments from the communities, clients, and towns nearby. It opens positive conversations regarding sustainability and a greener future.</p> <p>Long term monitoring of the area (since 2011) makes it clear that the proposed wind farm has been correctly and effectively been studied and monitored.</p> <p>Unfortunately, the game industry has been on a downwards spiral for the last couple of years and is not a viable source of income for us, nor does it contribute greatly to food security and sustainability in our area. It offers limited growth and unfortunately will not be sustainable or viable should another pandemic strike our country. Game farms not in the tourism side, but hunting will not be affected as most clients do not mind should turbines be visible. The other tourism businesses are a substantial distance away from the proposed project and offers no help nor contributes positively to the majority of landowners businesses and the sustainability of them.</p> <p>We would like to propose that the project gets involved and support the local farming community in the combating of crime and assist in security upgrades in the area. This will insure a safer area for all. (Table Hill Conservancy Area).</p> <p>I would also like to encourage the developers to get involved and support the local firefighting association (Table Hill Fire Association) in the project area. This helps to ensure that all fires that break out in the area gets extinguished as soon as possible without causing untold damage.</p>		<p>We recognise that this is an opinionated statement, and a substantiated reference/source is not referred to. The SEIA has in various sections of the report made references to the Impact of Covid-19 on the global, national and regional economies. It is noted that the broader tourism industry, in particular, has been impacted significantly. Engagements with certain ecotourism and game industry business representatives during the SEIA research process has revealed that permanent staff within their business were either retrenched or asked to significantly reduce their hours of work over the 2020/2021 period.</p> <p>The developer has advised that such involvement and support would be achieved through their SED&amp;ED initiatives associated with the project.</p> <p>The developer will get involved and support the local firefighting association. This is a requirement of the project EMPr.</p>
25.	1. I refer to the above matter and write this submission on behalf of the concerned residents of the following affected properties:	Nosipho Khamani I&AP / Occupier	The submission is noted. No further action is required.

No.	Comment	Raised by	Response
	1. 1.1. Remaining Extent of Farm Brackkloof No 183 2.. 1.2. Portion 5 of Farm Hilton No 182 3. 1.3. Portion 8 of Farm Hilton No 182 4. 1.4. Portion 4 of Farm Vandermerweskraal No 132 5. 1.5. Portion 1 of Farm Thursford No 183	Letter: 06 May 2021	
	2. This submission is made on behalf of the approximately 40 people living on these farms who are likely to be affected by the proposed wind farm should it go ahead. Approximately 20 of the 40 people are adults and their names and contact details are recorded in the table below:  <b><i>In compliance with POPIA, the table has not been included in this C&amp;RR as it contains personal contact details of the occupiers – please refer to Appendix C7 of the Revised BA Report.</i></b>		The details of the parties represented are acknowledged. It is noted that no proof was provided that these people supported or were aware of the submission.
	<b>Concerned parties</b>  3. I am a 31 year old female residing on Thursford Farm with my parents, two siblings, two nephews, and my son. My family and I have been residing on Thursford Farm since 1992 (29 years). I am currently employed as a housekeeper at the neighbouring Clifton Farm.		Comment noted. No further action required.
	Out of a family of eight members, all residing in one house, my sister and I are the only ones that are employed. The salary we receive from working as a housekeeper is used to look after the remaining members of our family. The only additional income my sister and I receive is from social grants, which are used to look after our children.		Comment noted. No further action required.
	Nomalady Mtombo is a resident at Brackkloof Farm. She lives with both her parents and her two children in one house. She works as a "thorn-weed" picker. Just like me, she works at Farm to provide for her family that lives with her.		Comment noted. No further action required.

No.	Comment	Raised by	Response
	<p>Loss of employment and living circumstances</p> <p>My sister and I are concerned that the construction and operation of the wind farms will force our employer to close the game farm business it runs at Clifton Farm. This concern is shared amongst other employees of neighbouring game farms whose businesses will be affected by the wind turbines. Many of the surrounding farms rely directly on the income generated by tourists who visit the games farms to view animals or to hunt. We believe that many tourists will not come to these farms if there are wind turbines in plain view. The tourists will choose to go to other game farms in other areas of the country where they won't see wind turbines when they are looking for and photographing animals. The construction of the wind turbines will have a direct impact on the livelihoods on our people as they will lose their jobs and primary source of income if the surrounding businesses close as a result of the wind farms.</p> <p>Most people working in those businesses are residents of the farms where the proposed wind farms will be built. This will be a major concern for us not only because the job we have is our only source of income (apart from social grants), but because our living circumstances will be put at risk.</p> <p>Regarding myself and those residents working at Clifton game farm, many of us were unemployed before we were given opportunities to work at Clifton Farm about two years ago. The Clifton Farm business gave many of us an opportunity to make a living and to provide for our families instead of depending on social grants. The old-age grant that our parents receive, and the child grants that we receive, are not enough to maintain our families and so our jobs are very important to us. We fear that this opportunity will now be taken away if we are retrenched because of the impact the wind farms will have on the game farm and tourism businesses.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). However, the claims that staff will lose their jobs is not substantiated.</p> <p>From the studies undertaken for the proposed layout, it was concluded that no residences are directly impacted by any of the project infrastructure. In addition, there are no turbines located within 800m of a residence and therefore no impacts from noise or shadow flicker are expected.</p> <p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). However, the claims that staff will lose their jobs is not substantiated.</p>



No.	Comment	Raised by	Response
	<p>Another major concern we have is that we will lose our homes if the wind farms are placed where we live. We fear that the location of the wind turbines will mean that our families will have to leave their homes and find alternative accommodation. For myself and most of the residents living in the area, this is simply not possible. Our families have been living in our current homes for 29 years. This is where we have grown up and lived for most of our lives. If the wind turbines are situated so close to our homes, it will most likely cause damage to our property. It is also possible that the noise from the wind turbines will cause a disturbance. Even worse, we fear that we might be asked to leave our homes to make room for the wind farms.</p>		<p>From the studies undertaken for the proposed layout, it was concluded that no residences are directly impacted by any of the project infrastructure. In addition, there are no turbines located within 800m of a residence and therefore no impacts from noise or shadow flicker are expected.</p>
	<p>My employer has looked at a map of the proposed wind farm and shown it to me. He has indicated to me that one of the proposed wind turbines will be placed extremely close to our home. I do not think I will be able to remain in my home if the turbine is placed there and do not know where we will go. As a family we all live in this area.</p>		<p>From the studies undertaken for the proposed layout, it was concluded that no residences are directly impacted by any of the project infrastructure. In addition, there are no turbines located within 800m of a residence and therefore no impacts from noise or shadow flicker are expected.</p>
	<p>The other residents and I are worried about our parents and their safety if they had to be moved for the wind turbines. We would have nowhere to go and nowhere to live. We have been here for 29 years, my father started working on the farm then.</p>		<p>No relocation of residence as a result of the project is required.</p>
	<p>Some residents have been getting assistance from their landlords with getting water by allowing residents to use their water tanks or delivering water for them to their homes. These residents are worried that if they were moved to another area they will not get the same assistance with getting water. There is also not enough water in the area in general. If more people come to reside in this area because of the construction of the wind farms we are worried that our supply of water will be limited.</p>		<p>No relocation of residence as a result of the project is required.</p> <p>The feasibility study calculated that &lt;0.2% of the groundwater recharge would be required to meet a single batching plant demand of 30m<sup>3</sup>/d. Regional groundwater resources would not be stressed by such a low utilisation of the aquifer recharge. Groundwater is considered a suitable supply option for the project. Detail in this regard is included within Chapter 2 of the BA Report.</p>

No.	Comment	Raised by	Response
	<p>There are many residents living in the community that are elderly (for example, Mrs Nozodwa Mtombo who is 65 years old). They have the same worries as us but they are more serious for them because they are elderly and vulnerable. For example, the impact that construction and operations may have on their health and wellbeing could be very negative.</p>		<p>Mitigation and management measures detailed in the project Environmental Management Programme (EMPr) are required, by law, to be implemented to reduce impacts. Measures to reduce dust, noise and traffic, as well as measures to address security concerns have been included within this EMPr.</p>
	<p>We are concerned that our children will also be disturbed by the noise from the wind farms when they need to do their homework or from the sounds from the windfarms when they want to sleep. Furthermore, our children often travel by foot to get to their transport which takes them to school. We are concerned that if there are any holes on the land due to construction, this may become a risk of harm to our children. Many of the children residing in the area are under 10 years of age, and so there is a serious concern about how safe they will be if such a large infrastructure project takes place.</p>		<p>There are no turbines located within 800m of a residence and therefore no impacts from noise are expected.</p> <p>Mitigation and management measures detailed in the project EMPr are required, by law, to be implemented to reduce impacts. Measures to ensure appropriate management of the construction site (including demarcation of excavations, restricting public access, traffic management) have been included within this EMPr.</p>
	<p><b>Consent and participation</b></p> <p>The residents living on the farms and listed above are very vulnerable and worried about our future and livelihoods should the wind farms be constructed. We do not have permanent employment, meaning that we may not have income to take care of our family and children. If we are asked to leave our homes to make room for the wind farms, our families will be left homeless. Our homes are all we have.</p>		<p>No relocation of residence as a result of the project is required.</p>
	<p>Neither the concerned residents or I living on the farms have attended any meetings regarding the placing of wind turbines near our homes. Five of us did attend a public hearing in March 2021 in Grahamstown, but it did not answer our questions. I raised some of my concerns at the meeting, but there was NO response to our questions. None of us received a letter, a message or a report which tells us where these wind turbines will be placed in relation to our homes and the impact it will have on us. It is not possible for us to</p>		<p>Community members within the study area were reached through the consultation with the Councillor of Ward 1 in which the development site is located. A Community Brochure/Question &amp; Answer document which provided information regarding the development of a wind farm in layman terms and included pictures of construction of a wind turbine, etc was distributed on 29 April 2021 to community members on the project database, include to</p>

No.	Comment	Raised by	Response
	<p>properly comment on the proposed wind farm when we don't know what is being proposed and how it will affect us. We want a lot more information and transparency and honesty about how it will affect us. But we will definitely oppose the construction of the wind turbines if it means that we will be removed from our homes and if it means that we will lose our jobs. Because of these risks, we believe that no decision can be taken if there has not been any meaningful engagement with the residents that will be affected by the construction and operation of the wind farms. As of today we say NO to the windmills in our area.</p>		<p>the Ward Councillor, Ward Committee Members and landowners – requesting them to distribute it to occupiers on their property/properties (refer to Appendix C6 of the Revised BA Report).</p> <p>The protect and report availability was also announced on Radio Grahamstad 102.1FM on:</p> <ul style="list-style-type: none"> <li>» Thursday, 04 March 2021, morning and afternoon</li> <li>» Friday, 12 March 2021, morning and afternoon.</li> <li>» Thursday, 29 April 2021, morning and afternoon</li> </ul>
	<p>Some of the questions we would like to know are:</p> <p>What will happen with our families when the wind turbines are put up?</p>		<p>No relocation of residence as a result of the project is required.</p>
	<p>Will our houses be affected by construction or operation of the wind turbines?</p>		<p>From the studies undertaken for the proposed layout, it was concluded that no residences are directly impacted by any of the project infrastructure. In addition, there are no turbines located within 800m of a residence and therefore no impacts from noise or shadow flicker are expected.</p>
	<p>How safe (in terms of security and disturbance) will the residents be with all the constructions workers that will be coming into our area? Will our safety be guaranteed?</p>		<p>Mitigation and management measures detailed in the project EMPr are required, by law, to be implemented to reduce impacts. Measures to ensure appropriate management of the construction site (including safety and security and conduct of workers) have been included within this EMPr. Permanent security will be located on the wind farm site during construction and operation.</p>
	<p>How far away will the wind turbines be from our homes?</p>		<p>There are no turbines located within 800m of a residence.</p>
	<p>Is it safe to have the wind turbines near our homes? What is the impact on our health and safety?</p>		<p>There are no turbines located within 800m of a residence and therefore no impacts from noise or shadow flicker are expected.</p>
	<p>Who will be building the wind turbines and where will they live? How many people will come to build the windmills</p>		<p>Contractors will be employed to construct the wind farm. They will be required to use local labour for low and semi-</p>

No.	Comment	Raised by	Response
			<p>skilled jobs as far as possible. Up to 620 jobs created and maintained for approximately two and a half years.</p> <p>Staff accommodation will be provided on site during the construction phase which will house approximately 479 employees over the 30 months of construction. It is anticipated that the highest number of staff living on site throughout construction will be 211 employees at the peak of the construction phase.</p>
	<p>As the area is a water scarce area, what water will the persons constructing and operating the wind farms use? How will the building and then the windmills affect the water we have now?</p>		<p>Water will be required for the construction phase for the construction activities and 12686.98kl for human consumption. Water will be sourced from existing boreholes in the area. A feasibility study undertaken by JG Afrika (Appendix R(6) of the Revised BAR) indicates that groundwater is considered a suitable supply option for the project.</p>
	<p>What impact will the construction have on the landscape?</p>		<p>During construction, there may be a noticeable increase in heavy vehicles utilising the roads to the development site that may cause, at the very least, a visual nuisance to other road users and landowners in the area.</p> <p>Construction activities may potentially result in a moderate temporary visual impact, both before and after mitigation.</p>
	<p>Are we likely to lose our jobs which are closely linked to the nearby game farming businesses? The whole area over the years has moved to Game and game farms.</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance). Claims that staff will lose their jobs are not substantiated.</p>
	<p>Will you guarantee and ensure all our jobs are safe and/or our salaries are not cut?</p>		<p>This commitment is required to be provided by the landowners. At a meeting held with the workers on 11 May 2021 (refer to the submission by Simphiwe Julius Mtwalo and</p>

No.	Comment	Raised by	Response
	<p>We have heard that some of these issues may have been set out in a report published by your offices. However, we cannot be expected to understand such a report. Many of us residents will struggle to understand these complicated words and what they mean for us. We believe that someone must come and explain to us the impact of these proposed wind farms in simple language that we can all understand, and in isiXhosa. We made this point at the public hearing held at the public hearing in March 2021. That was 5 weeks ago but no one has approached us.</p> <p>Since the proposal for the wind farms were made public, we were not, and still have not been informed, consulted or contacted by either the landowners of the farms we reside on or the company that is proposing to build the wind farms. Given the negative impact the wind farms will probably have on our livelihoods, we believe that all the families residing on the affected farms should have been informed and consulted before we were asked to comment.</p>		<p>Zukiswa Sylvia Mtombo), Mr James Brown and Aletta Brown informed workers that none of the workers currently employed by them will lose their employment once the windfarm is completed.</p> <p>Appropriate means to consult local community members (including occupiers of affected and surrounding properties) is being discussed and arranged with the Councillor of Ward 1 in which the development site is located. Meetings will be arranged during the review period of the Revised BAR.</p> <p>A Community Brochure/Question &amp; Answer document which provided information regarding the development of a wind farm in layman terms and included pictures of construction of a wind turbine, etc was distributed on 29 April 2021 to community members on the project database, include to the Ward Councillor, Ward Committee Members and landowners – requesting them to distribute it to occupiers on their property/properties (refer to Appendix C6 of the Revised BA Report).</p> <p>Community members within the study area were reached through the consultation with the Councillor of Ward 1 in which the development site is located. A Community Brochure/Question &amp; Answer document which provided information regarding the development of a wind farm in layman terms and included pictures of construction of a wind turbine, etc was distributed on 29 April 2021 to community members on the project database, including to the Ward Councillor, Ward Committee Members and landowners – requesting them to distribute it to occupiers on their property/properties (refer to <b>Appendix C6</b> of the Revised BA Report).</p>

No.	Comment	Raised by	Response
	<p>The residents of the farms have not been asked whether they are happy with the wind farms being placed so close to their homes. The residents submit that someone should ask us before the windmills are placed near our homes. We are not happy that we have not been consulted on this.</p> <p>We believe that the decisions to construct and operate the wind farms have a direct impact on our livelihoods and so we have a right to be involved in this process. At the very least, we ask that the details of the proposed windfarm be explained to us in isiXhosa, and there be a summary translation of the Assessment report into isiXhosa – particularly those aspects which deal with the likely impact of the proposed wind farm on our employment, our houses, and our safety. Only then we will be able to comment on the proposal in an informed manner and partake in any negotiations and decision-making processes so that our rights and concerns can be heard.</p>		<p>The protect and report availability was also announced on Radio Grahamstad 102.1FM on:</p> <ul style="list-style-type: none"> <li>• Thursday, 04 March 2021, morning and afternoon</li> <li>• Friday, 12 March 2021, morning and afternoon.</li> <li>• Thursday, 29 April 2021, morning and afternoon</li> </ul> <p>The I&amp;AP attended the public meeting held on 27 March 2021 at the Grahams Hotel, Makhanda, and it is believed that she had since then, with the other occupiers, informed their co-occupants regarding the proposed project and that Savannah Environmental has a dedicated mobile number, as informed of at the PM that <i>please call me</i> can be sent to. Further efforts to communicate with community members and occupiers are being made with the assistance of the Councillor of Ward 1 in which the development site is located.</p> <p>A Community Brochure/Question &amp; Answer document which provided information regarding the development of a wind farm in layman terms and included pictures of construction of a wind turbine, etc, as well as a summary of the findings of the BAR in isiXhosa was distributed on 29 April 2021 to community members on the project database, including to the Ward Councillor, Ward Committee Members and landowners – requesting them to distribute it to occupiers on their property/properties (refer to <b>Appendix C6</b> of the Revised BA Report).</p>
26.	<p>I, Simphiwe Julius Mtwalo, Zukiswa Sylvia Mtombo, the undersigned, as a member of a group of farm workers permanently employed by Mr James &amp; Aletta Brown at Brackkloof Farm, hereby declare under oath as follows;</p>	<p>Simphiwe Julius Mtwalo                      Zukiswa Sylvia Mtombo</p>	<p>The content of the Affidavit and the fact that the parties' details were included on the submission of a letter of objection addressed to Savannah Environmental dated 6 May 2021 without their knowledge is acknowledged.</p>

No.	Comment	Raised by	Response
	<p>1. I have been made aware that my name is included in a list of farm workers in a letter of objection addressed to Savannah Environmental dated 6 May 2021.</p> <p><b>In compliance with POPIA, the identification numbers are not captured with the comment in this C&amp;RR – refer to Appendix C7 of the Revised BA Report for copy of the submission.</b></p> <p>2. Of the 20 workers listed in the letter 2 workers, 2 retired workers, Nozadwa Mtombo, Jimmy Nonkwenkwe and 1 casual, Nomalady Mtombo reside on Brackkloof Farm employed by Mr James and Aletta Brown. And 3 more permanent staff. Candice Fortuin, Bulelani Mhlaba, Mxolisi Jongile.</p> <p><b>In compliance with POPIA, the identification numbers are not captured with the comment in this C&amp;RR – refer to Appendix C7 of the Revised BA Report for copy of the submission.</b></p> <p>3. I have not given any person consent or authority to use my name or Id number in this regard and was done without my knowledge.</p> <p>4. The said letter sets out various grievances and concerns relating to the development of the Wind Garden and Fronteer Wind Farms and the perceived negative impact on the farm workers.</p> <p>5. The listed grievances, amongst others, include loss of employment/living conditions and lack of participation/consent in the development process.</p> <p>6. At a meeting held with the workers on 11 May 2021, Mr James Brown and Aletta Brown informed us as follows;</p> <p>a) None of the workers currently employed by him will lose their employment once the windfarm is completed.</p> <p>b) All workers currently housed on the farm will continue to do so and according to their employment contracts.</p> <p>c) Farming will continue as normal and will not be impacted on by the wind farm.</p>	<p>Affidavit: Farm Employees and Residents: 11 May 2021</p> <p>and</p> <p>Affidavit: Farm Employees and Residents: Mr Dell – 24 May 2021</p>	<p>It is noted that Mr James Brown and Aletta Brown, owners of a property directly affected by the proposed wind farm, have explained the proposed project and its implications for farm workers and occupiers. It is therefore confirmed that these occupiers are aware of the project and its potential impacts on their lives.</p>

No.	Comment	Raised by	Response
	<p>d) Farm workers will be continually kept abreast of progress of the wind farm by Mr James Brown and Aletta Brown.</p> <p>7. Given the above explanation I would like to add</p> <p>a) That information given to Savannah Environmental is incorrect and inaccurate.</p> <p>b) That I have no objections to the proposed wind farm, as it will better our lives and the rural community around us, provide jobs and opportunities for growth.</p> <p>c) Secure our jobs and employment for the future.</p> <p>d) That Aletta and James Brown has explained to me in isiXhosa the preposed wind farm, how it will effect our daily lives for the better, and should we have any questions that we can ask them at any time to explain or clarify.</p> <p>e) I have received a information document showing the preposed wind farm, preposed layout, project description, BA process and results and the way forward.</p> <p>f) That a field trip to nearby windfarm will be scheduled.</p> <p>g) I have signed this document out of my own free will.</p>		<p>It is noted that Aletta and James Brown explained the project and its effects in isiXhosa to the occupiers. No further action is required.</p> <p>It is assumed that the information document referred to is the Community Brochure/Question &amp; Answer document providing information regarding the development of a wind farm in layman terms and included pictures of construction of a wind turbine, etc, distributed on 29 April 2021 to community members on the project database, including to the Ward Councillor, Ward Committee Members and landowners</p> <p>It is noted that a field trip to nearby windfarm will be scheduled for the occupiers. No further action is required.</p> <p>This comment is noted. No further action is required.</p>
27.	<p>Wildlife Ranching South Africa (WRSA) as an organisation represent the interests of ranchers or private landowners. These ranchers conserve and protect numerous species, whilst securing vital biodiversity habitat for some of the most endangered and iconic species of our country. With an excess of over 200 game ranchers in the Eastern Cape Province that are members of our association, we represent the view of numerous ranchers who will suffer directly as a result of these proposed windfarms.</p>	<p>Richard York                      WRSA -CEO                      WRSA</p> <p>Letter: 06 May 2021</p>	<p>The details of Wildlife Ranching South Africa (WRSA) and who they represent, as well as the contributions of the East Cape provincial parks and reserves, the private wildlife ranchers in the Eastern Cape are acknowledged. No response required.</p>



No.	Comment	Raised by	Response
	<p>South Africa has the largest wildlife industry in Africa and possibly the world. According to the Department of Environmental Affairs annual statistics, after the Limpopo Province, the Eastern Cape Province is the second largest provincial destination for eco-tourism and international wildlife tourist. The wildlife industry in the Eastern Cape of South Africa has grown tremendously in the last 30 years and international tourists form a very important part of this growth in the industry.</p> <p>Excluding the contributions of the East Cape provincial parks and reserves, the private wildlife ranchers in the Eastern Cape account for more than 2-3 million hectares of converted farm land dedicated to the sustainable &amp; wise use of at least 43 indigenous game species, totalling between 1 and 1,5 million heads of game, including everything from blue duiker to elephant, and provide protection to significant numbers of rare species such as rhino, oribi, bontebok, Cape mountain zebra and some of the most progressive 'cattle disease free' Buffalo herds in South Africa.</p> <p>Tourism related activities in the Eastern Cape, safeguards at least 50 200 sustainable livelihoods in some of the most rural areas of the province.</p> <p>It is important to note that WRSA does not oppose renewable energy sources such as wind turbines. However, we object to the planned positioning of the proposed Fronteer and Wind Garden windfarms in the Makhanda area as these will have dire consequences on the wildlife and tourism industry, which is the biggest economic revenue stream for the local community in this rural area.</p>		
	SUBMISSION		

No.	Comment	Raised by	Response
	a. WRSA hereby submits our written comments.		Responses to comments raised are provided below.
	b. These comments are general comments requesting clarity surrounding our concerns and do not represent a scientific report.		The nature of the comments is noted. Response to specific comments is provided below.
	c. WRSA reserves the right to add, amend and alter these comments.		Comment noted. No response required.
	d. WRSA anticipates each point made in this document to be substantially addressed and answered, such answers should be in writing and be substantiated with evidence supporting the responses provided.		Comment noted. All comments are addressed and substantiated where necessary.
	e. WRSA anticipates all comments made by our association, our members, the community and industry specialists during the public participation process to be substantially addressed and answered, such answers should also be in writing and be substantiated with evidence supporting the responses provided.		Comment noted. All comments are addressed and substantiated where necessary.
	INTRODUCTION		
	1. This document serves as further input in the public participation process in relation to the Basic Environmental Assessment of the proposed Fronteer and Wind Garden windfarms in the Makhanda area. This document serves as comment on the impact assessment of both of these developments jointly and separately.		The submission by WRSA is noted. Responses to comments raised are provided below.
	2. The document should be read together with the inputs made by and on behalf of the game, wildlife ranching and associated sectors and the underlying businesses on a range of online and physical public meetings. As such these inputs should be considered together as whole for and on behalf the interested and affected parties.		Comment noted. Comments are read as such.

No.	Comment	Raised by	Response
	3. As an interested and affected party, we submit the following comments.		Responses to comments raised are provided below.
	DRAFT DOCUMENT  4. The socio-economic report is a Draft document and it is completely unfitting to present a report that is still a draft for public comment by interested and affected parties when the whole document could still change.		The SEIA specialist study, as with the other specialist studies have aligned their research to the deadlines as stipulated by the EAP and in line with the requirements of the EIA Regulations. This includes the submission of a draft document for comment by I&APs (as required by Regulation 43 of the EIA Regulations (2014), as amended). The circulation of a draft report allows for any applicable amendments and additions to the document to be made before an updated final submission is made.
	METHODOLOGY  5. The tools to assess the primary and secondary socio-economic impacts of the proposed intervention are noted.		Comment noted. No response required.
	6. The difficulties with assessing the cumulative effects of intervention are also noted.		Comment noted. No response required.
	7. In terms of the tool to assess the secondary impacts the use of a provincial input output and/or social accounting matrix is arguably inappropriate to determine the socio-economic of the proposed project on a local level:  7.1. The model used in the basic assessment is purportedly the version develop in 2006. This makes the model outdated to represent current conditions in 2021 and therefore the underlying tool to conduct the main body of the socio-economic assessment is not fit for purpose and the results cannot be accepted at face value nor any findings or recommendations based on any such findings. The report does not offer any information to the contrary.		The creation of Input/Output tables and associated SAM requires detailed and time-consuming surveying. As such Statistics South Africa (Stats SA) does not develop regular (yearly) Input/Output tables on which the SAM is derived. The most recent Eastern Cape Input/Output tables were released by Stats SA were for 2006 while national tables were for 2014. Irrespective, the underlying assumption underpinning all Input/Output tables and SAMs is that the relationship between individual sectors remains relatively stable over time. Input/Output tables and SAMs will however always remain a snapshot in time.

No.	Comment	Raised by	Response
	<p>7.2. While the input output and/or social accounting matrix is presented "as is" as the tool to conduct the socio-economic impact for the proposed projects the model has not been published nor is there any proof that the model has been subjected to any peer review process, as would be an acceptable professional practice. The bone fides of the model are therefore not beyond doubt and consequently neither are the findings and recommendations that flow from the use of the specific model in the specific context.</p>		<p>The SAM Model used in the study is that published by Statistics South Africa (Stats SA). This is further informed by the country's most recently published Input-Output tables released by Stats SA in 2017. Links to the SAM model can be located on the Stats SA website (<a href="http://www.statssa.gov.za/">http://www.statssa.gov.za/</a>).</p>
	<p>7.3. Typically using input output and/or social accounting matrix models are used to model country wide policy effects. The report offers no justification for using an economy wide policy analysis tool to conduct a socio-economic impact analysis at a very local level where particular projects are developed at a local level. Arguably the proposed model does not use local level data to model local level impacts and therefore the results are unlikely to be a true reflection of the local level impacts – like, for example, in the rural economy of the Makhanda district. While the projects will have provincial level impacts, they will also have more localized effects and which granularity is typically not captured in high resolution by economy wide models.</p>		<p>This comment is noted.</p> <p>The development of micro-level regional specific Input/Output tables and associated SAMs is not typically recommended, given the challenges noted in Response 7.1. Furthermore, the development of such falls outside of the scope of the assignment.</p> <p>The SAM model adopted for the assignment is thus the best available, but such limitations are acknowledged. The report therefore contrasts these results with the outcomes of primary research.</p>
	<p>7.4. Cumulative negative effects at a local level not modelled satisfactory.</p>		<p>Without specific detail regarding the areas of concern, a response cannot be provided.</p>
	<p>DATA COLLECTION</p> <p>8. The data collection process is noted. The specific steps of the data collection process include:</p> <p>8.1. Reviewing of planning documents</p> <p>8.2. Literature review</p> <p>8.3. Interviews with stakeholders</p>		<p>Comments on data collection noted. No further action required.</p>

No.	Comment	Raised by	Response
	9. In terms of the review of planning documents it is noted that the review is incomplete and underrepresented, as discussed below and that robust and balanced conclusions cannot be made from the review in its current form.		The revised SEIA included in Appendix L of the Revised BAR includes additional relevant policies and planning documents.
	10. In terms of the literature review it is noted that the literature review is insufficiently nuanced, as discussed below, and that a range of different conclusions could be reached with a more nuanced consideration of the literature.		The draft SEIA studies presented and referenced up to 19 published studies providing perspective as to the impacts of wind farms on the tourism industry and property values in various countries. Several I&APs have acknowledged one specific study (Broekel & Alfen, 2015) that they feel emphasises the negative correlation between presence of turbines and tourist visitor numbers. The revised SEIA included in Appendix L of the Revised BAR considers this research and includes interpretation thereof within the updated reports.
	11. Overall, the data collection process appears incomplete at worst and insufficient at best when all of the elements thereof are considered collectively		It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs. Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&AP Team and the visual impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area. A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. The updated profile is in Chapter 3 of the SEIA report included in Appendix L of the Revised BAR. The information obtained

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	<p>VISUALLY AFFECTED STUDY AREA</p> <p>12. The depiction of the visually affected study area is noted.</p> <p>13. The total extent (in hectares and square kilometres) of each of the affected areas, per category, should, however be explicitly stated in each of the individual reports to provide a reader with a concrete extent of the impact. This impact is currently not clear.</p> <p>14. A distinction of both the day and night views are required with all towers fully lit, to demonstrate the total extent of both these modes. This impact is currently not clear.</p> <p>15. It is uncertain whether any ground truthing of the depiction has been conducted to ensure an accurate and true reflection of the visually affected area. Consultation with other interested and affected landowners suggest significant discrepancies in the current assumptions regarding visual impact with landowners able to clearly observe other windfarms from their properties that are supposedly not visible. In this regard the visually affected study area cannot be accepted as is, specifically if it is not substantively (and not theoretically) confirmed.</p>		<p>through this additional data collection has been included and considered in the revised SEIA Report.</p> <p>This is a statement. No response is required.</p> <p>It is not clear to which categories the I&amp;AP are referred to and therefore no response can be provided.</p> <p>The VIA addresses the potential night-time visual impacts of lighting (impact significance indicated as <b>high</b>) and recommends the fitment of needs-based night lights in order to mitigate the impact to <b>moderate</b>. The project proponent stated that needs-based night lights would be a non-negotiable requirement for the Engineering, Procurement and Construction (EPC) contractor.</p> <p>A site visit was undertaken (July 2020) in order to verify the results of the spatial analyses and to identify any additional site specific issues that may need to be addressed in the VIA report.</p> <p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. It is not possible to consult with all of these, nor is it possible to provide photo simulations for all that are affected. The photo simulations are representative of what the wind turbine would look like from varying distances and not intended to show the wind farm from all directions.</p>
	<p>POLICY AND PLANNING ENVIRONMENT AND NEEDS AND DESIRABILITY</p>		<p>The requirement of the EIA Regulations is for (i) an identification of all legislation, policies, plans, guidelines,</p>

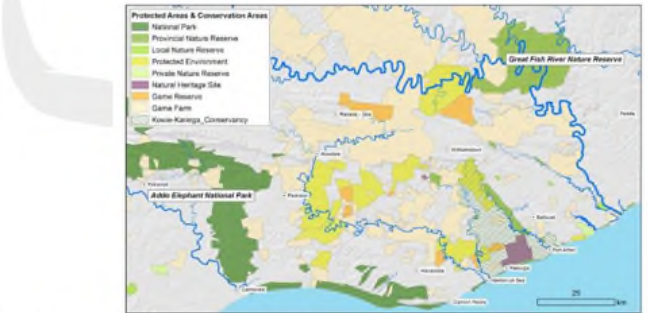
No.	Comment	Raised by	Response
	<p>16. Review of policy and planning environment is incomplete and under representative:</p> <p>16.1. The basic assessment report covers a range of policies related to economic development, state of the economy and specifically renewable energy at the national, regional, provincial and local level. The overview of the range of policies are used as a platform to justify and motivate for the establishment of the projects in terms of the needs and desirability of the proposed projects.</p> <p>16.2. The report is, however, completely silent or vague on a range of policies and strategies related to the natural environment, bio-economy, tourism, wildlife economy, natural corridor development, biodiversity preservation, etc at the international, national provincial and local level that are highly relevant to the specific project and context. The complete absence or under-emphasis of any reference to a range of policies and strategies in this domain is highly irregular and unthinkable in the context of an independent report that should consider the matter at hand holistically and fairly. As with the policies and strategies that are in the report and which are used to motivate for the development of the projects, a consideration of the bouquet of environmental policies and strategies that are not in the report will likely support the undesirability of the proposed projects.</p> <p>16.3. This document purposefully does not list the bouquet of policies and strategies related to the natural environment, bio-economy, tourism, wildlife economy, natural corridor development, biodiversity preservation, etc at the international, national provincial and local level that are very relevant to the project because this is the work that should</p>		<p>spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments.</p> <p>As the proposed activity relates to a renewable energy development, these aspects are focussed on in accordance with the requirements of the Regulations.</p> <p>Specific policies and legislation relevant to the natural environment were considered in the ecological, aquatic avifauna and bat impact assessments. Chapter 5 of the Revised BA Report has now been updated to include policies and legislation relevant to the natural environment.</p>

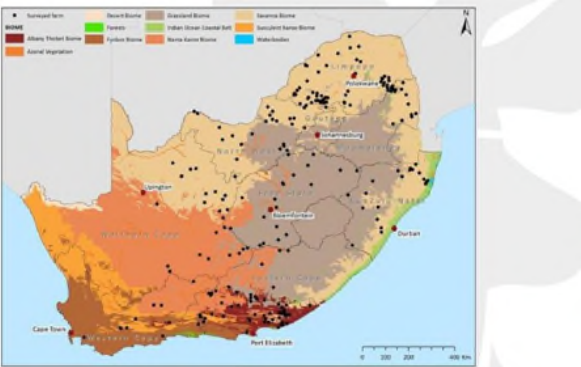
No.	Comment	Raised by	Response
	<p>have been done in the assessment. In this regard the assessment is flawed and one-sided.</p> <p>16.4. At the very least all of the policies and strategies that are relevant to the specific context must be considered in the report to provide a balanced view of the question at hand. It is our view that the need and desirability of the projects are, at best, inconclusive in the policy and strategic context having regard for the range of policies that exist at the local, provincial, national and international level.</p>		<p>The requirement of the EIA Regulations is for (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments. Chapter 5 of the BAR addresses this requirement.</p> <p>The Need and Desirability for the project as considered in Chapter 6 of the report considers the Receptiveness and Desirability of the project site to develop the proposed project. This section has been updated in the Revised BAR. The Conclusion in Chapter 12 has also been updated to provide a summary of the desirability of the project taking the findings of the specialist studies into consideration, as required by the DFFE Guideline on Need and Desirability.</p>
	<p>SOCIO-ECONOMIC PROFILE OF THE STUDY AREA</p> <p>Municipal profile</p> <p>17. The socio-economic profile does not record the contribution of the general tourism sector, specifically, to the economic profile of the study area. Presumably this contribution is lumped with another sector and therefore hidden from view. It is, however, critical in the context of the specific project to consider the contribution of tourism to the economy because of the nexus between nature-based tourism and recreation in the localities,</p>		<p>It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs.</p>



No.	Comment	Raised by	Response
	<p>a pristine natural environment and the visual impact of the proposed projects. It is a significant flaw of the assessment if the contribution of the tourism sector, in its widest sense, is not visible.</p>		<p>Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&amp;AP Team and the visual impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area. A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. The updated profile is included in Chapter 3 of the SEIA report included in Appendix L of the Revised BAR.</p> <p>Through the additional primary research engagements, key business and property investment information has been obtained. Notable examples of project-specific and community-supported ventures have been included in the updated SEIA report.</p>
	<p>18. In the specific context of the nature-based value chain the contribution of whole value chains from primary, secondary and tertiary sectors is not considered or depicted and therefore the whole value chain including activities like game ranches and reserves, hospitality institutions, hunting outfitters, game capture and translocation, game breeding, taxidermies, tour operators, butcheries, transport, veterinary services, goods and services into and from the value chain, are not considered in the economic profile as an interdependent grouping of economic activities. Disregarding the interdependent nature of these nature-based value chains is problematic in assessing the economic impact of the proposed projects because the full extent of the impact on the value chain is not considered and the explosive effects that would develop on the whole value</p>		<p>Through the additional primary research engagements, key business and property investment information has been obtained. Notable examples of project-specific and community-supported ventures have been included in the updated SEIA report.</p>

No.	Comment	Raised by	Response
	<p>chain remains hidden. Interdependency in the value chain and the rippling effects into the value chain must therefore be considered to provide a balanced view of the economic contribution of the whole value chain.</p>		
19.	<p>It is improper, in an independent report, for the contribution of the electricity, gas and water sectors to be the only highlighted sector in their tabular depiction.</p>		<p>As the study focuses on an energy project and the economic study considers the economic contribution of the project in the area, this aspect was highlighted in Section 3 of the SEIA Report. Information on all other sectors is however provided.</p>
	<p>Local profile</p> <p>20. The profile the local area is noted. The source(s) of this profile is, however, uncertain and arguably incomplete or misleading.</p>		<p>As detailed in Section 3.3 of the SEIA included in Appendix L of the Revised BAR, a profile of the immediately affected environment was developed utilising available secondary information and interviews conducted with landowners of the affected area.</p>
21.	<p>Whereas the predominant land-use in the local area is identified as agriculture the basic assessment does not mention that the local area is extensively surrounded by a mosaic of protected and conservation areas over a large swathe of the area between the Great Fish River Reserve in the east and the Addo Elephant National Park in the west covering an area of almost 400,000 ha of land attributable to the bio-diversity economy and land-use (Source: Albany Biodiversity Corridor Spatial Assessment)</p>		<p>Details of protected and conservation areas in the broader region are included in Chapter 8 of the BAR.</p>
22.	<p>The basic assessment makes no mention of the very prominent bio-diversity economy, nature-based land-use in the immediate vicinity of the proposed project sites and only seems considers the properties themselves. The impact of the proposed development on the local and regional bio-diversity economy, nature-based land-uses should not be disregarded in assessing the local profile. This land-use and the features of the regional nature thereof should be a very prominent consideration in the</p>		<p>Details of protected and conservation areas in the broader region are included in Chapter 8 of the BAR.</p> <p>Impacts on surrounding areas are considered within the SEIA Report (Appendix L), the Heritage Impact Assessment (Appendix I) and the Visual Impact Assessment (Appendix K). This includes impacts on game farms and tourism.</p>

No.	Comment	Raised by	Response
	<p>assessment of the projects and their appropriateness in the specific landscape.</p> <p>23. In the context of the game ranching sector it is also specifically noted that a very high density of game ranches and game reserves are located in the Makhanda region. These businesses depend on 1.) trophy hunting, 2.) local hunting, and 3.) eco-tourism to exist (Source: An assessment of the economic, social and conservation value of the wildlife ranching industry and its potential to support the green economy in South Africa). The very extensive wildlife-based enterprises in the region of the proposed projects are also not mentioned and the basic assessment which is a very significant shortcoming of the report. As noted herein and as widely accepted such businesses depend on a pristine environment and natural landscape to offer an authentic experience for 1.) trophy hunting, 2.) local hunting, and 3.) eco-tourism and consequently their prominence in the particular landscape cannot be disregarded or be made irrelevant to the specific windfarm developments</p>  <p>Figure 1 – Protected and conservation areas in the Albany Biodiversity Corridor              SOURCE: Albany Biodiversity Corridor Spatial Assessment</p>		<p>The SEIA considers impacts on game farms and tourism. The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>

No.	Comment	Raised by	Response
	 <p><i>Figure 2—Distribution of surveyed wildlife ranches across South Africa (n=251)¶</i>  <i>SOURCE: An assessment of the economic, social and conservation value of the wildlife ranching industry and its potential to support the green economy in South Africa¶</i></p>		
	<p><b>IMPACT ASSESSMENT ASSUMPTIONS</b></p> <p>24. The number of employment opportunities that are projected should be split into high, medium, and low skilled categories for both the construction and operational phases. This is necessary to demonstrate the actual impact on the local employment situation. Moreover, the basic assessment only assumes that there will be a creation of employment opportunities as a result of the projects and that there will be no destruction of employment opportunities. Not considering the employment losses is a flaw in even-handedly weighing the impacts of the proposed project.</p>		<p><u>Wind Garden:</u></p> <p>Of the 570 direct FTE positions created on-site during construction of the Wind Garden WEF, 241 are expected to be reserved for skilled black RSA-based personnel, while 330 will be filled by unskilled and semi-skilled workers. 239 of the total positions will be reserved for black citizens from local communities.</p> <p>Of the 27 direct FTE positions created permanently once in operation, 19 are expected to be reserved for skilled black RSA-based personnel, while 8 will be filled by unskilled and semi-skilled workers.</p> <p><u>Fronteer:</u></p> <p>Of the 460 direct FTE positions created on-site during construction of the Fronteer WEF, 195 are expected to be</p>

No.	Comment	Raised by	Response																																													
	<p>25. The actual wages and salaries for individual employment opportunities should be revealed to substantiate the costs linked to the employment opportunities.</p>		<p>reserved for skilled black RSA-based personnel, while 175 will be filled by unskilled and semi-skilled workers. 193 of the total positions will be reserved for black citizens from local communities.</p> <p>Of the 22 direct FTE positions created permanently once in operation, 16 are expected to be reserved for skilled black RSA-based personnel, while 8 will be filled by unskilled and semi-skilled workers.</p> <p>Specific information on wages and salaries is not available at this stage. The following is stated in the SEIA in terms of estimated impact on the national and local economies. Personal Income refers to the salaries and wages earned as a result of the employment generated from the development of the proposed wind farm.</p> <p><u>Wind Garden:</u></p> <p><b>Table-5.1:</b> Estimated impact on the national and local economies (R-million, 2020 prices) as well as employment (FTE positions) for the duration of construction¶</p> <table border="1"> <thead> <tr> <th>Indicator</th> <th>Direct</th> <th>Indirect</th> <th>Induced</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td colspan="5"><b>Impact on Production</b></td> </tr> <tr> <td>TOTAL</td> <td>·R-5-715</td> <td>·R-6-442</td> <td>·R-2-508</td> <td>·R-14-666</td> </tr> <tr> <td colspan="5"><b>Impact on Gross Domestic Product</b></td> </tr> <tr> <td>TOTAL</td> <td>·R-1-774</td> <td>·R-779</td> <td>·R-294</td> <td>·R-2-848</td> </tr> <tr> <td colspan="5"><b>Impact on Personal Income</b></td> </tr> <tr> <td>TOTAL</td> <td>·R-754</td> <td>·R-865</td> <td>·R-322</td> <td>·R-1-942</td> </tr> <tr> <td colspan="5"><b>Impact on Employment</b></td> </tr> <tr> <td>TOTAL</td> <td>·570</td> <td>·732</td> <td>·392</td> <td>·1-691</td> </tr> </tbody> </table>	Indicator	Direct	Indirect	Induced	TOTAL	<b>Impact on Production</b>					TOTAL	·R-5-715	·R-6-442	·R-2-508	·R-14-666	<b>Impact on Gross Domestic Product</b>					TOTAL	·R-1-774	·R-779	·R-294	·R-2-848	<b>Impact on Personal Income</b>					TOTAL	·R-754	·R-865	·R-322	·R-1-942	<b>Impact on Employment</b>					TOTAL	·570	·732	·392	·1-691
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	<p>26. The fact the refurbishment of the plant is foreseen after the initial period should be factored into the overall assessment of the duration of the project because the facility is for all practical purposes expected to be a permanent installation and the many of the associated impacts can be considered permanent, irreversible impacts.</p>		<p>Although it is possible that the plant could be refurbished and operated for a longer period than anticipated, this is not confirmed at this stage in the project. Therefore, a 20-year lifespan has been assumed. Should the refurbishment of the facility be considered feasible at the time, assessment of this option would be required to be assessed in line with the relevant legislation at the time.</p>																																													
	<p>POTENTIAL ECONOMIC IMPACTS</p>																																															
	<p>27. Refer to the shortcomings in the methodology noted earlier, especially in depicting the impacts at local and sub-local levels</p>		<p>Responses are provided to earlier comments.</p>																																													
	<p>28. There are a range of businesses that will suffer negative direct and indirect impacts as a result of the development of the proposed projects.</p>		<p>Impacts on businesses (including game farms and tourism) are assessed within the SEIA report (included in Appendix L of the Revised BA Report).</p>																																													
	<p>29. No consideration of the cumulative economic effects is noted in the economic impact assessment. Arguably the cumulative effect is significant and should not be ignored or side-stepped. As noted earlier a range of nature-based businesses operate in the general region of Makhanda and the proposed area of development.</p>		<p>Cumulative impacts are assessed within Section 8.4 of the SEIA Report (Appendix L of the BAR). This includes negative impact on the local tourism, game industry and associated industries during construction (8.4.2 b) and negative impact on local tourism, game farming and associated industries during operation (8.4.4 b).</p>																																													
	<p>30. The economic impact assessment is void of any assessment of the sunk costs that have been invested in a range of businesses in the bio-diversity economy and nature-based land-use</p>		<p>The SEIA considers impacts on game farms and tourism. The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings</p>																																													

No.	Comment	Raised by	Response
	<p>enterprises. These sunk costs to develop the particular nature-based enterprises are also investments that have been made into the local economy in the past and which are endangered by the development of installations that are detrimental to the operation of such businesses. The basic assessment does not quantify the consequences of likely disinvestment and negative economic fall-out in this whole segment of businesses as a result of the development of the projects due the windfarm development. This is a particularly important shortcoming of the current basic assessment, particularly because many of the present nature-based business in the whole value chain are sustainable, employment creating enterprises in the rural economy of the area. The risk that the proposed projects pose to these enterprises and their value chains is disregarded and therefore underplays the possible negative consequences of the development of the windfarms and overplays the alleged positive impacts. This is not a balanced consideration of the matter at hand.</p>		<p>attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>
	<p>31. Beyond the economic effects there is also no consideration of the conservation externalities that are created by enterprises in the nature-based value chain. It is precisely because the nature-based land use and accompanying enterprises are sustainable that there is a positive conservation outcome. If the sustainability of these nature-based enterprises is negatively affected by the development of the windfarm projects the conservation gains made by these enterprises will be lost due to disinvestment from the land-use. This important conservation externality is also not considered in detail, especially in terms of the linkage to the economics of the specific land-use. It is, however, argued that this is also an important consideration of the impact of the projects, if they were to be developed.</p>		<p>Through the additional primary research engagements, key business and property investment information has been obtained. Notable examples of project-specific and community-supported ventures are included in the updated SEIA report contained in Appendix L of the Revised BAR.</p>

No.	Comment	Raised by	Response
	<p>32. It should also be noted that the negative impacts of disinvestment and job losses in nature-based business will fall on the more vulnerable members of society that can least afford such developments.</p>		<p>Comment noted. No further action required.</p>
	<p>POTENTIAL TOURISM IMPACTS</p> <p>33. The literature review in relation to the potential tourism impacts is insufficiently nuanced to effectively reflect the gradation of impacts of windfarm development in the literature.</p> <p>33.1. The report relies on a range of literature of mainly international research that consider a range of impacts and perceptions about the establishment of windfarms.</p> <p>33.2. The report generally concludes that international literature indicates that there is not a generally negative impact of windfarm development on, amongst others, tourism, tourism businesses, property prices, etc. If there is, however, any impact it is considered to be negligible. On this basis and with limited interviews the basic assessment concludes that the proposed windfarm projects are not expected to generate negative externalities for the tourism sector in their vicinity and that any concerns or objections in this regard are unfounded.</p> <p>33.3. However, the approach in the basic assessment lacks nuance to present a balanced view of the impacts of windfarms on tourism in the literature. The specific elements thereof are:</p> <p>33.3.1. The current approach used in the basic assessment report considers the impacts on the tourism sector in very broad terms and does not account for the local context of the specific projects. Some literature specifically states that location, design and context matter in the impact of windfarm development on their surroundings. In assessing</p>		<p>It is acknowledged that limited, if any, academically published research is available in a South African context which considers the specific impact of wind farms on the safari/wildlife/ecotourism-specific industry. The draft SEIA studies has presented and referenced up to 19 published studies providing perspective as to the impacts of wind farms on the tourism industry and property values in various countries. The cross-section of literature reviewed in Chapter 6 of the SEIA cannot simply be dismissed. Several commonalities between the study areas considered in the literature, and the study area dynamics of this area should be appreciated, these include:</p> <ul style="list-style-type: none"> <li>» The regional origin of tourists is similar i.e., both sets of tourists originate in the majority from European/British Isles.</li> <li>» Study areas in the literature are predominantly rural in nature</li> <li>» The tourism industry in each of the respective countries, like in a South African context, is recognised as an economic driver</li> <li>» A dominant characteristic of many of the study areas considered in the literature, is that the respective areas' scenic vistas and sense of place are an important drawcard for tourists looking to enjoy the natural environment.</li> </ul>



No.	Comment	Raised by	Response
	<p>the literature, the basic assessment has not been sensitive the local context and location. The basic assessment transposes international literature on the local context without any qualification of the appropriateness thereof in addressing the local question. In this regard it is questionable whether the international literature on the topic is sufficiently authoritative to make local conclusions, especially when the context is vastly different.</p>		<p>Several I&amp;APs have acknowledged one specific study (Broekel &amp; Alfken, 2015) that they feel emphasises the negative correlation between presence of turbines and tourist visitor numbers. This study (Gone with the wind? The impact of wind turbines on tourism demand (Broekel &amp; Alfken, 2015)) has been added to Section 6.1 of the revised SEIA report included in Appendix L of the Revised BA Report.</p>
	<p>33.3.2. The case in point in terms of reading the literature in a nuanced way is that none of the international literature assesses the impact of windfarm development on a sector that offers an African wilderness experience where the main features of the experience centre around an authentic African wilderness setting and an experience as free as possible of anthropogenic interference. Arguably tourist travel to destinations that offer them what cannot be experienced elsewhere or what no longer exists elsewhere.</p>		<p>The comments on the international studies by the stakeholder are noted. No response required.</p>
	<p>33.3.3. A further example of the need for nuance in considering the literature is that international literature that specifically focusses on the impact of windfarms and similar installations on the tourism sector in a wilderness context is very much conclusive that windfarm development has a negative impact on the wilderness experience and that natural scenic areas as well as recreational areas are not suitable to the development of windfarms.</p>		
	<p>33.3.4. Literature also confirms that a number of sensory impacts of windfarms might negatively affect tourism and recreational activities in the areas that surround these installations. The literature specifically notes that if tourists have a negative experience of the nature-based experience they are likely to stop visiting venues in the particular area. If there is a decline in tourists visiting an area it will unavoidably result in</p>		

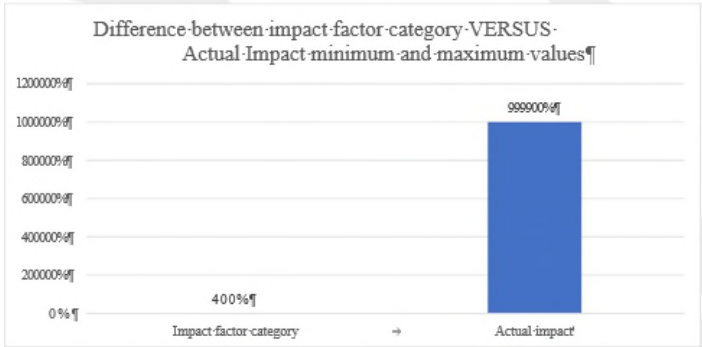
No.	Comment	Raised by	Response
	<p>economic losses, specifically for the nature-based enterprises that depend on the quality of the natural landscape and experience as their unique selling points and proposition to their clients.</p>		
	<p>33.3.5. The general area in the area of Makhanda and the Sarah Baartman District Municipality hosts a very high concentration of nature based economic activities including provincial nature reserves, local nature reserves, protected environments, private nature reserves, game reserves and game farms all of which depend on the relative wilderness features and pristine landscapes that can be offered. In this regard it is argued that the basic assessment should have considered this nuance and specific local context in the reading and portrayal of the literature on the topic and in the conclusions reached in this regard.</p>		
	<p>34. This document purposefully does not list the literature noted above because this is the work that should have been done in the assessment.</p>		
	<p>35. The specific South African case studies used to assess the tourist impact in the case of the specific are completely inappropriate and no conclusions or recommendations can be drawn from these interviews. None of the respondents represent a nature-based enterprise like a game ranch, protected area, private game reserve, hunting farm and therefore the outcomes of these interviews cannot be interpreted as if for nature-based enterprises. This flawed methodology in assessing local impact on nature-based enterprises and the fact that no nature-based enterprises were consulted discredits the conclusions and recommendations of the basic assessment in this specific regard.</p>		<p>The data collected for the SEIA was not only focussed on determining impacts on game reserves or ecotourism. Impacts on other sectors was also required to be considered, including small businesses such as guest houses. The section in the SEIA report where these interviews are detailed deals with <i>Effects of Wind Farms on Business Tourism</i>. This information has informed the assessment of impacts on other tourism industries in the broader area within Chapter 8 of the SEIA Report.</p>
	<p>36. In terms of the section that considers local business performance due the windfarms and visitors to the</p>		

No.	Comment	Raised by	Response
	<p>establishments it is argued that the feedback from these respondents do not carry any weight and cannot be considered at all as an accurate reflection of the impact on nature-based businesses like game farms, game reserves, hunting farms, eco-tourism farms because none of these respondents operate such business that rely on a pristine environment as the basis for their unique offering. It is dishonest and malicious to make use of the views of respondents that are in no way able to provide an relevant opinion to project the impact on the range of nature-based businesses that will be affected by the development of the windfarms.</p>		
	<p>37. The veracity of the study by Terblanche (2020) and its conclusions is disputed since it is merely an impact assessment for the Albany Wind Energy Facility and it is not a peer reviewed, academic study published in an academic journal. The use of this report is wholly inappropriate to substantiate that windfarms do not have an impact on game farms.</p>		<p>This document is cited as a benchmarked study and referenced accordingly. The BAR process does not preclude the referral to non-academic/unpublished reports.</p>
	<p>38. Based on discussions in one of the public participation hearings we also have it on good authority that the specific reference to the windfarms not having any impact on the specific operation of game farms in the area has been misconstrued and applied completely out of context. One of the owners or operators of the one of these game farms confirmed that they had been questioned about the impact of windfarms more than 130km away from their game farm operations. Clearly it is a nonsensical query to make about the impact of windfarms on game farm or reserve operations where these are so far from each other. It is also absurd to surmise from this information that windfarm development has no impact on game farm operations at all. Arguably the whole section that addresses this issue in the basic assessment report should be withdrawn since there is no evidence in the sections to support the assertions and the ways</p>		<p>As the details of the owners or operators of the game farm who had been questioned about the impact of windfarms more than 130km away from their game farm operation is not provided, it is not possible to confirm whether this was related to the current study. A response can therefore not be provided.</p>

No.	Comment	Raised by	Response
	that these assertions have been arrived at are unfounded and unprofessional.		
	39. The section that describes the losses due to the windfarm development is tainted due to the reliance on a section of the report that is unjustifiable in terms of the impact of windfarms on the game farms and windfarms.		Refer to responses provided on the comments above.
	40. The assertion that biltong hunters primarily hunt for meat and are not demanding in terms of their environment is arguably an unfounded opinion by the authors of the report. Literature notes that the Eastern Cape is a prime destination for South African hunters and that experiencing nature, contributing to conservation and teaching others about nature are amongst the top three priorities for South African hunters in terms of hunting. It is therefore untrue, as stated in the basic assessment, that South African hunters are not concerned about the environment when hunting. The ambiance and experience of a natural environment is, in actual fact, a significant priority for hunters and as such South African hunters have similar environmental requirements to eco-tourist and international hunters.		The SEIA does not state that "South African hunters are not concerned about the environment when hunting". It states that " <i>Biltong hunters are, however, expected to be less sensitive than trophy hunters or even domestic visitors interested in eco-tourism. This is largely due to the fact that small groups of biltong hunters primarily hunt for meat to make biltong and are generally not very demanding as far as their facilities and environment are concerned</i> ".
	POTENTIAL PROPERTY VALUES IMPACTS		
	41. Considering the assessment of the potential impact on property values the analysis of residential property values is arguably a moot exercise because the development of the proposed windfarms is not near urban residential areas.		The requirement of the SEIA study is not to quantify or qualify impacts on specific individual properties. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented
	42. The impact of windfarms on the attractiveness of the properties for the development of game farms, game reserves and similar types of properties is noted in this section. The agents rebut the		The SEIA study has identified 10 short-term (construction related) impact indicators and 10 operational related socio-economic impact indicators. Over both phases of the

No.	Comment	Raised by	Response
	<p>assertions in the basic assessment that windfarm developments have no impact on nature-based properties like game farms. It should be emphasized that agents report that in locations like Cookhouse where windfarms have been established there were difficulties in securing investors for tourism in game properties. This view of actual market conditions in localities where windfarms have been developed clearly contradicts the assertions made in the basic assessment report that there is no such impact on nature-based properties and land uses. Practically speaking windfarms have an impact on nature-based properties and investors' willingness to be invested in such properties like game ranches, game reserves, eco-tourism properties, etc. It would also follow from this deduction that properties in the general area of windfarms would only be suitable for traditional agricultural purposes, like livestock farming not particularly for nature-based land uses. This deduction is important considering the historical development of game ranching and nature-based properties where livestock properties were transformed to nature-based properties because of the unprofitability tendency of livestock in these areas.</p>		<p>proposed development seven impacts are forecasted to be negative before and after mitigation, while 13 are anticipated to be positive, before and after mitigation.</p>
	<p>INTERVIEW WITH STAKEHOLDERS</p> <p>43. No substantiation provided that the number of stakeholders that were consulted are statistically representative of the population to ensure that robust conclusions can be made from the interviews.</p>		<p>It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs. Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&amp;AP Team and the visual</p>
	<p>44. In the alternative to a statistically robust number of interviews, as above, no substantiation is provided of the bone fides of the stakeholders that were actually interviewed in relation to the specific matter at hand is provided either.</p>		

No.	Comment	Raised by	Response
	<p>45. It is also very clear that a number of stakeholders have not been consulted in the process of the development of the basic assessment report. The list of stakeholders that were actually consulted has not been found in the pack. However, a reasonable consultation process would have consulted local and provincial organizations representing farmers, game ranchers, professional hunters, local and international hunters, taxidermy operations, tour operators, eco-tourism businesses, farm workers, staff working in the hospitality sector on nature-based properties, civil society, the local business chamber, etc.</p>		<p>impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area. A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. The updated profile has been included in Chapter 3 of the SEIA report included in Appendix L of the Revised BAR. A list of parties consulted is included in Annexure A of this report.</p>
	<p>46. Arguably the range and depth of consultation in terms of developing a robust and balanced socio-economic assessment of the project is limited having regard for those stakeholders that were consulted and those that were not. The extent and weight of the consultations completed in the basic assessment are therefore constrained and arguably very little can be taken from this process.</p>		
	<p>IMPACT ASSESSMENT MODEL AND ASSUMPTIONS</p> <p>47. The impact assessment model is unsuitable to demonstrate the true impacts as reported in the document and the and conclusions and recommendations based on the model are not fit for purpose.</p> <p>47.1. The assignment of each of the particular values in the impact assessment model is arbitrary and at the full discretion of the author of the report. Generally, there is no absolute quantification of the each of variables to justify the choice of scoring at all. The model is therefore, at best, a view of the author of the report.</p>		<p>Impact ratings are calculated based on a standard impact assessment methodology developed by Savannah Environmental, and used for the past 15 years. This methodology considers the nature, extent, duration, magnitude and probability of impacts in determining significance, as required in terms of the EIA Regulations. The purpose of utilising this approach is to reduce subjectivity in the determination of impact assessment ratings.</p>
	<p>47.2. The consequence is that, for example, the large impacts are camouflaged which, in turn, can result in a very large</p>		<p>As the values calculated for the impacts are presented in the report, the actual impacts are reflected together with</p>

No.	Comment	Raised by	Response																												
	<p>misrepresentation of the actual impacts. See table and graph below that illustrate the principle and show the difference between using categories versus actual impacts.</p> <p>Table 3—Calculation of changes in impact per factor category or actual impact</p> <table border="1"> <thead> <tr> <th>Impact factor category</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>Overall change</th> </tr> </thead> <tbody> <tr> <td>Actual impact</td> <td>R10 000 000</td> <td>R1 000 000 000</td> <td>R1 000 000 000</td> <td>R10 000 000 000</td> <td>R100 000 000 000</td> <td>999 900%</td> </tr> <tr> <td>Change in impact factor category</td> <td></td> <td>100%</td> <td>50%</td> <td>33%</td> <td>25%</td> <td></td> </tr> <tr> <td>Change in actual impact</td> <td></td> <td>900%</td> <td>900%</td> <td>900%</td> <td>900%</td> <td></td> </tr> </tbody> </table>  <p>Figure 3—Difference between two approaches of presenting impacts</p>	Impact factor category	1	2	3	4	5	Overall change	Actual impact	R10 000 000	R1 000 000 000	R1 000 000 000	R10 000 000 000	R100 000 000 000	999 900%	Change in impact factor category		100%	50%	33%	25%		Change in actual impact		900%	900%	900%	900%			<p>the categories. The significance score is influenced by the nature, extent, duration, magnitude and probability of impacts, the information of which is presented to the reader. There is therefore complete transparency in the presentation of the impacts.</p>
Impact factor category	1	2	3	4	5	Overall change																									
Actual impact	R10 000 000	R1 000 000 000	R1 000 000 000	R10 000 000 000	R100 000 000 000	999 900%																									
Change in impact factor category		100%	50%	33%	25%																										
Change in actual impact		900%	900%	900%	900%																										
	<p>47.3. The probabilities used in the proposed model also seem arbitrary and in the discretion of the authors of the reports. There is no supporting evidence offered to substantiate the probabilities that are employed in the model. In this regard the probabilities can only be considered as subjective and any outcomes, conclusions and recommendations generated with these probabilities are, at best, also subjective. Moreover, while these subjective probabilities might be the view of an expert such an expert is not exempted from substantiating a particular view.</p>		<p>The methodology, including the probabilities, was developed by Savannah Environmental to address the requirements of the EIA Regulations. The purpose of utilising this approach is to reduce objectivity in the determination of impact assessment ratings.</p>																												

No.	Comment	Raised by	Response
	<p>47.4. The probability distributions for each of the variables used the impact model are not expressly noted and it is assumed that these distributions are not known. In opining on probabilities in the impact it is arguably important for the report to consider and substantiate the underlying probability distribution for each of the variables. In the absence of any consideration of the probability distribution any opinion about general probabilities in an impact framework is at risk of being substantially flawed. The current report does not consider the probability distribution of each of the relevant variables and therefore any opinion about the probabilities in this context are risky and may be an inaccurate representation of the actual probabilities. Any conclusions or recommendations that are borne from these probabilities will suffer the same shortcomings.</p>		<p>The methodology used does not include statistical analysis or include consideration of probability distributions of the variables. This is not required in terms of the Regulations.</p>
	<p>47.5. The equal weighting of the factors under consideration is also not justified. The current proposition is that, for example, skills development weighs the same in the model as the impact on the tourism sector. Logically this weighting is not a true reflection of the gravitas of these variables by themselves in the context of their socio-economic impact. Practically this arrangement is an inaccurate representation of the true structure of the impacts which, in turn results in an unbalanced and misrepresentation of the impact that then leads to misinformed conclusions and recommendations about the socio-economic impacts.</p>		<p>The impact assessment methodology only considers one impact at a time – i.e. skills development and impacts on the tourism sector are considered separately. The results of the assessment for each impact are presented for the public and authority to consider.</p>
	<p>47.6. Considering the comments, it is argued that the impact assessment model should be reworked given the range of comments and then presented again in an improved format for further consideration.</p>		<p>The methodology used in the impact assessment is based on the requirements of the EIA Regulations. It is not agreed that this needs to be reworked.</p>
	<p>47.7. Whereas the specific impact model approach might be argued as 'best practice' it is still not necessarily appropriate,</p>		<p>Refer to responses provided to comments in the sections above.</p>



No.	Comment	Raised by	Response
	<p>and a number of shortcomings exist in the approach. These shortcomings are not noted in the report in the framework is presented as robust. However, these shortcomings, if not dealt methodically and appropriately, may well flaw the analysis completely and result in dubious conclusions and recommendations.</p>		
	<p>47.8. This comment notes these flaws and shortcomings in the impact assessment approach and the consequences thereof. The comment does not attempt to resolve these issues on behalf of those tasked to undertake the independent assessment.</p>		<p>Refer to responses provided to comments in the sections above.</p>
	<p>CONCLUSION</p> <p>48. As alluded to in our introduction we object to the positioning of these wind farms, as the development of these wind farms will have a devastating effects on the local tourism and wildlife industry and jeopardise the main economic income of vital habitat for numerous endangered and critically endangered species.</p>		<p>The objection has been noted. No further response is required.</p>
	<p>49. We anticipate all our concerns listed in this document to be substantially addressed and systematically answered. We also anticipate that our comments raised on the public participation process will also be addressed and substantially answered.</p>		<p>All comments have been noted and addressed in this CRR, and where relevant, addressed in the studies undertaken.</p>
<p>28.</p>	<p>We are commenting on the Wind Garden Wind Farm and Fronteer Wind Farm (DFFE Ref.No.:14/12/16/3/3/1/2314 and 14/12/16/3/3/1/2315 respectively) as a concerned landowner, protected area manager and nature and wildlife tourism operator as well as a member of the larger Indalo Protected Environment which has experienced wind energy development directly and these comments are borne from first-hand experience.</p>	<p>Rob Gradwell                      Lalibela Game Reserve                       Letter: 07 May 2021</p>	<p>Comment noted. No further action required.</p>

No.	Comment	Raised by	Response
	Indalo is working to expand through further amalgamation of southern, central and northern nodes into large agglomerations of private reserves (>50 000Ha) in central area, and public private partnerships with Addo National Park and Great Fish Provincial Reserves in the south and north respectively with common traversing agreements and unified conservation management as part of the so-called Albany Mega-Reserve (also referred to as Albany Biodiversity Corridor or Addo to Great Fish Corridor as set out in below figures).		

No.	Comment	Raised by	Response
	<p>1. HISTORY / BACKGROUND</p>		<p>The history and background to Lalibela is noted. No further action required.</p>

No.	Comment	Raised by	Response
	<p>Lalibela was formed by the amalgamation of land previously used for stock farming and substantial effort was made to remove human-made structures including fencing and powerlines and further to rehabilitate disturbed areas to return the landscape to a natural state.</p> <p>Like the other Indalo reserves (and many others in South Africa and in Africa in general); Lalibela focusses on nature and wildlife tourism that relies on the wilderness character of the reserve and surrounding area. Lalibela is managed as a formal protected area (as dictated by the Indalo Protected Area Management Plan) not only to conserve wildlife and biodiversity but also its wilderness character and its natural untrammelled state which as forms the basis for visitors to experience.</p> <p>Again, like other Indalo reserves Lalibela is looking to expand its area under management and is working actively to link up with neighbouring Shamwari and Pumba reserves to form one of the protected area clusters toward the development of the larger Albany Mega-Reserve (also referred to as Albany Corridor).</p> <p>Through nature and wildlife tourism biodiversity stewardship Lalibela has made a substantial contribution to the conservation of both black rhino and white rhino and protection of landscapes of ecological importance along with contributions to numerous other objectives as set out in the Indalo Protected Area Management Plan. The plan requires each reserve to secure the required financial resources to ensure achievement of the protected area management objectives.</p> <p>These resources are derived from nature and wildlife tourism which is dependent on a natural environment largely free from the</p>		

No.	Comment	Raised by	Response
	<p>structures and signs of modern civilisation (often from which they come to get away) and the impact of which is not considered in the WEF BARS.</p>		
	<p><b>2. TOURISM SERVICES</b></p> <p>Lalibela offers an African safari experience, and an increasingly rare wilderness experience of being in the bush and experiencing unspoilt scenery characterised by a diversity of landscapes within which to appreciate wildlife and unique vegetation of different biomes i.e. a wildlife experience in a natural setting (an experience of natural places, and interaction with nature and wildlife that illicit various emotional responses overall increase well-being).</p> <p>We offer accommodation in three lodges each located to be in a scenic setting and offer guest game drives and views on upland plains, ravines, over valleys, into kloofs, and with vistas looking over high ground and more distant mountains with little if any sign of man-made infrastructure (with a few very notable exceptions).</p> <p>Furthermore, lodges have been sited so as to offer a scenic location with vistas devoid of intrusion by human-made structures and other disturbance. We have taken great effort to use natural materials sourced from the site in the lodge construction and to offer guest a glimpse of a part of South Africa's unspoilt beauty.</p>		<p>The tourism services offered by Lalibela are noted. No further action required.</p>
	<p><b>3. IMPACT OF WIND FARM DEVELOPMENT</b></p> <p>Nature and wildlife tourism is travel for the purpose of enjoying undeveloped natural areas or wildlife. An important component of an African wilderness experience or safari as many foreign tourists would refer the experience as is being in the bush and experiencing the wilderness and the absence of man-made structures such as</p>		<p>The comment is noted and has been incorporated into the final report accordingly. However, no specific data or information as to the quantified drop in visitor number or changes in revenue generation is provided by the I&amp;AP.</p>

No.	Comment	Raised by	Response
	<p>modern buildings, roads, telephone lines, electricity pylons, and wild turbines specifically due to their size and intrusiveness.</p> <p>Wind turbines of the Waainek facility have significantly impacted Lalibela's Kichaka lodge from where the turbines are partly visible and further impacts our visitor experience on game drives that cross the reserve's highland plateau grassland where turbines now intrude the skyline and at night the pulsing aviation warning lights dominate a part of the landscape. Views from Kichaka lodge look straight over a water hole upslope onto three turbines in the distance which guest have made numerous negative remarks about the aviation lights at night. Although the impact to Kichaka lodge is partially ameliorated by the rich landscape scenery during daylight hours the turbine lights is a significant intrusion in the night and have drawn comment from visitors to the extent that we be implementing special lighting around the lodge and on the water hole so as to distract form the turbine light intrusion.</p> <p>We note with utmost concern the statements in the Wind Garden and Fronteer SIAs that references what is purported to be published literature in the form of "Terblanche (2020)" but which on review of reference is given as "Terblanche, M. 2020. Socio-economic Impact Assessment Report: Proposed construction of the Albany Wind Energy Facility," when this is in fact a Draft Socio-economic Impact Assessment Report and which is littered with falsehoods including making false representation with respect to statements by Pumba Reserve manager.</p> <p>The Wind Garden and Fronteer SIAs state that:</p> <p><i>"All tourism product owners, who were engaged with during the interviews, stated that they felt there was no impact from</i></p>		<p>It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs. Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&amp;AP Team and the visual impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area. A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. The updated profile has been included in Chapter 3 of the SEIA Report. Information obtained through this additional data collection process has been considered and included in the revised SEIA Report included in Appendix L of the Revised BAR.</p>

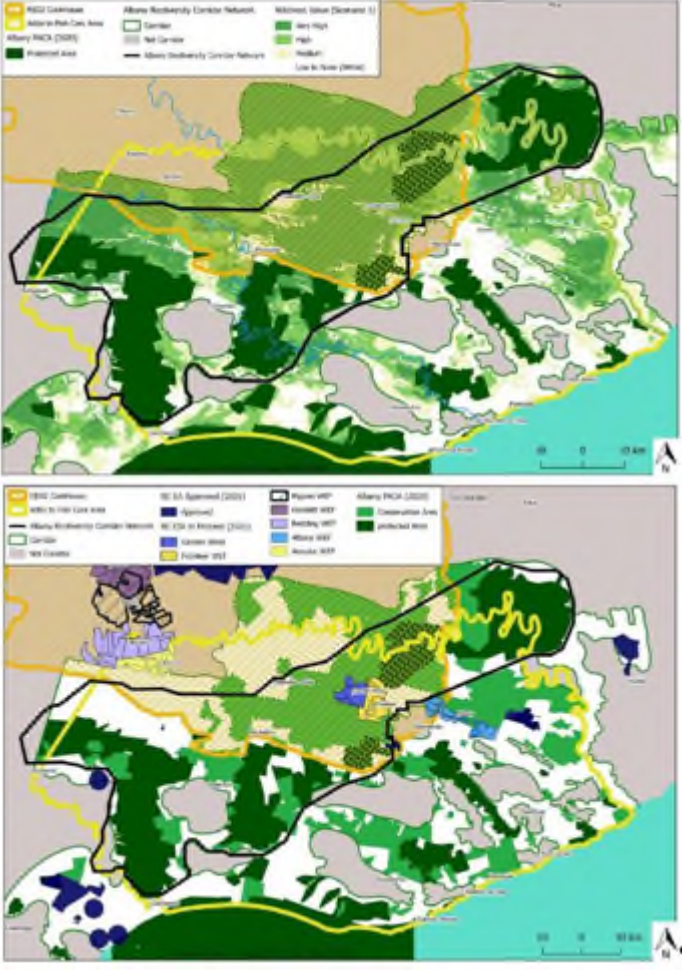
No.	Comment	Raised by	Response
	<p><i>the wind farms on their business performance. Additionally, no complaints about the nearby wind farms were received by the owners from customers. Interviewed product owners further noted that the initial landscape change created a 'visual shock' but, notably the community has come to accept the changes to the landscape.... Additionally, it has been noted in a study performed by Terblanche (2020) that the game farm owners in and around the Cookhouse and Waainek wind farms (located near Cookhouse and Makhanda in the Eastern Cape) had no complaints from guests and have noted no changes to performance of their game farms as a result of the presence of the wind farms. The reason stated for this was that overseas visitors are used to the sight of wind farms and were unlikely to be negatively impacted by their presence".</i></p> <p>AND</p> <p><i>"Terblanche (2020) further indicated that three game farms (including Amakhala) unsuccessfully appealed the Environmental Authorisation of Waainek Wind Farm in 2011 but, since wind farm operation have reported no effects on their eco-tourism and game/hunting business."</i></p> <p>We interpret the statements to imply that the Waainek WEF has no effect on eco-tourism in the area as "three game farms (including Amakhala) unsuccessfully appealed the Environmental Authorisation of Waainek Wind Farm in 2011". This is misleading as it fails to qualify that the Waainek Wind Farm application proposed for <b>27 Turbines which was eventually reduced to 8 Turbines after the appeal.</b></p>		

No.	Comment	Raised by	Response
	<p>We are gravely concerned about the what appears to be cherry picking in both the VIA and SIA where a of false statements and a fallacy incomplete evidence is propagated so as to seemingly confirm a particular position with respect to impact to nature and wildlife tourism while ignoring evidence and data that may contradict that position which Lalibela along with Indalo members have first-hand experience of and which we take exception to.</p> <p>Indalo has retained experts to advise on the Wind Garden Wind Farm and Fronteer Wind Farm BAs and specifically fundamental problems with the Socio-economic Impact Assessment (over and above what has bene set out above already), Visual Impact Assessment, Noise Impact Assessment Avifaunal and Ecological Impact Assessments and will make comprehensive comments.</p>		
	<p>4. OBJECTION</p> <p>Although Indalo strongly supports all sustainable renewable energy development, we object to any development that will prevent the greater Indalo to develop as part of the Albany Mega-Reserve and to take its rightful place as a world class African nature and wildlife destination and curtail or intrude potential protected area expansion through partnership with Addo and Great Fish Provincial reserves.</p> <p>We herewith object to the Wind Garden and Fronteer WEFs BARs as they are materially deficient and various omissions beguiles the assessment to find the proposed development to be acceptable when in fact it is fatally flawed.</p>		<p>The objection to the projects is noted. No further response is required.</p>
29.	<p>ARCC is a registered trust, NPO and SARS registered PBO, in operation since January 2017. ARCC is located in the Eastern Cape of South Africa and operates an holistic conservation programme bringing together protection, awareness, wildlife management,</p>	<p>C.W Fowlds                      African Rhino Community                      Conservation Collaboration</p>	<p>The objection to the proposed wind energy facilities is noted. Responses to specific comments raised are provided in the sections below.</p>



No.	Comment	Raised by	Response
	<p>community participation and law enforcement in a coordinated collaboration of individuals, rural communities, organisations and government to ensure the future of rhino and other wildlife in the wild.</p> <p>On behalf of the Trustees of the ARCC, I should like to express our objection to the proposed Wind Energy Facilities (WEFs) above for the reasons provided in the statements below and linked to the pertaining relevant literature:</p> <p><b>1. The emergent consensus in literature suggests that the optimal location of WEFs ought to be between 10km and 56 km away from landscapes of high wilderness and tourism value</b></p> <p>The proposed WEF's of Wind Garden and Fronteer are sited directly adjacent to landscapes of high wilderness and tourism value of which a significant area is already formally protected. These landscapes and protected areas that lie within 20-25km of the proposed wind energy developments and turbine locations and would have dire consequences for the existing ecotourism economy and jobs in this area based in that the sense of place of a very large area will be substantially transformed into an energy landscape. These landscapes and their wilderness character forms the basis of biodiversity stewardship based protected area establishment and management.</p>	<p>Not undated – attached to e-mail dated 06 May 2021</p>	<p>The visual impact was determined in the context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the game farms and tourism areas). The visual impact was deemed to be high.</p>
	<p><b>2. Depending on landscape specificities, the optimal siting of WEFs might require focusing on already degraded landscapes or landscapes that are not restorable</b></p> <p>The proposed WEF's of Wind Garden and Fronteer are sited on landscapes which are biodiversity rich, and where degraded, are for a large part in process of restoration, and in many areas are fully</p>		<p>The proposed wind farm site is located within the greater vicinity of the Indalo Protected Environment but is not within any protected environment or conservancy itself. The</p>

No.	Comment	Raised by	Response
	<p>restorable, and they lie within the strategic footprint of the proposed Albany Mega Reserve and Albany Biodiversity Corridor (also referred to as Addo to Great Fish Corridor as set out in below figures).</p> <p>The development of these WEF's would fatally compromise the main arm of the various proposed landscape corridors within the Albany Biodiversity Corridor. See map below showing the priority landscape corridor, the "Addo Indalo Great Fish Corridor Priority Area" including wilderness landscape relative to the location of the proposed WEF's.</p>		<p>Eastern Cape Biodiversity Conservation Plan does not include details of the corridor referred to. Although the wind farms would potentially have some impact on the ability to create such a corridor, they do not preclude such. In addition, the ecologist has indicated that the presence of a wind farm would not negate the function of such a corridor.</p>

No.	Comment	Raised by	Response
			
3.	<p>Although findings of studies relating to WEF and nature tourism are mixed, the majority of studies suggest that the economic effects of siting WEFs closer to landscapes of high aesthetic value include loss of ecotourism revenue, reduction in private</p>		<p>The visual impact was determined in the context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES</p>

No.	Comment	Raised by	Response
	<p><b>funding for biodiversity conservation, and loss of current ecotourism jobs as well as future jobs in nature-based tourism and related enterprises.</b></p> <p>The proposed WEF's of Wind Garden and Fronteer are sited on properties directly adjacent to landscapes of high aesthetic value which will undoubtedly result in a loss of existing jobs as well as future sustainable job creation. In Desmet and Vromans (2020) "The Albany Biodiversity Corridor", Page 1 of the summary states "The analysis estimates that up to 150 000 ha of mapped biodiversity economy landscape will be visually impaired by the currently proposed WEF projects. The lost economic opportunity as a result of this WEF impact is estimated to be R955 million turnover per annum and 2535 full-time jobs. The nature-based tourism resource potential analysis illustrates the importance of the natural sense of place as a valuable economic resource that should be valued as a national asset and considered more prominently in land use planning.</p>		<p>(and with specific mention of the game farms and tourism areas). The visual impact was deemed to be high.</p> <p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance) (refer to Sections 6 and 8 (specifically 8.1.2 b, 8.2.2 b, 8.4.2 b and 8.4.4 b) of the SEIA in Appendix L of the Revised BA Report).</p>
	<p><b>4. Evidence suggests that business-people in the ecotourism industry might disinvest in an area following an accepted proposal for, or actual development of a WEF.</b></p> <p>This statement is locally supported by personal communication with three of the direct neighbours of the proposed WEFs who have expressed intent to disinvest partially or completely should the proposed WEF's be sanctioned. It should be noted that these property owners have already substantially invested in tourism infrastructure and facilities.</p>		<p>Comment noted. No further action required.</p>
	<p><b>5. Evidence is mixed about the impact of WEFs on property prices in already degraded, inhabited or transformed landscapes, but no study has examined the effect of property prices in landscapes of high wilderness value. Using evidence based on</b></p>		<p>It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status</p>

No.	Comment	Raised by	Response
	<p><b>transformed landscapes in deciding to locate WEFs in untransformed landscapes is misleading.</b></p> <p>During the public participation process, it was admitted by one of the authors of the socio-economic impact assessment that not a single direct neighbour to the proposed WEF's of Fronteer and Wind Garden had been consulted in their assessment which is in direct contradiction to statement in the report that states quote: "Targeted and structured one-on-one interviews were undertaken as part of the SEIA to collect information from two key groups that are likely to be affected by the proposed wind farm. The first being the landowners whose property will be directly impacted by the development of the wind farm, and the second being the surrounding landowners who may be indirectly impacted by the development of the wind farm."</p> <p>The admission by specialist is unfortunate and tarnishes the integrity of the report and EIA process as a whole, the report is biased and not did not consider input from any of the neighbouring landowners which will be directly impacted by this proposed development does not reflect or consider the effect on property prices of WEF's in landscapes of high wilderness value where livelihoods are supported by wildlife and nature tourism, hunting and other nature activities. Until a proper tourism impact assessment is undertaken that includes impact on current reserves and hunting operations the true socio-economic impact cannot be defensibly estimated. The current socio-economic impact assessment is flawed, the specialist is discredited as well as the study and should be withdrawn and the specialists removed from the team for the sake of maintaining the integrity of the EIA process. We impress upon you that the report need to be withdrawn failing which concerned property owners will</p>		<p>quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs. Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&amp;AP Team and the visual impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area. A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. The updated profile is included in Chapter 3 of the SEIA report included as Appendix L of the Revised BAR. The additional information obtained through this process has been included and considered in the revised SEIA Report.</p>

No.	Comment	Raised by	Response
	<p>take the necessary steps to have the socio-economic impact and EIA that relies thereon to be rejected by the competent authority.</p> <p><b>6. The best evidence suggests that where there is a land use conflict, the precautionary principle would require that policymakers avoid siting WEFs in localities whose socio-economic lifeline is ecotourism and whose landscapes are relatively pristine. Tourists are very sensitive to presence of WEFs in landscapes they cherish for recreational activities and spiritual upliftment.</b></p> <p>There is a devaluation of wildlife and nature tourism offering if WEFs (or any other highly intrusive developments) are allowed to encroach and this will have a substantial impact on livelihoods. There is a known and expressed conflict of interest between the WEF's and the majority of neighbouring properties and protected areas and nature tourism operations within the viewshed of the proposed WEFs. The statement that "the proposed wind farm does not conflict with the current land use of the project site (i.e. the affected properties)" is false as WEFs and wildlife and nature tourism are conflicting land uses and are mutually exclusive. Degradation of the environmental goods and services of reserves upon which nature and wildlife tourism product is based would imply a certain "disinvestment" in the nature and wildlife tourism sub-sector for the regions, the province and even on a national scale. Due consideration is to be afforded to the biodiversity stewardship that nature and wildlife tourism affords the national protected area estate. Therefore, the precautionary principle should require the competent authority to reject this WEF application.</p> <p><b>7. Evidence also suggests that the benefits of WEFs accrue mostly to international and regional economic hubs, but negative effects of WEFs are borne locally, especially in rural economies that are ecotourism dependent.</b></p>		<p><b>Visual Assessment Specialist:</b>                      A larger scale visual impact index map for objecting landowners (indicating the visual exposure) was included in the BA Report (refer to <b>Appendix K</b> of the BA Report).</p> <p>The statement that "the proposed wind farm does not conflict with the current land use of the project site (i.e. the affected properties)", refers to directly affected properties. Additional information on the surrounding area has been included within Chapter 6 of the report in order to add detail on the potential conflict with surrounding land uses.</p> <p>The SEIA study (Appendix L of the BAR) has identified 10 short-term (construction related) impact indicators and 10 operational related socio-economic impact indicators. Over both phases of the proposed development seven</p>

No.	Comment	Raised by	Response
	<p>The proposed WEF's of Wind Garden and Fronteer are stated to have little local benefit to permanent job creation and the local economy when compared to the biodiversity based economy that already exists let alone the growth trajectory pertaining to local employment and economic revenue which is evident in "A study of the conservation, economic and social activities of Indalo Private Game Reserves in the Eastern Cape" by Antrobus &amp; Snowball (2019).</p> <p>Given the volume of science pleading against the proposed WEF's, as well as the clear gaps in applicable data that exist in the understanding of the specific impact of these proposed WEF's, we strongly oppose the application for the development of these WEF's for the reasons listed above; as well as for all those reasons pertaining to impacts known and currently unknown on local fauna and flora, and, therefore, the unique and globally valuable natural biodiversity of this area.</p> <p>Signed for, and on behalf of, the Trustees of the African Rhino Conservation Collaboration on 6th May 2021 in Makana, Eastern Cape</p>		<p>impacts are forecasted to be negative before and after mitigation, while 13 are anticipated to be positive, before and after mitigation. It is concluded that the project is anticipated to make a prominent contribution towards the national and local economy during both construction and operation.</p> <p>The opposition to the project is noted.</p> <p>This is a statement. No response required.</p>
30.	<p>On behalf of the Directors and Partners of the Conservation Landscapes Institute NPC (CLI), I should like to lodge an objection to the location and construction of the Fronteer and Wind Garden Wind Energy Facilities in the Albany Region of the Eastern Cape.</p> <p>CLI is a registered Non-Profit Company, established with the support of the Eastern Cape Parks and Tourism Agency, the Indalo and Buffalo Kloof Protected Environments; the Wilderness Foundation Africa (WFA), the Wildlife Ranchers Association, local NGOs and rural communities, to provide a dedicated vehicle to facilitate the process of forming ecologically connected Conservation</p>	<p>David Peddie                      Conservation Landscape Institute                       Letter: 06 May 2021</p>	<p>The objection is noted. No response required.</p>

No.	Comment	Raised by	Response
	<p>Landscapes, and implementing the range of ecological and socio-economic projects in the A Albany Biosphere that will expand a Nature -Based Economy for the area by:</p> <p>"supporting and facilitating the promotion and advancement of nature conversation, rural socio-economic development and the sustainable utilization of renewable natural resources; and more particularly, the establishment of the Albany Biosphere, including Conservation Landscapes, in a manner that ensures environmental and biodiversity conservation at a landscape scale; climate change mitigation, and the optimization of the socio-economic development and economic empowerment of the peoples of the Eastern Cape."</p> <p>In partnership with the above organizations, local and international academic institutions, and rural communities, the process of amalgamating the private game reserves, game ranches, State Protected Areas and community land into Conservation Landscapes that are of a scale that they can be managed as functional ecosystems, is well under way. Although the various forms of wildlife protected areas already contribute substantially to the conservation of what is a uniquely diverse ecosystem, and to a significant Nature-Based Economy, the Albany Biosphere, with its Conservation Landscapes, is, and will be, an internationally significant contribution to the global effort to avert climate change, biodiversity loss and alleviate poverty.</p> <p>The construction of the Fronteer and Wind Garden WEFs, however, will have a substantial negative influence on one of the most significant economic drivers in the area, namely nature-based tourism and the sustainable utilization of renewable, wild natural resources. The two maps below depict the main priority landscape corridor linking Addo Elephant National Park with the Great Fish River</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance).</p>



No.	Comment	Raised by	Response
	<p>Nature Reserve as well as the relative location of the proposed WEF's within these landscapes. (Reference: Albany Biodiversity Corridor, Desmet &amp; Vromans 2020).</p> <p>In their impact on tourism, and the potential resulting conversion of land to large scale agriculture, which is particularly destructive of the unique biodiversity of the Albany Region, the WEFs will also negatively impact on the growing international interest in investment into ecosystem and biodiversity conservation, carbon sequestration and the attendant mitigation of climate change, that is being generated by the awareness of the state of the global environment, and recurring pandemics. The loss, or diversion, of foreign and local business investment that will result from the withdrawal of existing investment will also have a devastating effect on the opportunities created by a Nature-Based Economy to alleviate poverty through employment and entrepreneurial opportunity - opportunities that a wind farm most definitely does not create. As currently contemplated by two international investors in private game reserves should the wind farms be approved and developed!!!</p> <p>Renewable energy is central to the philosophy and efforts of CLI, but large scale WEFs, such as these, need to be located well away from sites where the option exists for environmentally sensitive and long-term sustainable alternatives. In this case, this is a location where the introduction of WEFs will have a destructive effect on a Nature-Based Economy that is already established and progressing rapidly to a level that will benefit both the local region, the country and the Planet - environmentally and economically. Locations such as the Albany Biosphere, which are uniquely biodiverse and a critical cog in the global plan to avoid the damaging effects of climate change and biodiversity loss,</p>		

No.	Comment	Raised by	Response
	<p>also lend themselves to an innovative application of renewable energy that will make an important contribution to the South Africa's energy supply security. The rural development and land use structure demanded by a Nature-Based Economy, offers the option to create numerous small to medium scale hubs of renewable energy with negligible environmental footprints - independent of, and relieving demand on, the national grid. These sort of options, we would submit, are alternatives to this WEF proposal that will certainly have a major negative impact on a large rural area that is currently creating a model of socio-economic development that is sustainable; which contributes significantly to the global environmental and economic effort to build resilient systems, and which will attract considerable foreign investment that takes much of its "return on investment" in ecosystem services and biodiversity restoration. It is also our contention, therefore, that inadequate consideration has been given to the direct impacts on the environment of the construction of large wind turbines of this design. The construction of the components is off-shore and energy intensive; the transport of these components is dependent on large quantities of fossil fuels and the materials of many of the very large components are not reusable nor biodegradable. These are factors which should come into consideration when the implementation of WEFs of the scale proposed and the location selected, have viable alternatives. I should like to reiterate the opposition of the Conservation Landscapes Institute to these particular WEFs in the strongest possible terms. I also wish to express the hope that common sense prevails, and that the optimum land use and socio-economic development model provided by the Nature-Based Economy existing, and currently under innovative expansion, within and around the area proposed for these WEFs, prevails.</p>		

No.	Comment	Raised by	Response
31.	<p>I am writing this letter of objection to the proposed Fronteer and Wind Garden Wind Farms on behalf of all owners, staff, and interested parties of Buffalo Kloof Private Game Reserve. Buffalo Kloof is a protected area of 20 000ha, protecting a diverse array of fauna and flora, many of which are endangered. It is a privately owned and run business, and our objective is to provide a natural space for endangered animals to thrive and roam free. To sustain this model and fund our conservation projects we offer private Safari Experiences, ethical harvesting, photographic safaris, and an opportunity for guests to understand and contribute to first-hand conservation.</p> <p>Our guests travel from far and wide to visit our reserve and to feel completely immersed in nature. Driving to Buffalo Kloof from either Port Elizabeth or East London the wind turbines will be highly visible. Our concern is that this will impact the quality of the tourism experience and without the income from tourists, we cannot support our staff, protect our wildlife, or support our neighbouring Yendella community, who also have land within Buffalo Kloof and rely on tourism. Many livelihoods depend on the survival of Buffalo Kloof Game Reserve.</p> <p>Buffalo Kloof Private Game Reserve objects for the following reasons:</p> <p>Visual amenity                      Turbines are alien structures in such a picturesque and rural environment. They will become an immediate eyesore on the natural Eastern Cape landscape and ruin the historical views around Makhanda. The distractions will deter visitors from Makhanda as it will lose its valuable tourist appeal and impact local businesses.</p>	<p>Warne Rippon                      Owner: Buffalo Kloof Private Game Reserve</p> <p>Letter: 06 May 2021</p>	<p>The objection to the projects I noted. No further action is required.</p> <p>Buffalo Kloof Private Game Reserve is located more than 20km from the Wind Garden Wind Farm. In terms of the VIA, the visual impact is expected to be of low significance at this distance.</p> <p>Buffalo Kloof Private Game Reserve is located more than 20km from the Wind Garden Wind Farm. In terms of the VIA, the visual impact is expected to be of low significance at this distance.</p>

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	<p>Visual Impact</p> <p>The proposed turbines would be visible for a significant distance, We can see the current wind turbines South West of Buffalo Kloof during the day and the flashing red strobe lights during the night, certainly not aesthetically pleasing.</p>		<p>It must be noted that the VIA recommends the fitment of needs-based night lights in order to mitigate the impact to moderate significance.</p>
	<p>Noise pollution during construction</p> <p>Guests who visit Makanda for big events such as the Arts Festival and school sports festivals will be put off by the noise pollution and an increased number of construction vehicles congesting traffic. Which in tern means fewer day visits to our reserve with less tourism.</p>		<p>Noise from the construction and operation of the wind farms in the areas (operational and proposed) will be inaudible in Makanda (Grahamstown). Noise generated by increased vehicles, human voices, amplified music and voices etc. would dominate.</p>
	<p>Disturbance due to increased traffic during construction.</p> <p>As said above, construction vehicles congesting already damaged roads.</p>		<p>A recommendation of the traffic impact assessment (Appendix M of the BAR) is the regular monitoring and maintenance of roads affected y construction traffic. This is included within the project EMPr (Appendix N of the BAR), and is a legally binding requirement.</p>
	<p>Disturbance of delicate fauna and flora</p> <p>Has a fauna and flora assessment / EIA been done without bias towards the wind farms or the landowners where the wind farms will be placed?</p> <p>Have all fauna and flora species been identified in this area?</p>		<p>An independent biodiversity specialist has undertaken an ecological impact assessment (Appendix D of the BAR). This assessment considers impacts on fauna and flora and ecological systems. All fauna and flora species expected to occur in the study area have been identified (refer to Annex 1 – 4 of the Ecology Impact Assessment report).</p>
	<p>Have the following below been considered?</p> <ul style="list-style-type: none"> <li>- a plant rescue and protection plan;</li> <li>- a re-vegetation and habitat rehabilitation plan;</li> <li>- an alien invasive species management plan;</li> <li>- stormwater and fire management plans; and</li> <li>- traffic and transport management plans for site access roads.</li> </ul>		<p>All plans indicated have been included within the project EMPr (Appendix N of the BAR). Contractors will be required to develop site-specific Method Statements to ensure compliance with these plans.</p>

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	<p>Bird Species which will be killed by the turbines</p> <p>The blue crane which is a vulnerable bird species on the IUCN list, uses Buffalo Kloof and Kwanwe Game Reserve as nesting and breeding sights, traveling to and from. The wind turbines could contribute and accelerate their vulnerable status to endangered. A study must be done on the impact a wind farm would have on these birds.</p>		<p>Impacts on Blue Crane were considered within the Avifauna Impact Assessment (Appendix E of the BAR). The following is stated:</p> <p><i>At Wind Garden, this species was recorded in relative low numbers by all data collection methods. Most important of these are flying birds, 19 records during the 14-months of surveys. No large roost sites were recorded but they roost at night in pairs and small groups in or near small dams on the proposed site.</i></p> <p><i>Based on its' prevalence on site and low flight activity in combination with evidence that the species is fairly adept at avoiding collisions.</i></p> <p><i>This species is considered at Moderate risk.</i></p>
	<p>Bats which will be killed by the turbines</p>		<p>The unfortunate reality is that wind farms may cause bat fatalities, however, the precautionary principal approach is to prevent as many bat fatalities as possible so that it doesn't affect the overall population. The most effective way to mitigate bat fatalities is the correct placement of turbines, constant monitoring of fatalities (including which species are getting killed) and adaptive mitigation plans for wind farm operations. This is the universal approach and has been proven effective, if appropriate mitigation plans are approved and included as part of the EA.</p>
	<p>The inevitability that more turbines will be constructed</p>		<p>The broader area is designated as a Renewable Energy Development Zone (REDZ). Each project is however still required to be supported by a detailed Environmental Impact Assessment process (including public consultation) in support of application for Environmental Authorisation.</p>

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	<p>Possibility of our elephant herds being negatively affected, due to the seismic vibrations according to various studies. Will a study be conducted? Kwandwe Private Game Reserve, Kariega Game Reserve, Pumba Game Reserve have elephants too.</p>		<p>The Noise Impact Assessment report (Appendix J of the BAR) briefly discusses Noise Impact on Animals in section 7.1.</p> <p>The following should be noted: · There are no noise limits or guidelines that can be used to determine what noise levels will impact on animals. · There are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals. · Animal communication is generally the highest during no and low wind conditions. It has been hypothesized that this is one of the reasons why birds sing so much in the mornings (their voices carry the farthest and there are generally less observable wind).</p> <p>The site is windy and this generates significant noise itself and also significantly changes the ability of fauna to hear the environmental noises around them. · Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.).</p> <p>In February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive. · Wind is a significant source of natural noise, with</p>

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			<p>a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range. · Wind turbines does not emit broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed. · The wind turbines will only operate during periods of higher wind speeds, a period when background noise levels are already elevated due to wind-induced noises. · The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with periods of higher winds also correlating with lower faunal activity, particularly with regard to communication. · This fact is also discussed in Garstang, 2003<sup>1</sup> that discuss the role that wind play in determining the range and detection of elephant communication.</p>
	<p>Health</p> <p>Several physicians from around the world - e.g., Amanda Harry in England, Robert McMurtry in Ontario, Robyn Phipps in New Zealand - have recorded a common set of health effects among people living near industrial-scale wind turbines. The symptoms began when local turbines began to turn, and they are relieved when the victims leave the area. The symptoms include: sleep disturbance, panic episodes, ear pressure, dizziness, vertigo, nausea, tachycardia, tinnitus. Dr. Nina Pierpont of New York has called it "wind turbine syndrome" and determined that its primary cause is the effect of low-frequency wind turbine noise on the organs. Dr. Pierpont's work has led her to recommend that large wind turbines not be sited</p>		<p>Twenty-five peer-reviewed studies have found that living near wind turbines does not pose a risk on human health<sup>2</sup>. The studies looked at a range of health effects from hearing loss, nausea, and sleep disorders to dizziness, blood pressure, tinnitus, and more.</p> <p>The study, published in the June issue of The Journal of the Acoustical Society of America , found no direct link between residents' distance from wind turbines in Ontario and Prince Edward Island and sleep disturbances, blood pressure, or stress.</p> <p><a href="https://www.pbs.org/wgbh/nova/article/can-wind-turbines-make-you-sick/">(https://www.pbs.org/wgbh/nova/article/can-wind-turbines-make-you-sick/)</a>.</p>

<sup>1</sup> Garstang, M. Long-distance, low-frequency elephant communication. J Comp Physiol A 190, 791–805 (2004). <https://doi.org/10.1007/s00359-004-0553-0>

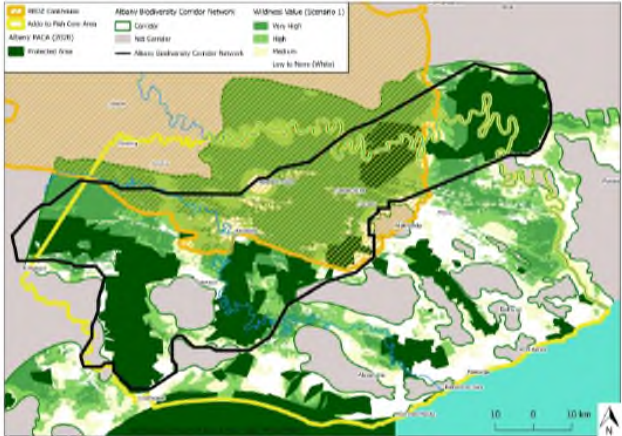
<sup>2</sup> Summary of main conclusions reached in 25 reviews of the research literature on wind farms and health. Compiled by Prof Simon Chapman, School of Public Health and Teresa Simonetti, Sydney University Medical School

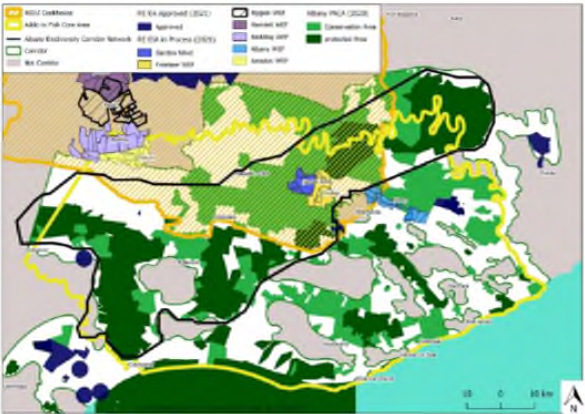
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	<p>closer than 2 kilometres (1-1/4 miles) from a home. It is also a severe risk to anyone with epilepsy.</p> <p>Whilst we are not against the harnessing of natural energy in an attempt to lower carbon emissions, we do feel there is a strong case against the effects on local residences, tourism and other business.</p> <p>I request that all local residents' issues and concerns raised are taken into account. Surely the protection of South Africa's endangered species, ecosystems, and habitats are critically important? Our eco-systems and wildlife are central to mankind's survival - without these, the wind farm is a fruitless endeavour. Please reconsider these wind farms, I am sure there are other areas more suited.</p>		<p>Further to the above, the County of San Diego Public Health Position Statement: Human Health Effects of Wind Turbines includes a review of the literature to examine the latest research to anticipate and prevent harmful effects, and instead maximize potential health benefits, of emerging energy systems, such as wind turbines. The reviewers concluded that the available scientific evidence suggests that low-frequency noise and infrasound, EMF, and shadow flicker from wind turbines are not likely to affect human health. Based on the available research, it is reaffirmed that the current state of research indicates no conclusive, direct, causal link between wind turbines and adverse health outcomes or impacts<sup>3</sup>.</p> <p>Comment noted. No further action required.</p> <p>In accordance with the requirements of the EIA Regulations, all comments received during the public participation process are included as part of the BA Report which is submitted to the DFFE for review and decision-making.</p>
32.	<p><b>Cover letter to comments:</b>                      We are commenting on the Wind Garden Wind Farm and Fronteer Wind Farm (DFFE Ref.No.:14/12/16/3/3/1/2314 and 14/12/16/3/3/1/2315 respectively) as a concerned association of protected areas, as landowners, a concerned group of wildlife tourism operators which constitutes the Indalo Protected Environment.</p>	<p>Neale Howarth                      Conservation and Foundation Manager                      INDALO Protected Environment Chair                       Letter: 07 May 2021</p>	<p>Comment noted. In accordance with the requirements of the EIA Regulations, all comments received during the public participation process are included as part of the BA Report which is submitted to the DFFE for review and decision-making.</p>

<sup>3</sup> <https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/2019%20Public%20Health%20Position%20Statement%20on%20Human%20Health%20Effects%20of%20Wind%20Turbines.pdf>



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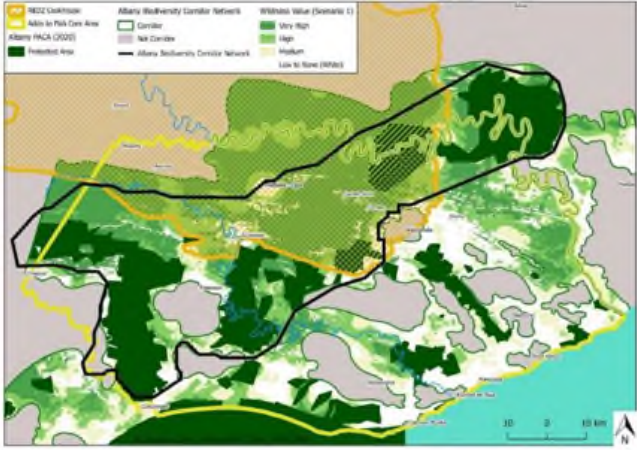
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	<p>Albany Biodiversity Corridor or Addo to Great Fish Corridor as set out in below figures).</p> <p>Great Fish Provincial Reserves in the south and north respectively with common traversing agreements and unified conservation management as part of the so-called Albany Mega-Reserve (also referred to as Albany Biodiversity Corridor or Addo to Great Fish Corridor as set out in below figures).</p> 		

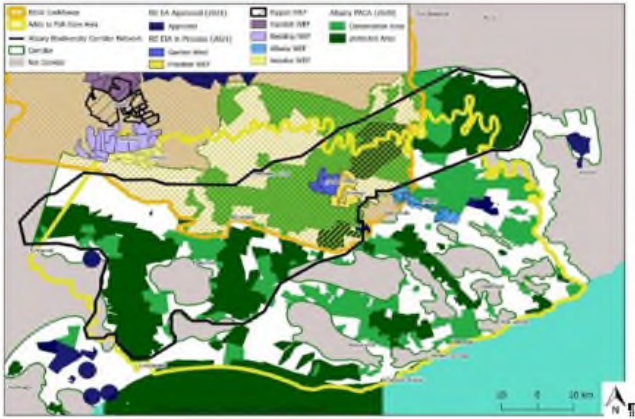
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	 <p>Under cover of this letter, we detailed comment on the Draft BA EIR report and specialist studies supporting the application.</p> <p>The Indalo Protected PGR Association as custodian of the Indalo Protected Environment herewith provides preliminary comment and places on record that the EIR and specialist studies are deficient to the extent that these inadequacies are covering up fatal flaws in the application, if these material deficiencies were to be addressed it would become clear that the development would obstruct the development of the Albany Mega-Reserve, degrade the scenic value of the area and devalue its unique nature and wilderness tourism product and substantially impact on biodiversity which Indalo is obligated to protect. Accordingly, Indalo is categorically in favour of the outright refusal of the WEFs based upon the grounds set out in this comment on BAR.</p> <p>In other words, Indalo favours the ultimate, most effective mitigation measure for the WEFs and the fatal flaws that they hold in terms of</p>		

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	<p>impact to the Indalo Protected Areas neighbouring game farms and their potential for expansion and integration into the larger Albany Mega-Reserve, is by avoiding the WEFs through their outright refusal.</p>		
	<p><b>Preliminary Comments on the Wind Garden and Fronteer Wind Energy Facility EIA Process – Inadequacies in EIR and Specialist Studies – May 2021:</b></p> <p><b>INTRODUCTION</b></p> <p>The Indalo Protected Environment (“Indalo”) is made up of the 9 Private Game Reserves (“PGRs”) belonging to different landowners. The 9 PGRs are located over 3 local municipalities in the Sarah Baartman District Municipality of the Eastern Cape Province of the RSA as indicated and form a corridor between the Addo National Park (Addo”) and the Great Fish River Provincial Nature Reserve (“Great Fish”).</p> <p>Based on government’s Protected Area Expansion Strategy, Buffer zones and Biodiversity Stewardship Programme discussed in this Comment. Specifically the Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks (“Biodiversity and Buffer Zone Strategy”), applies.1 Indalo is currently actively working with local provincial and national partners including the Wilderness Foundation South Africa, Eastern Cape Park and Tourism Agency (“ECPTA”) and SA National Parks (“SANParks”) to expand areas under protection. This includes further amalgamation of the southern, central and northern nodes of Indalo into large agglomerations (&gt;50 000Ha) of private reserves in the central node and private/public reserves by forming public-private partnerships with Addo and the Great Fish (and various provincial nature reserves) in the south and north respectively.</p> <p>Like Addo and the Great Fish, the Indalo Protected Environment and the PGRs that is comprised of are concerned with nature and</p>	<p>T Fischer                      EScience Associates (Pty) Ltd                      and                      J.H.E. Basson                      Ernest Basson Attorneys Inc.</p> <p>May 2021</p>	<p>Comments noted. No further action required.</p>

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	<p>wildlife tourism as a key protected area goods and service (as are many other reserves in South Africa and in Africa in general). Likewise, the Indalo PGRs are managed according to a Protected Area Management Plan but instead of in part relying on public funds like Addo and Great Fish, they must secure funding from internal resources.</p> <p>These resources are derived from nature and wildlife tourism which is dependent on a natural environment largely free from the structures and signs of modern civilisation (often from which the tourists come to get away to find solitude, tranquillity and serenity). Wind energy development characterised by colossal skyline intrusion will impose a significant divestment on Indalo members impacted and curtail wildlife and nature tourism enabled protected area expansion.</p> <p>INDALO PROTECTED ENVIRONMENT HISTORY</p> <p>The Indalo Protected Environment ("PE") is made up of the 9 PGRs reflected in the Table below.<sup>2</sup></p> <p>Table: Private Game Reserves forming part of the Indalo Protected Environment</p> <table border="1"> <thead> <tr> <th>No</th> <th>Name</th> <th>Size hectares</th> <th>Local Municipality</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Amakhala Game Reserve</td> <td>9,733.7</td> <td>Sundays River Valley, Makana</td> </tr> <tr> <td>2.</td> <td>Hopewell Game Reserve</td> <td>2,730.94</td> <td>Sundays River Valley</td> </tr> <tr> <td>3</td> <td>Kariega Game Reserve</td> <td>7,936.78</td> <td>Ndlambe, Makana</td> </tr> <tr> <td>4.</td> <td>Kwandwe Game Reserve</td> <td>18,988.04</td> <td>Makana</td> </tr> <tr> <td>5.</td> <td>Oceana Beach and Wildlife Reserve</td> <td>724.72</td> <td>Ndlambe</td> </tr> <tr> <td>6.</td> <td>Pumba Game Reserve</td> <td>5,837.10</td> <td>Makana</td> </tr> <tr> <td>7.</td> <td>Shamwari Game Reserve</td> <td>20,338.58</td> <td>Sundays River Valley, Makana</td> </tr> <tr> <td>8.</td> <td>Sibuya Game Reserve</td> <td>1,785.23</td> <td>Ndlambe</td> </tr> <tr> <td>9.</td> <td>Lalibela Game Reserve</td> <td>8,001.46</td> <td>Makana</td> </tr> <tr> <td></td> <td>TOTAL</td> <td>76,076.59</td> <td></td> </tr> </tbody> </table>	No	Name	Size hectares	Local Municipality	1.	Amakhala Game Reserve	9,733.7	Sundays River Valley, Makana	2.	Hopewell Game Reserve	2,730.94	Sundays River Valley	3	Kariega Game Reserve	7,936.78	Ndlambe, Makana	4.	Kwandwe Game Reserve	18,988.04	Makana	5.	Oceana Beach and Wildlife Reserve	724.72	Ndlambe	6.	Pumba Game Reserve	5,837.10	Makana	7.	Shamwari Game Reserve	20,338.58	Sundays River Valley, Makana	8.	Sibuya Game Reserve	1,785.23	Ndlambe	9.	Lalibela Game Reserve	8,001.46	Makana		TOTAL	76,076.59			
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	<p>The PGRs that form the Indalo PE are classified as game and natural lodges for tourism purposes. The Tourism Grading Council of South Africa (TGCSA) regards "Private Nature Reserves" as part of "Game or Nature Lodges". The visual and scenic quality of the natural environment of the PGRs (along with wildlife and hotel specifications), are part of the minimum requirements to be a Game or Nature Lodge.</p> <p>"Scenic or natural vista (beyond that of the immediate garden area) e.g.: water view, rural outlook, mountain view or natural bush setting offering some Safari Activity such as Game Drives, Walking, Cycling, Horseback, Canoeing etc."3 [Our emphasis.]</p> <p>The unique background, character, nature-based tourism services, and community development by Indalo PGRs are well appreciated by national and regional authorities. Indalo PGRs have made a substantial contribution towards increasing areas under formal protection and contributing to achieve targets set in provincial and national protected area expansion strategies. Indalo PGRs reflect a proud history of financial investment and selfless personal commitment, dedication and service over many years by owners and personnel that have established and developed the different reserves as world class nature-based tourism destinations through ethical management of their biodiversity and natural environments. Protecting the unspoiled scenic and natural vistas of their unique natural environments were and are pivotal for the Indalo PGRs to establish and maintain their international reputation as malaria free wilderness tourism destinations of choice. This Comment demonstrates that the proposed location for the proposed Wind Energy Facilities ("WEFs") will significantly affect the unique wilderness experience of some of the PGRs, which may cause serious economic harm to some parties</p>		

No.	Comment	Raised by	Response
	 <p>Indalo is currently actively working with local provincial and national partners including the Wilderness Foundation South Africa, ECPTA and SANParks to expand areas under protection through further amalgamation of southern, central and northern nodes into large agglomerations of private reserves (&gt;50 000Ha) in central area, and public private partnerships with Addo National Park and Great Fish Provincial Reserves in the south and north respectively with common traversing agreements and unified conservation management as part of the so-called Albany Mega-Reserve (also referred to as Albany Biodiversity Corridor or Addo to Great Fish Corridor as set out in below figures also indicating planned WEFs).</p>		

No.	Comment	Raised by	Response
	 <p>2.1.5 One of the main objectives of the expansion plan is to enable common traversing agreements and unified conservation management through the dropping of fences between PGRs and Protected Areas. This is only realistic if areas expand to the extent that larger areas of reserve become contiguous and objectives have been set for short, medium and long term:</p> <p>Short term:</p> <ol style="list-style-type: none"> <li>Combining land in the central - between Lalibela and Pumba will require areas of 2500 ha; and</li> <li>Combining land between Lalibela and Shamwari 2x 3500 ha.</li> </ol> <p>Medium term:</p> <ol style="list-style-type: none"> <li>Combining land targeted by the National Protected Area expansion strategy between Shamwari, Lalibela, Pumba and Kwandwe of 50 000 ha; and</li> <li>Inclusion of key biodiversity conservation nodes and wilderness areas characterised by high scenic quality and low levels of intrusion –</li> </ol>		



No.	Comment	Raised by	Response
	<p>i. to the north and east of Addo;</p> <p>ii. around Great Fish and south along the Fish River; and</p> <p>Long term:</p> <p>a. Linking up with the Garden Route National Park via Baviaanskloof Mega Reserve (short-listed for World Heritage Site status)</p> <p>b. Linking with the protected areas in the Amathole Biosphere Reserve.</p> <p>To this effect a formal protected area expansion strategy is under development by various stakeholders including Wilderness Foundation Africa, ECPTA, SANParks and Indalo PGR Association that will guide protected area expansion, inform land-use planning, stimulate economic development and aide thicket restoration in the broader Albany region</p> <p>The environmental and economic benefits associated with the agglomerations (&gt;50 000Ha) of private reserves and expansion through private partnerships with Addo in the south and the Great Fish in the north are considerable. Not only will this form a Mega Eastern Cape Protected Area as larger consolidated areas will lead to improved marketability of the Eastern Cape as a world class safari destination, making it comparable to Kruger, Sabi Sands and Madikwe. As much as wind energy development is necessary in South Africa, we hold wind energy development in Addo, Great Fish, Indalo and their further extended areas to be untenable and undesirable that should be avoided at all cost.</p> <p>LEGAL STATUS</p> <p>Proclamation: Indalo was declared on 13 April 2018 as a Protected Area, Category Protected Environment, in terms of section 28(1)(a)(i) and (b) of the National Environmental Management: Protected Areas Act, No. 57 of 2003 ("NEMPAA"), by the Member of</p>		

No.	Comment	Raised by	Response
	<p>the Executive Council ("MEC") for Economic Development, Environmental Affairs and Tourism, in the Eastern Cape Province.<sup>4</sup></p> <p>Indalo Association: The MEC assigned his power as Management Authority of the Indalo PE to the Indalo Association in terms of section 38(2)(b) of NEMPAA.<sup>5</sup> The ECPTA, an agency of the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism ("DEDEAT"), entered into an agreement with the Indalo Private Game Reserve Association that the Indalo PE becomes a Biodiversity Stewardship site.</p> <p>Stewardship Agreement: The Indalo Stewardship Agreement with the state forms an important part of the Indalo PE legal framework (read with the national and provincial biodiversity and conservation law, policies and programmes discussed below) that must be taken into consideration by the Department of Forestry Fisheries and Environment ("DFFE") and the EAP in evaluating the EIA for the WEF developments. Section 8 of the Indalo Protected Area Management Plan ("PAMP") sets out certain restrictions on landowners in Indalo based on legislation and the Biodiversity Stewardship Agreement with the ECPTA. It specifically prohibits the placement of wind turbines for the generation of renewable energy inside Indalo. This prohibition on wind turbines inside Indalo addresses the same negative environmental impacts which Indalo demonstrates in this Comment that the location of the WEFs outside of the Indalo PE will have on the surrounding Protected Areas (including Indalo) and consequently should be situated elsewhere than the proposed site in the EIR.</p> <p>LEGAL FRAMEWORK</p> <p>The EAP recommends in section 12.6 of the BARs that the proposed WEFs be authorised (subject to the conditions). The EAP's recommendation is wrong, since the BAR is fundamentally flawed as demonstrated below and thus in contravention of the prescribed above legal provisions. The EAP, and the DFFE as the competent</p>		<p>Comment noted. Landowners would only be bound by the restrictions referred to if the property is included in the PE and the Indalo Stewardship Agreement entered into by the landowner. This is not the case with the directly affected properties.</p> <p>The opinion of the stakeholder regarding the conclusion of the report is noted. Responses to specific comments are provided below.</p>

No.	Comment	Raised by	Response
	<p>authority, are required to consider, evaluate, and respectively recommend or decide, the applications for EA against the prescribed legal framework which is summarised below.</p> <p>Constitutional norms: The Constitution is the supreme law in South Africa and hence the starting point in interpreting any legislation.8 Section 39(1) of the Constitution stipulates that the interpretation of the Bill of Rights (environmental rights in section 24 referred to below) must promote the values that underlie an open and democratic society based on human dignity, equality and freedom. International law must, and foreign law may, be considered during interpretation.</p> <p>This Comment demonstrates below that the legal (National Policy review) by the BA EIR is totally biased and covers almost exclusively energy policy and is conspicuously devoid of any reference to protected area management and expansion, biodiversity conservation and serves as a particularly poor basis for considering the impact of wind energy facilities on protected areas and nature-based tourism.</p> <p>Furthermore, section 39(2) requires that the spirit, purport and objects of the Bill of Rights, which is the cornerstone of our society, most be promoted during legal interpretation. Hence the courts prescribe a purposive interpretation of the legal provisions regulating the EIA of the WEF applications measured within their larger statutory context and against the fundamental constitutional values. It is submitted that a purposive and contextual value based interpretation of environmental principles and the EIA requirements in NEMA justifies the use of international best environmental practice ("BPEO") standards for WEFs such as by the World Bank Group (International Finance Corporation ("IFC")) that will discussed infra.</p>		<p>The requirement of the EIA Regulations is for (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments.</p> <p>As the proposed activity relates to a renewable energy development, which also has implications in terms of climate change, these aspects are focussed on in accordance with the requirements of the Regulations.</p>

No.	Comment	Raised by	Response
	<p>Right to well-being: Section 24 of the Constitution provides the fundamental normative foundation for environmental protection and conservation in South Africa by guaranteeing specific environmental rights to everyone. Section 24(a) protects the right to an environment that is not harmful to a person's health or well-being. The right to wellbeing is relevant to the WEFs because a person's well-being includes protection of the aesthetic quality of human life against nuisances such as odour, noise or visual pollution. This Comment indicates that where the WEFs will cause significant visual impact and degradation of protected area tourism goods and services (through impact of the aesthetic quality of the wilderness quality of the environment and the natural or wilderness experience of persons staying in or visiting the surrounding protected areas (including Indalo, Great Fish and Addo). The visual disturbance will affect the right to well-being which cannot be justified in an open and democratic society based on human dignity, equality, and individual freedom. Consequently, the WEFs should not be allowed to be developed on the proposed lease areas but the developers should seek leases in alternative locations with suitable wind resource where these will not have a significant on protected area goods and services and associated impact on people's right to well-being.</p> <p>Right to dignity: Section 10 of the Constitution also protects the human dignity of a person. The significant impact of the WEFs on the aesthetic quality and well-being of affected persons in section 24(a) of the Constitution by necessary implication also unjustifiably impair their human dignity. There is a direct relationship between the quality of the natural environment that a person is exposed to and the quality of that person's well-being and human dignity. Significant impacts of the former impair the latter. A person cannot have a dignified living (including a touristic experience) in a natural environment that is significantly visually polluted or degraded as will</p>		<p>All issues identified within the DFFE screening report (as required in terms of GN R960 (promulgated on 5 July 2019) and Regulation 16(1)(b)(v) of the 2014 EIA Regulations (as amended)) have been assessed within the BA Report (refer to Section 7.4 of the BA report). Therefore, all key impacts of the project have been identified and assessed.</p> <p>The outcomes of the assessment, and inputs from the public participation process are presented to the DFFE for review and decision-making. It is the DFFE who will determine whether the project can be authorised or not.</p>

No.	Comment	Raised by	Response
	<p>be brought about by the WEFs. Moreover, so in the present case where the unique wilderness character of the natural environment of the Indalo Protected Environment and Great Fish Provincial Nature Reserve will be permanently degraded by the proposed WEFs.</p> <p>Right to environmental protection: Section 24(b) of the Constitution guarantees the right to environmental protection. It places a constitutional obligation on the state to protect the environment for the sake of present and as well as future generations through reasonable measures that includes legislation that: (i) prevent pollution and ecological degradation; (ii) promote conservation and (iii) secure ecological sustainable development and use of natural resources whilst promoting justifiable economic and social development. Thus, the constitutional principle of inter- and intragenerational conservation trusteeship places a clear legal duty on the DFFE (and other competent authorities e.g. SANParks, SANBI, ECPTA and local municipalities) to act as custodians of the natural environment and conservation by taking the necessary steps that may be required to ensure short and long-term environmental protection of the Indalo, Great Fish and Addo Protected Areas in the Eastern Cape Province. The court confirmed this principle in the Fuel Retailers case:</p> <p>"The importance of the protection of the environment cannot be gainsaid. Its protection is vital to the enjoyment of the other rights contained in the Bill of Rights; indeed, it is vital to life itself. It must therefore be protected for the benefit of the present and future generations. The present generation holds the earth in trust for the next generation. This trusteeship position carries with it the responsibility to look after the environment. It is the duty of the court to ensure that this responsibility is carried out."<sup>9</sup> [Own emphasis.]</p>		

No.	Comment	Raised by	Response
	<p>Sustainable development: Section 24(b)(iii) of the Constitution provides an exception to the right to environmental protection by acknowledging the right of the Applicant to the WEFs, but subject to the important proviso that it must be ecological sustainable. The right to sustainable development is one of the core environmental and economic principles in the Constitution and in South African law and is further guaranteed in the environmental principles in section 2(4) of NEMA that contain fundamental directives of state action, the principle of integrated environmental management in sections 23 and 24 of NEMA and the relevant EIA Regulations as well as various provisions of the specific environmental management acts ("SEMA's") and other legislation that provides environmental regulation of economic development. Sustainable development is defined by NEMA as the "integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations."</p>		<p>The comment is noted. No response required.</p>
	<p>The right to sustainable development requires that both the EAP in the EIR as well as the DFFE through its decision, to strike a fair balance or equilibrium (as explained by the courts) between environmental protection of the affected Protected Areas and the economic development of the WEFs. In light of the serious concerns and fatal flaws of the EIR to ensure proper environmental protection, it is clear that the EAP (and some specialists) had failed to comply with the integration requirement of the section 24(b) of the Constitution and section 2(4) of NEMA. Based on the supplementary information provided by Indalo in this submission, an informed and fair balancing of the Applicant's right to develop the WEFs vis-a-vis Indalo's (and the Protected Areas') and visitors' right to environmental protection and ecological conservation clearly shows that the environmental rights outweighs the development right at the proposed location.</p>		<p>All issues identified within the DFFE screening report (as required in terms of GN R960 (promulgated on 5 July 2019) and Regulation 16(1)(b)(v) of the 2014 EIA Regulations (as amended)) have been assessed within the BA Report (refer to Section 7.4 of the BA report). Therefore, all key impacts of the project have been identified and assessed. The findings of all studies are integrated into the BA Report (refer to Chapters 8-12 of the BAR), and a cost-benefit analysis is presented in Chapter 12 (Section 12.4).</p> <p>The outcomes of the assessment, and inputs from the public participation process are presented to the DFFE for review and decision-making. It is the DFFE who will determine whether the project can be authorised or not.</p>

No.	Comment	Raised by	Response
	<p>Neighbour law: The common law regulates the conduct between neighbours to prevent the unlawful and unreasonable impairment of each other's undisturbed enjoyment of their property due to noise, visual or odour pollution or other conduct by a neighbour. This common law duty of care by a landowner or user towards neighbours is based on the <i>sic utere tuo</i> doctrine. Failure by the intruding neighbour to cease the nuisance affecting the neighbouring property can result in interdictory relief by a court of law and in worse cases payment of compensation by Aquilian action for the damages caused by the interference. In the present matter the Protected Areas precede the proposed WEFs. Also, the EAP has been duly informed (through this Comment) of the expansion programme to create the Eastern Cape Mega Protected Area. Thus, the WEF must respect the historic rights and legitimate interests of Indalo and the other Protected Areas. (The expansion of Protected Areas and creation of buffer zones are prescribed by the existing law and government have developed and is implementing expansion policies, strategies and plans over many years (discussed below).) It is Indalo's view that negative environmental impacts of the WEF will cause a significant and permanent impairment of the undisturbed enjoyment of the Indalo and Great Fish Protected Areas as well as of the future Mega Protected Area.</p>		<p>Comment noted. The impact assessment considered impacts on the directly affected and surrounding properties.</p> <p>The visual impact was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be moderate to high.</p> <p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance).</p> <p>Although the wind farms would potentially have some impact on the ability to create a biodiversity corridor, they do not preclude such. In addition, the ecologist has indicated that the presence of a wind farm would not negate the function of such a corridor.</p>
	<p>NEMA: As required by section 24(b) of the Constitution, various laws were promulgated that ensure protection of the environmental during the Albany Wind Farm development. Primary are NEMA and the EIA Regulations which in the present case provide the overall national legislative framework. Section 2 of NEMA contains fundamental environmental principles, that the EAP must consider when considering the environmental impacts for the EIR and the DFFE when deciding the Wind Farm application to ensure proper environmental protection. Sections 24(4) and 24O of NEMA provide the criteria for the EIR, including compliance with NEMA (integrated</p>		<p>The BA process for the project has been undertaken in accordance with the requirements of the EIA Regulations (as detailed in Chapter 7 of the BA Report).</p>

No.	Comment	Raised by	Response
	<p>environmental management and mainstreaming of conservation management in section 23, the polluter's duty of environmental care in section 28), EIA Regulations, SEMAS and other regulations and notices as specified below. The EIA Regulations contain detail requirements for EIA studies e.g. to demonstrate the need and desirability of undertaking the proposed activity, assess alternatives (including location, technology and content), public comment, asses direct, indirect and cumulative impacts of the development, and take into account any applicable government policies, plans, guidelines, environmental management instruments, and other decision-making instruments that have been adopted by the competent authorities. We indicate below the failure by the EIR to comply with specific EIA requirements.</p>		
	<p>Various SEMAs apply to important aspects of the Indalo, Great Fish and Addo Protected Areas in the present matter e.g. to conservation (NEMPAA), protection of biological diversity (National Environmental Management: Biodiversity Act, No. 10 of 2004 ("NEMBA")), management of water resources (National Water Act, No. 36 of 1998 ("NWA")), waste management (National Environmental Management: Waste Act ("NEMWA")), management of coastal areas (National Environmental Management: Integrated Coastal Management Act, No. 24 of 2008 ("ICMA")), etc. (Not a complete list.) Provincial environmental and conservation legislation in the Eastern Cape Province adds a further layer of legislative control. In addition, national legislation such as for spatial development planning (permission for change of land-use by section 26(4) of the Spatial Planning and Land Use Management Act, No. 16 of 2013 ("SPLUMA")) and the by-laws and spatial development frameworks ("SDFs") of the Sundays River Valley, Makana and Ndlambe local municipalities provide additional protection to these Protected Areas.</p>		<p>The proposed wind farm site is located within the greater vicinity of the Indalo Protected Environment but is not within any protected environment or conservancy itself.</p> <p>Not all legislation listed by the stakeholder is of relevance to the project. All legislation which informed the scope and content of the BA Report are detailed in Chapter 7 of the BA Report.</p>



No.	Comment	Raised by	Response
	<p>Conservation: The conservation of biodiversity is primarily regulated by NEMPAA and NEMBA which should be interpreted and applied in an integrated manner in support of each other's legislative purpose and objectives. Both laws emphasise the state's constitutional obligation as the national trustee for the environment to protect and conserve biological diversity, natural landscapes and seascapes as well as the species and ecosystems therein and ensure the sustainable use of indigenous biological resources. All state institutions in the national, provincial and municipal spheres of government must comply with the provisions of these Acts, their regulations, norms and standards, frameworks, strategies, conservation policies and management instruments. The provisions of NEMBA and NEMPAA prevail over conflicting provisions of any national, provincial or municipal laws e.g. provincial spatial biodiversity plans, Sara Baartman District Municipality and Makana Local Municipal integrated development plans ("IDPs") and the Makana Local Municipal SDF.<sup>11</sup> NEMBA and NEMPAA must be interpreted and applied in accordance with the national environmental management principles of NEMA as well as be read with its applicable provisions.<sup>12</sup> In the Mabola case the court confirmed the objectives of NEMPAA in section 2 are –</p> <p>"the provision, within the framework of national legislation, including NEMA, for the declaration and management of protected areas, to provide for cooperative governance in the declaration and management of such areas, including the promotion of sustainable utilisation of protected areas for the benefit of people in a manner that would preserve the ecological character of such areas."<sup>13</sup></p> <p>[Own emphasis]</p>		<p>All legislation which informed the scope and content of the BA Report are detailed in Chapter 7 of the BA Report.</p>
	<p>Conservation obligations: Section 17 of NEMPAA is important for the evaluation of the environmental impact of the WEF with respect to the Indalo, Great Fish and Addo Protected Areas. It specifies the</p>		<p>The proposed wind farm site is located within the greater vicinity of the Indalo Protected Environment but is not within any protected environment or conservancy itself. The</p>

No.	Comment	Raised by	Response
	<p>legal purposes which these Protected Areas are obligated to fulfil, i.e. –</p> <p>“(a) to protect ecologically viable areas representative of South Africa’s biological diversity and its natural landscapes and seascapes in a system of protected areas;</p> <p>(b) to preserve the ecological integrity of those areas;</p> <p>(c) to conserve biodiversity in those areas;</p> <p>(d) to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa;</p> <p>(e) to protect South Africa’s threatened or rare species;</p> <p>(f) to protect an area which is vulnerable or ecologically sensitive;</p> <p>(g) to assist in ensuring the sustained supply of environmental goods and services;</p> <p>(h) to provide for the sustainable use of natural and biological resources;</p> <p>(i) to create or augment destinations for nature-based tourism;</p> <p>(j) to manage the interrelationship between natural environmental biodiversity, human settlement and economic development;</p> <p>(k) generally, to contribute to human, social, cultural, spiritual and economic development; or</p> <p>(l) to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species.” [Own emphasis.]</p>		<p>provisions of NEMPAA are therefore not applicable to this development.</p>
	<p>Protected Area Obligations: Section 28(2) of NEMPAA stipulates that the Indalo PE may only be declared for the following purposes, -</p> <p>“(a) to regulate the area as a buffer zone for the conservation and protection of a ... national park, MPA, ... or nature reserve;</p> <p>(b) to enable owners of the land to take collective action to conserve biodiversity on their land and to seek legal recognition therefor;</p>		<p>The proposed wind farm site is located within the greater vicinity of the Indalo Protected Environment but is not within any protected environment or conservancy itself. The provisions of NEMPAA are therefore not applicable to this development.</p>

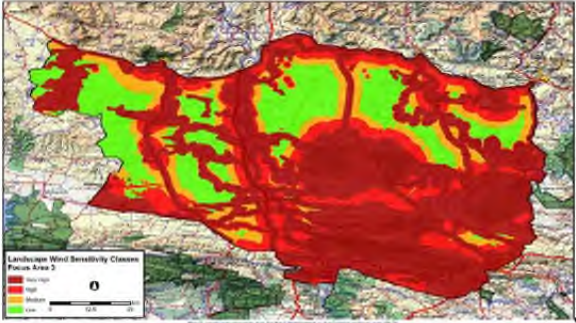
No.	Comment	Raised by	Response
	<p>(c) to protect the area if it is sensitive to development due to its (i) biological diversity, (ii) natural characteristics, (iii) scientific, cultural, historical, archaeological or geological value, (iv) scenic and landscape value, or (v) provision of environmental goods and services;</p> <p>(d) to protect a specific ecosystem outside of a national park, or nature reserve;</p> <p>(e) to ensure that the use of natural resources in the area is sustainable; or</p> <p>(f) to control change in land use in the area if the area is earmarked for declaration as, or inclusion in, a national park or nature reserve." [Own emphasis.]</p>		
	<p>All the purposes in section 17 of NEMPAA apply to Indalo, Great Fish and Addo. The underlined provisions of section 17 require that Indalo and the other Protected Areas must, (i) provide environmental goods and services, (ii) create an environment that is conducive for nature-based tourism, and (iii) ensure ecological sustainable social and economic development takes place. Similarly, the purposes in section 28(2) of NEMPAA apply specifically to the Indalo. This means that Indalo must (i) form a buffer zone between the Addo and Great Fish, (ii) enable the different PGRs inside Indalo to conserve their biodiversity, (iii) protect sensitive areas in respect of economic development e.g. areas with scenic and landscape value, and (iv) provide environmental goods and services.</p>		<p>The applicability of the comment to the proposed project is unclear as this refers to the obligations of Indalo, Great Fish and Addo and not to the project developer.</p>
	<p>Legal error: Indalo objects against approval of the WEFs because the development will prevent Indalo from fulfilling its statutory obligations (purposes) in sections 17 and 28 of NEMPAA. (This is also the case for the Great Fish and Addo in respect of their obligations under section 17.) This is so because the environmental impact of the WEF will affect the ability of the Protected Areas to adequately provide some of the environmental goods and services (e.g. game</p>		<p>The objection of Indalo and the reasons therefore are noted. No further action required.</p>

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	<p>drives and walks, experiencing wildlife in their natural habitat, nature photography, wildlife education, game cuisine and cultural interaction with local communities), will significantly affect nature-based tourism and is not ecologically, socially and economically sustainable because it will cause the reduction of visitors to some of the Indalo PGRs and Protected Areas. In this regard we refer to the negative effect of the Waaihoek WEF on tourism to Pumba (see Pumba letter attached) which confirm these risks as real and not miniscule or theoretical as appears to be the impression created in the EIR and SIA.</p> <p>Unlawful and unconstitutional conduct: The recommendation by the EAP in the EIR contains a material legal error that will have an unlawful and unconstitutional legal effect if the DFFE approves the application. The EAP's recommendation to the DFFE to provide conditional environmental authorisation (EA) for the development of the WEFs will affect the ability of Indalo and the other Protected Areas to comply with their legal obligations under section 17 and 28 of NEMPAA, respectively (as underlined). This effect by the environment authorisation will be contrary to the rule of law, and thus unlawful and unconstitutional conduct. If the Applicant receives EA for the Albany Wind Farm development, Indalo reserves its right to have it set aside on internal appeal to the Minister, or on judicial review in terms of sections 6(2)(d) and (i) of the Promotion of Administrative Justice Act, 3 of 2000 ("PAJA") as well as the right to obtain interdictory relief where necessary.</p> <p>NEMBA: NEMBA regulates the legal classification and permitting system for the protection of threatened ecosystems and species in South Africa. It also provides the legal framework for integrated and</p>		<p>The BA process for the project has been undertaken in accordance with the requirements of the EIA Regulations. All issues identified within the DFFE screening report (as required in terms of GN R960 (promulgated on 5 July 2019) and Regulation 16(1)(b)(v) of the 2014 EIA Regulations (as amended)) have been assessed within the BA Report (refer to Section 7.4 of the BA report). Therefore, all key impacts of the project have been identified and assessed. The findings of all studies are integrated into the BA Report (refer to Chapters 8-12 of the BAR), and a cost-benefit analysis is presented in Chapter 12 (Section 12.4). The conclusion of the EAP is based on the conclusions of the specialist studies undertaken which do not identify any environmental fatal flaws.</p> <p>The outcomes of the assessment, and inputs from the public participation process are presented to the DFFE for review and decision-making. It is the DFFE who will determine whether the project can be authorised or not.</p> <p>Responses to specific comments are provided in the sections below.</p>

No.	Comment	Raised by	Response
	<p>coordinated planning, monitoring of biodiversity conservation and protection through 3 instruments: (i) the national biodiversity framework (provide national norms and standards to all organs of state, communities and the private sector throughout the country), (ii) bioregional plans (maps for specific geographic areas that identify Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs") with guidelines for land use, and (iii) biodiversity management plans (to protect listed threatened ecosystems, indigenous species and special categories in specific cases). Indalo indicates below important gaps in the assessment of the avifaunal impact of the WEF which will contravene the statutory obligations of the WEF in terms of NEMBA and its regulations.</p>		
	<p>Protected Area Expansion: The National Protected Area Expansion Strategy ("NPAES") in 2008 provides the national policy framework for the integrated and coordinated expansion and consolidation of the Protected Areas under NEMPAA through ecosystem specific expansion targets. Extended Protected Areas provide important ecosystem goods and services e.g. production of clean water, flood moderation, preventative erosion, carbon storage and protection of the aesthetic value of the landscape. NPAES identified the Baviaans-Addo Area (Focus Area Nr. 3) for protection of 7 biomes in the Eastern Cape as a suitable Protected Area expansion area (and includes the Albany Thicket biome). The Eastern Cape Provincial Areas Expansion Strategy, 2012 ("ECPAES") was developed by ECPTA to implement the terrestrial objectives of NPAES in the EC Province. ECPAES mapped 20 priority areas and developed a realistic implementation plan over the next 5 years for focus areas of high, medium and low precedence that include the Greater Addo and the Great Fish Protected Areas. The Indalo PE is included in the proposed expansion of the Protected Areas by ECPAES. Thus, the aforesaid national and provincial expansion programs provide the legal basis for the creation over time of a Mega Protected Area</p>		<p>The proposed wind farm site is located within the greater vicinity of the Indalo Protected Environment but is not within any protected environment or conservancy itself. Further, the site is not located within an area identified for the NPEAS.</p> <p>Although the wind farms would potentially have some impact on the ability to create a biodiversity corridor, they do not preclude such. In addition, the ecologist has indicated that the presence of a wind farm would not negate the function of such a corridor.</p>

No.	Comment	Raised by	Response
	<p>in the Eastern Cape. The EIR is deficient because it does not adequality assess and consider how the expansion of the Protected Areas will be impacted by the development of the WEFs at the proposed location.</p>		
	<p>Buffer Zones: The expansion of Protected Area is complimented by a strategy to create buffer zones to National and Provincial Parks such as for Addo and Great Fish. The ecological landscapes of the Parks continue into the surrounding region and their viability as Parks depend on their social, economic and ecologic integration into the surrounding region. Once declared and gazetted, the buffer zones will provide legal mechanisms to regulate development in that area e.g. to prevent the negative impacts of intruding developments. As indicated section 28(2) of NEMPAA provides that one of the purposes of the Indalo PE was to form a buffer zone with the Addo and Great Fish. To this effect a formal protected area expansion strategy is under development by various stakeholders including the Wilderness Foundation Africa, ECPTA, SANParks, and the Indalo Association. The EIR does not adequality assess and consider how the proposed development of the WEFs will impact on the proposed Albany Mega-Reserve (Addo - Great Fish Corridor /Albany Biodiversity Corridor).</p>		<p>As the expanded protected area and buffer zones are not yet gazetted, the extent of these is not known. The proposed wind farm site is located within the greater vicinity of the Indalo Protected Environment but is not within any declared protected environment or conservancy itself.</p> <p>Although the wind farms would potentially have some impact on the ability to create a biodiversity corridor, they do not preclude such. In addition, the ecologist has indicated that the presence of a wind farm would not negate the function of such a corridor.</p>
	<p>EC Biodiversity Plan: The draft EC Biodiversity Strategy and Action Plan, 2017 for the protection of threatened or protected ecosystems was gazetted in 2018 for comment and is based on a comprehensive technical report known as the EC Biodiversity Conservation Plan, 2017. Once adopted these 2017 Plans will replace the outdated EC Biodiversity Conservation Plan of 2007 which is presently still in force. The 2017 Plans emphasise the importance of private conservation areas to the conservation of biodiversity and their contribution to the regional economy and its further expansion process. The 2017 Plans provide a systematic Spatial Biological Assessment ("SBA") that generated and mapped</p>		<p>The Eastern Cape Biodiversity Conservation Plan, 2019 (available on the SANBI website) does not include details of the corridor referred to. CBAs defined in terms of this plan were considered within the ecology impact assessment (Appendix D of the BAR).</p>

No.	Comment	Raised by	Response
	<p>(down to district level) spatial terrestrial and aquatic CBA and ESA priorities based on biodiversity patterns, ecological processes, current and future land uses and the PA network. It provides a matrix of guidelines for recommended land use types and activities that have been linked to SPLUMA land uses (Spatial Biodiversity Land Use Guidelines" ("SBLUG")) based on their impacts measured against the management objectives of the CBAs and ESAs.</p>		
	<p>The state's constitutional duty to ensure intergenerational environmental equity is not limited to climate change adaptation programmes such as the promotion of renewable energy (the WEFs), but it has the concomitant fundamental obligation to protect and conserve the environment by ensuring the ecological sustainability of the natural and wilderness environment – even against negative impacts of renewable energy projects such as the WEF. The EIR is one sided because it only focuses on the former and does not strike a fair balance between climate change adaptation and long-term environmental conservation and protection envisaged by the Protected Area expansion programme as discussed above.</p>		<p>The BA process for the project has been undertaken in accordance with the requirements of the EIA Regulations. All issues identified within the DFFE screening report (as required in terms of GN R960 (promulgated on 5 July 2019) and Regulation 16(1)(b)(v) of the 2014 EIA Regulations (as amended)) have been assessed within the BA Report (refer to Section 7.4 of the BA report). Therefore, all key impacts of the project have been identified and assessed. The findings of all studies are integrated into the BA Report (refer to Chapters 8-12 of the BAR), and a cost-benefit analysis is presented in Chapter 12 (Section 12.4). The conclusion of the EAP is based on the conclusions of the specialist studies undertaken which do not identify any environmental fatal flaws.</p> <p>The outcomes of the assessment, and inputs from the public participation process are presented to the DFFE for review and decision-making. It is the DFFE who will determine whether the project can be authorised or not.</p>
	<p>COMMENTS OF SPECIALIST STUDIES                  VISUAL IMPACT ASSESSMENT                  Requirements: A Visual Impact Assessment (VIA) has to be fit for purpose and needs to determine visual impact "significance" with respect to both the local as well as regional importance of the landscape and features the landscape is comprised of, the relative</p>		<p>Responses to specific comments are provided in the sections below.</p>

No.	Comment	Raised by	Response
	<p>pristineness of landscape and features comprising and their contribution to sense of place. The VIAs for the WEFs did not meet these objectives, are defective and must be rejected.</p> <p>Identification of sensitive receptors: The VIAs show potential sensitive receptors in Map 6. However, the identification of the receptors is totally inadequate. The potential impact on the Great Fish River Provincial Nature Reserve has been completely omitted for example.</p> <p>Vantage points: Poor selection of vantage points and complete omission of the Great Fish Provincial Nature Reserve are material deficiencies in the Report. The absence of the Great Fish is conspicuous, and the deficiency is of such a nature that it beggars' belief. The actual impact wildlife and nature tourism operations in the area would be an externality of fatal proportions.</p>		<p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. No objections (that the VIA specialist is aware of) were received from the Great Fish PNR.</p> <p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. No objections (that the VIA specialist is aware of) were received from the Great Fish PNR.</p> <p>It is recommended that a visual exposure map be created for the Great Fish PNR, focussing on the reserve itself, in order to indicate areas of potential visual impact. The VIA specialist needs to be provided with potential sensitive receptor sites (e.g. viewpoints, lodges, etc.) within the reserve, in order to determine the potential magnitude of visual impact.</p>
	 <p>Landscape sensitivity and Cookhouse REDZ: Although the BARs and VIAs make much about the fact that the development is in part</p>		<p>The purpose of the REDZ is indicated as:</p> <p><i>“areas where large scale wind and solar PV energy facilities can be developed in terms of SIP 8 and in a manner that limits significant negative impacts on the environment, while yielding the highest possible socio-economic benefits to the country.”</i></p> <p>Based on the statement above it is clear that the Cookhouse REDZ is a contradiction in terms. Why are these areas included in the REDZ if they have very high and high visual sensitivity? The REDZ therefore ultimately does not</p>



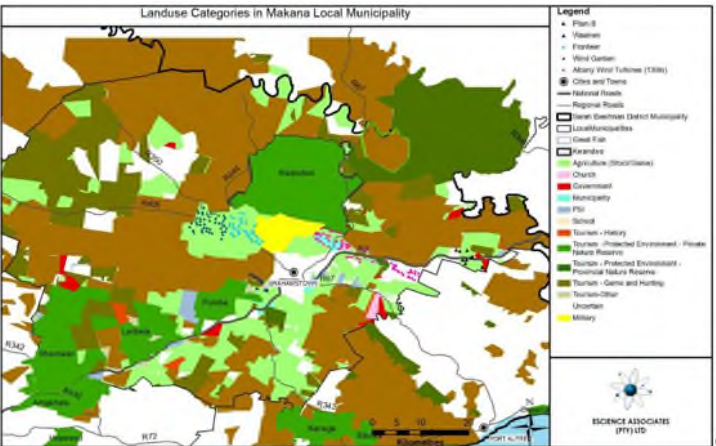
No.	Comment	Raised by	Response
	<p>located within the Cookhouse REDZ, it should be noted that the REDZ visual sensitivity mapping at the regional scale indicate that the WEFs receiving environment is categorised as 'very high visual sensitivity'. (Our emphasis.) This means that it is not ideally suitable for wind farm development where the wilderness character forms the basis for wildlife and nature tourism (and more so if this is the basis for Protected Area establishment and upkeep by biodiversity stewardship). This is a further example that the BARs and VIAs are fatally flawed due to its failure to scientifically contextualise the WEF development amidst the existing and planned expansion of Protected Areas.</p>		<p>serve its purpose and fails to live up to the above description thereof and does not delineate the area it purports to be.</p> <p>Additional to this the VIA states: <i>"The combined visual impact or cumulative impact of up to four wind energy facilities (i.e. the existing Waainek WEF, and the proposed Wind Garden, Fronteer and Albany WEFs) is expected to increase the area of potential visual impact within the region. The intensity of visual impact (number of turbines visible) to exposed receptors, especially those located within a 5-10km radius of the proposed Wind Garden WEF, is expected to increase when considered in conjunction with the other existing or proposed WEFs. <b>The fact that these WEFs are located within a REDZ is not likely to mitigate the potential visual impact on affected sensitive visual receptors."</b></i></p>
	<p>Assessment of Significance of Visual Impact: Firstly, the VIA omits/hides the impact to views that generally have both a high scenic and wilderness value that may be appreciated from Great Fish and Kwandwe and many other locations.</p> <p>a) The failure of the VIAs to identify the significant impact of the WEF on the general views of the Great Fish and Kwandwe and specifically on the Great Fish's research stations view as shown above is a material and fatal flaw.</p> <p>b) These undisturbed landscape views form part of the unique wilderness experience for ecotourism to the Great Fish and Indalo Protected Areas that would be permanently disturbed by the WEFs. For this reason alone, the application to develop the WEF is not desirable at this location and should be refused by DEFF.</p>		<p>The visual impact was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be moderate to high.</p> <p>A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections (including Kwandwe). No objections (that the VIA specialist is aware of) were received from the Great Fish PNR.</p>
	<p>Deficiencies in visual impact consideration: The following additional problems with the veracity of the VIA need to be pointed out:</p>		<p>The comment is noted and no further action is required.</p>

No.	Comment	Raised by	Response
	<p>a) Turbine blade and their dynamics: The dynamic aspect of wind turbine blade motion has not been considered as a contributor to visual impact whereas Sullivan found that contributed significantly to visual prominence of wind turbines at distances of up to 24 km; 14 others have identified wind turbine blade as a significant attractor of visual attention and a factor that increases perceived visual contrast from wind facilities. 15</p>		
	<p>b) Atmospheric perspective: It is well understood that humans judge distance to objects in the landscape in part by assessing the effects of atmospheric perspective, the decrease in contrast between an object and its background as distance increases. As distance increases, the colours of the object become less distinct and shift toward the background colour, usually blue or gray. Atmospheric perspective is an important cue for an observer to determine relative distance of objects in the landscape. The loss of sharpness and lower contrast of photographs relative to in-situ viewing may exaggerate the effects of atmospheric perspective, thus may affect the perception of scale and distance to objects in the landscape, making them appear farther away than they actually are. 16</p>		<p>The visual impact will be determined for the highest impact-operating scenario (worst-case scenario) and varying climatic conditions (i.e. different seasons, weather conditions, etc.) will not be considered.</p>
	<p>Lifespan of wind energy facility: Consideration of the likely development lifespan indicates a project life of 20-25 years which is flawed. The Report does not consider the reality of turbines and wind energy technology development and turbine tower and blade advances which make application of taller and larger bladed turbines more economical. Typically wind farms are redeveloped during their productive lifespans for example by raising and increasing blade diameter. This means that the expected lifespan of the WEFs are longer than 25 years and can even be permanent but with increasing visual impacts as the towers are lifted.</p>		<p>The comment is noted, and no further action is required.</p>

No.	Comment	Raised by	Response
	<p>Mitigation: The VIAs indicate, in relation to the visual impact on sensitive receptors that "No mitigation of this impact is possible (i.e. the structures will be visible regardless)". However, the alternatives evaluation is neglected and specifically omits to consider turbines of lower hub-height and reduced visibility. A reduced hub height operating at a site of good wind resource may still compete with a turbine of higher hub height at a site with poorer wind resource.</p>		<p>A site screening exercise was undertaken and avoidance measures were partially implemented based on the visual sensitivity assessment (2020-05-21 – <i>Visual Sensitivity Assessment</i> - attached) by the project proponent when they produced the final layout. This assessment identified problem turbines and listed them. Recommendations were also made in terms of the preferred turbine alternatives and dimensions (<i>Preliminary comparative viewshed analyses and visual assessment</i> (May 2020) (attached).</p>
	<p><b>SOCIO-ECONOMIC ASSESSMENT</b>                      During the public participation process, it was admitted by one of the authors of the socio-economic impact assessment that not a single direct neighbour to the proposed WEF's of Fronteer and Wind Garden had been consulted in their assessment which is in direct contradiction to statement in the report that states quote: "Targeted and structured one-on-one interviews were undertaken as part of the SEIA to collect information from two key groups that are likely to be affected by the proposed wind farm. The first being the landowners whose property will be directly impacted by the development of the wind farm, and the second being the surrounding landowners who may be indirectly impacted by the development of the wind farm."</p>		<p>It was acknowledged during the Public Participation Meetings held in March 2020 that additional consultation was required with landowners and representatives of properties and businesses that fall within the viewshed of the two proposed WEFs so as to provide a more thorough status quo of the economic activities and enterprises operating within the immediate vicinity of the proposed WEFs. Between and March and May 2021 a database of farm portions and corresponding ownership was developed in conjunction with the Savannah I&amp;AP Team and the visual impact specialist. The intention of this database formulation, and subsequent contact with landowners was to solicit business, and enterprise-specific data from each owner/representative, so as to better understand the economic activity and employment dynamics of the area.</p>
	<p>The admission by specialist is unfortunate and tarnishes the integrity of the report and EIA process as a whole, the report is biased and not did not consider input from any of the neighbouring landowners which will be directly impacted by this proposed development does not reflect consider the effect on property prices of WEF's in landscapes of high wilderness value where livelihoods are supported by wildlife and nature tourism, hunting and other nature activities. Until a proper tourism impact assessment is undertaken that includes impact on current reserves and hunting operations the true socio-economic impact cannot be defensibly estimated. The</p>		<p>A combination of telephonic interviews, online survey tool and face-to-face engagements has been conducted. The updated profile will be included in Chapter 3 of the SEIA report (Appendix L of the Revised BAR). The additional information obtained has been included and considered within the revised SEIA Report.</p>

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	<p>current socio-economic impact assessment is flawed, the specialist is discredited and the study should be withdrawn and the specialists removed from the team for the sake of maintaining the integrity of the EIA process. We impress upon you that the report need to be withdrawn failing which concerned property owners will take the necessary steps to have the socio-economic impact and EIA that relies thereon to be rejected by the competent authority.</p>		
	<p>International Research: A substantial volume of research concerning wilderness tourism and renewable energy have been performed in Iceland and are relevant for the Albany Wind Farm development. The finding of the SIA Specialist indicates that “[n]o evidence is presented to support the assertion that any wind farm development overseas has resulted in any adverse impact on tourism”. This finding is not correct for wilderness tourism because evidence about wilderness tourism in Iceland (as opposed to general tourism) shows the following.</p>		<p>It is acknowledged that limited, if any, academically published research is available in a South African context which considers the specific impact of wind farms on the safari/wildlife/ecotourism-specific industry. The draft SEIA studies has presented and referenced up to 19 published studies providing perspective as to the impacts of wind farms on the tourism industry and property values in various countries. The cross-section of literature reviewed in Chapter 6 of the SEIA cannot simply be dismissed. Several commonalities between the study areas considered in the literature, and the study area dynamics of this area should be appreciated, these include:</p>
	<p>Visitors have reported satisfaction with “present settings and preferred to protect the area from development to ensure the provision of currently available recreational opportunities”.</p>		
	<p>Surveys “indicate that one-third of the travellers would be less likely to visit the Southern Highlands if a proposed wind farm were built, and two-thirds think that wind turbines would decrease the area's attractiveness”.<sup>18</sup></p>		<ul style="list-style-type: none"> <li>» The regional origin of tourists is similar i.e., both sets of tourists originate in the majority from European/British Isles.</li> </ul>
	<p>A more recent study reporting on a follow-up survey concludes that “[t]he results indicate that residents are more positive than tourists towards wind turbines and consider them less intrusive in the landscape”.<sup>19</sup></p>		<ul style="list-style-type: none"> <li>» Study areas in the literature are predominantly rural in nature</li> <li>» The tourism industry in each of the respective countries, like in a South African context, is recognised as an economic driver</li> </ul>
	<p>This Icelandic study also found that –</p> <ul style="list-style-type: none"> <li>i) Wind turbines reduce the naturalness of a landscape and the quality of wilderness.</li> <li>ii) Residents and tourists consider landscape without power plant infrastructure more beautiful.</li> </ul>		<ul style="list-style-type: none"> <li>» A dominant characteristic of many of the study areas considered in the literature, is that the respective areas' scenic vistas and sense of place are an important</li> </ul>

No.	Comment	Raised by	Response
	<p>iii) Tolerance level towards landscape change is higher among residents than tourists.</p> <p>iv) Economic reasons are likely to influence residents' opinion on wind energy production.</p> <p>It is suggested that the SIA Specialist, the EAP and ultimately the DEFF, should rather draw parallels from Iceland which is a popular international wilderness tourism destination.</p> <p>Nature Tourism: The SIA Specialist study fails to consider the extent of nature and wildlife based tourism.</p> <p>Nature and wildlife tourism of formally Protected Areas, Provincial as well as Private Protected Areas as well as game farms and hunting outfits rely on visual and scenic quality of the natural environment which is confirmed by the Tourism Grading Council of South Africa which emphasise the visual and scenic quality to be graded as five and four star "Game or Nature Lodges".</p> <p>A land use map derived from the Makana Local Municipality property valuation roll in the SIA Specialist study of 2020 indicates that most of all parcels of land use in a radius of 5, 10 and 20 km are tourism related.</p>		<p>drawcard for tourists looking to enjoy the natural environment.</p> <p>Several I&amp;APs have acknowledged one specific study (Broekel &amp; Alfken, 2015) that they feel emphasises the negative correlation between presence of turbines and tourist visitor numbers. This study (Gone with the wind? The impact of wind turbines on tourism demand (Broekel &amp; Alfken, 2015)) has been added to Section 6.1 of the revised SEIA report included in Appendix L of the Revised BA Report.</p> <p>The comments on the international studies by the stakeholder are noted. No response required.</p> <p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance) (refer to Sections 6 and 8 (specifically 8.1.2 b, 8.2.2 b, 8.4.2 b and 8.4.4 b) of the SEIA in Appendix L of the Revised BA Report).</p> <p>The comment is noted. No further action required.</p>

No.	Comment	Raised by	Response
			
	<p>Indalo's Economic Impact Assessment: Indalo has formed views on economic impact as follows:</p> <p>The main economic concern of the Protected Areas and PGRs (as well as potential Protected Area expansion) is the potential devaluation of their tourism offering if wind energy facilities (or any other highly intrusive developments) are allowed to encroach on the Indalo Protected Area nature tourism and other environmental goods and service offerings.</p>		<p>The SEIA (Appendix L of the BAR) includes an assessment of impacts on property values. The impact ratings attributed to property values as a result of the change in the visual environment is based on an aggregation of the impact across the entire development area. Individual impacts for specific entities/properties may be higher or lower than the overall rating presented.</p>
	<p>Although nature and wildlife tourism services and products don't constitute the entire tourism product of the of Sundays River, Ndlambe and Makana Local Municipalities, it contributes the majority of tourism products and services (and a large part of this is from Protected Area environmental goods and services, principally from Addo, Indalo and Great Fish).</p>		<p>The findings of the SEIA study concluded that the likely impacts both during construction and operation of the proposed WEFs on the tourism industry and property values are anticipated to be negative (medium and low significance) (refer to Sections 6 and 8 (specifically 8.1.2 b, 8.2.2 b, 8.4.2 b and 8.4.4 b) of the SEIA in Appendix L of the Revised BA Report).</p>
	<p>Degradation of the environmental goods and services upon which tourism is based would imply a certain "disinvestment" in the nature and wildlife sub-sector for the respective regions, the province and even on a national scale. Accordingly, due consideration is to be</p>		

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	<p>afforded to the biodiversity stewardship that nature and wildlife tourism affords the national estate.</p> <p>Although the WEF contribution to Gross Value Added is notably higher than that of the PGRs, the difference disappears when production taxes and subsidies are incorporated to derive the comprehensive (GDP) view on the economy.</p>		<p>GDP is calculated by taking production, adding subsidies and subtracting taxes. The comment regarding subsidies and taxes is noted but data to support this assertion would need to be analysed at a granular level of national accounting, which is not readily available outside of the National Treasury and the Reserve Bank. Much of the national account data would be shown at an aggregated level and could not be disaggregated down to draw out information on WEFs specifically.</p> <p>The SEIA provides a qualitative perspective to enhance the understanding of the potential benefits that will be derived through the value chain as a result of the WEF investments and subsequent contribution that the projects will have in alleviating load shedding, stabilising energy supply for key industries etc. The direct production impacts linked to committed SED are also detailed within Chapter 3, the majority of which are expected to be experienced within the local Makana LM, and specifically within the tourism and conservation related industries.</p> <p>Further to the point regarding PGRs GDP contributions, the SEIA makes reference to the fact that according to ECSECC 2017, from a district-wide perspective the contribution of the tourism economy to the regional economy in terms of total spending as a percentage of GDP, has reduced from 13.8% in 2006 to 7.4% a decade later.</p>
	<p>WEFs have a low employment contingent and employ few skilled personnel. From an employment point of view, it would be distinctly better to promote PGRs than to deploy WEFs. Investment in PGRs</p>		<p>Economic impacts associated with the wind energy facility are not only associated with employment. The SEIA Report</p>

No.	Comment	Raised by	Response
	<p>would generate about three times as many employment opportunities than WEFs. The “disinvestment” argument is equally applicable, i.e. if PGRs should be devalued by the choice to deploy WEFs, it could lead to a significant reduction in net direct, indirect and induced employment in the region.</p>		<p>details the economic impact of the project being associated with the following:</p> <ul style="list-style-type: none"> <li>» Construction:                             <ul style="list-style-type: none"> <li>* Temporary stimulation of the national and local economy</li> <li>* Temporary increase employment in the national and local economies</li> <li>* Contribution to skills development in the country and local economy</li> <li>* Temporary increase in household earnings</li> <li>* Temporary increase in government revenue</li> </ul> </li> <li>» Operation:                             <ul style="list-style-type: none"> <li>* Sustainable increase in production and GDP nationally and locally</li> <li>* Creation of sustainable employment positions nationally and locally</li> <li>* Skills development of permanently employed workers</li> <li>* Improved standards of living for benefiting household</li> <li>* Sustainable increase in national and local government revenue</li> <li>* Local economic and social development benefits derived from the project's operations</li> <li>* Sustainable rental revenue for farms where wind farms are located</li> <li>* Provision of electricity for future development</li> </ul> </li> </ul>
	<p>A compromise between PGR and WEF development (investment) could be a desirable solution. It might be opportune to consider the deployment of PV technology rather than wind energy facilities, as this has a lower impact on the wilderness character of the region.</p>		<p>The developer is committed to community enrichment and upliftment through their SED/ED spending and has developed a conservation framework detailing the support</p>



No.	Comment	Raised by	Response
	<p>Alternatively, if the WEFs could be deployed sufficiently distant from nature and wildlife tourism-based operators, to avoid impacting the wilderness character and its tourism value and sterilising future protected area expansion. Combined land use, that does not imply a reduction in environmental goods and services (or quality of environmental goods and services), should ideally be pursued.</p>		<p>planned for the conservation industry in the area (refer to Appendix R(6) of the BAR for details.</p>
	<p>AVIFAUNAL IMPACT ASSESSMENT                      Minimum requirements for avifaunal assessments: In terms of meeting the minimum requirements for avifaunal assessments which is deemed to be a requirement for providing adequate information for making informed decision, the Avifaunal Assessments lacks the following key consideration:</p> <p>a) Assessment of fatalities from surrounding WEFs in general and specifically not of the nearby Waainek Wind Energy Facility.</p>		<p>The whole point in obtaining baseline data on key species flight activity at a site is to enable a site-specific assessment to be made. Generalised values across other wind farms are of very limited use in predicting collision risk at other sites without information on bird activity at the site.</p>
	<p>b) Conditions to which the statement of approval or disapproval are subject is not included.</p>		<p>Section 15 of the AIA states “we are confident in recommending that the Wind Garden Wind Farm can be authorised subject to the implementation of the recommended mitigation measures”. Mitigation measures recommended for implementation are detailed in Sections 12 and 13.</p>
	<p>c) We do not see adequate consideration of potential impact to soaring birds and specifically soaring modes in raptors especially along ridgelines or where turbine wake effects will impact flight and hunt.</p>		<p>Details of the methodology to collect data and analysis of data is provided in Sections 7 and 8 of the AIA (Appendix E of the BAR). This included Collision Risk Modelling to predict potential impact on avifauna recorded in the study area.</p>
	<p>d) No reference was made to SANBI's Species Environmental Assessment Guidelines (2020), Perold et al. 2020 (which summarises the diversity of birds killed by turbine collisions in South Africa) and BirdLife South Africa's Guidelines on Black Harrier and Wind Energy. None of the scientific papers by Dr Murgatroyd, South Africa's leading expert on Verreaux's Eagle, despite the potential risk the proposed development poses to this species.</p>		<p>Recent references have been added to the revised AIA (Appendix E of the Revised BAR), including discussion of Murgatroyd et al's 2021 Verreaux's Eagle modelling work.</p> <p>It must be noted that the paper by Dr Murgatroyd has only just been published and post-dates most of the analytical work that was carried out for the assessment. The approach that it takes is actually very similar to that which we have</p>

No.	Comment	Raised by	Response
			<p>adopted (though we have used local survey data rather than data on tagged individuals). Both studies model eagle flight activity spatially on the basis of environmental conditions such as topography and distance from the nest. Our site-based spatial modelling has been used to inform the site design, based on data from the wind farm site itself. BLSA notes that the paper "suggests that a precautionary buffer of 5.2km would be more appropriate". However, as set out in the Murgatroyd et al. paper, even that enlarged distance of 5.2km only captured 50% of reported collisions. As the paper concludes:</p> <p><i>"Our collision risk potential (CRP) model included the variables distance to nest, distance to conspecific nest, slope, distance to slope and elevation. Using our model, rather than a circular buffer, resulted in c. 4%–5% improvement in eagle protection while excluding development from the same amount (but not shape) of area. For an equal level of eagle protection, our model can make c. 20%–21% more area available for wind energy development compared to a circular buffer."</i></p> <p>If the Verreux's Eagle Risk Assessment Model can be made available, we would be pleased use it to help inform the assessment for this species. Unfortunately, the paper as published describing that model does not include sufficient detail to be able to replicate it without further information on the model parameters.</p> <p>What is clear, however, is that even adopting very wide buffers, the collision risk to eagles is not removed and that a residual collision risk will remain. That will remain the case</p>

No.	Comment	Raised by	Response
			<p>however much modelling and analysis is carried out, as both Murgatroyd et al's work and our own local studies have shown that these birds range widely from their nests. Avoiding the close proximity to nests can reduce the risk, but not remove it altogether.</p>
	<p>e) The predicted impacts are not contextualised through reference to the local or regional population size, background mortality, and/or population viability analysis. One cannot come to a defensible conclusion of the significance of the impact without this context.</p>		<p>As stated in the report (Appendix E of the BAR), it was not considered possible to carry out a detailed population analysis on any of the species at this site because of a lack of data on the key species from local population studies. We are not aware of such information being available (or presented in any other avifaunal assessments in this region). Rather an alternative approach was taken, making a professional judgement on the collision impacts, informed by the predicted risk from the collision modelling. If the data inputs for such an approach could be agreed with BLSA then these analyses could be undertaken, and we would welcome their contribution. However, it is also important to consider the final point raised here about zero fatalities. Collision risk modelling will never show zero risk unless there are no flight at all at risk height through the site, so whatever is done in this respect a mitigation package will be needed to deliver that zero risk.</p>
	<p>f) Turbine layout alternatives were not considered as a mitigation measure to minimise avifaunal impacts.</p>		<p>Sensitivities identified through the pre-construction monitoring were considered within the development of the proposed layout. The proposed layout therefore already incorporates the required mitigation (i.e. avoidance of defined buffers and minimisation of turbines within cautionary buffers). This is in line with the mitigation hierarchy which requires avoidance as a first approach, followed by mitigation and then compensation.</p>

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	<p>The Best-Practice Guidelines for Assessing and Monitoring the Impact of Wind- Energy Facilities on Birds in Southern Africa (3rd ed, 2015) which have not been adhered to</p> <p>a) The Best Practice Guidelines recommend increased survey effort in potentially sensitive environments. The Guidelines for Verreux's Eagle recommended increased survey effort (i.e. 72 hours per vantage point) if there is a potential overlap with Verreux's Eagle territories. At most, vantage points were surveyed for 56 hours and often seemingly much less.</p>		<p>The key point in relation to Verreux's Eagle and baseline survey was that the nests were avoided in the initial design process so detailed surveys of flight activity close to nests sites was not undertaken as those areas would be unaffected by the development. Rather the focus was the areas where turbines would be located, and sufficient data have been collected to quantify Verreux's Eagle flight activity within the potential impact zones of the wind farms.</p> <p>There has been a huge amount of survey effort to inform this assessment. With any assessment there will always be an issue of predicting impacts into the future based on a limited timescale for baseline surveys (with one, two or even three years of data), which is why the assessment here has been conducted on a precautionary basis (and why it has been proposed that a specific Ornithological Mitigation Plan should be developed and implemented for all of the Choje wind farms).</p> <p>More detail regarding the survey effort has been included in the AIA (Appendix E of the BAR).</p>
	<p>b) Only 1 year of pre-construction monitoring has taken place whereas the guideline for Verreux's Eagles indicates "If it is suspected that a proposed wind farm may pose a significant risk to Verreux's Eagles, the duration of pre-construction monitoring should be extended to two years."</p>		<p>Verreux's Eagle collision risk at Wind Garden is low in comparison because the site is not well-used by this species. It was even lower at Fronteer because this species hardly ever used the site at all.</p>
	<p>c) Unlike smaller raptors, which can readily use flapping flight, large raptors are mainly restricted to soaring flight due to energetic constraints. Whereas thermal soaring occurs in relatively flat areas which are likely to have good thermal uplift availability topography. The technique is called ridge lift or slope soaring. The areas targeted by the WEFs will present ideal</p>		<p>The pre-construction monitoring undertaken on the site determined areas of the site used by the different avifauna species identified in the area, including the priority species listed for the area. Collision Risk Modelling was used to predict potential impact on avifauna recorded in the study area.</p>

No.	Comment	Raised by	Response
	<p>conditions for raptors and other soaring along area of uplift where turbines will be located.</p> <p>d) Detailed data on bird movements is required, or where movements occur at night or in conditions of poor visibility (e.g. fog) special remote sensing methods should be considered e.g. radar in combination with direct observations (wherever possible).</p> <p>We note the collision risk modelling and modelling results, however like any modelling results are at best as good the input data, which in the case of the Wind Garden and Fronteer avifaunal impact assessment is questionable:</p> <p>a) Inadequate vantage point data was utilised (Most vantage points were surveyed for 52 hours and semingly in some instances less than this. The Guidelines for Verreaux's Eagle recommended increased survey effort (i.e. 72 hours per vantage point) if there is a potential overlap with Verreauxs Eagle territories.</p> <p>b) Considering the number of Verreauxs Eagle nests in the larger area and the large area of land under formal protection a precautionary approach to avoidance should be adopted for the proposed layout of turbines and period should take place for a period of two years. These recommendations have not been implemented.</p>		<p>The pre-construction monitoring undertaken on the site determined areas of the site used by the different avifauna species identified in the area, including the priority species listed for the area. This was undertaken in accordance with the Best Practice Guidelines published by BirdLife.</p> <p>There has been a huge amount of survey effort to inform the assessment, with over 3 000 hours of vantage point survey across the proposed cluster of wind farms. With any assessment there will always be an issue of predicting impacts into the future based on a limited timescale for baseline surveys (with one, two or even three years of data), which is why the assessment here has been conducted on a precautionary basis (and why it has been proposed that a specific Ornithological Mitigation Plan should be developed and implemented for all of the Choje wind farms presented in Appendix F of the revised AIA (Appendix E of the Revised BAR)).</p> <p>According to the species-specific guidelines for Verreauxs' Eagles, <i>BirdLife South Africa therefore suggests that the duration of monitoring should be extended to two years, where a wind farm may pose a significant risk to Verreauxs' Eagles.</i> Verreaux's Eagle collision risk at Wind Garden is low in comparison because the site is not well-used by this species. It was even lower at Fronteer because this species hardly ever used the site at all.</p> <p>With any assessment there will always be an issue of predicting impacts into the future based on a limited timescale for baseline surveys (with one, two or even three years of data), which is why the assessment here has been</p>

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	<p>c) Avoidance rates and flight speeds for different species were used instead of drawing on data and knowledge of local species experts for the species actually at risk.</p>		<p>conducted on a precautionary basis (and why if has been proposed that a specific Ornithological Mitigation Plan should be developed and implemented for all of the Choje wind farms presented in Appendix F of the revised AIA (Appendix E of the Revised BAR)).</p> <p>If avoidance rates had been available from local studies, then these would have been used by the avifauna specialist. However, post-construction monitoring studies that have been produced in South Africa have not, as far as the specialists are aware reported any such rates, and have not compared predicted pre-construction risk with actual post-construction collisions, nor flight activity pre-construction and subsequent collision levels. Until such information is available, there is no alternative to using other studies from similar species elsewhere to inform any quantitative analysis.</p> <p>For the flight rates too, the specialists have applied the principle of using the best available data. They are aware that Murgatroyd (2016)<sup>4</sup> presented 'average trip speeds' for four tagged Verreaux's Eagles of 15.2 km h<sup>-1</sup> with a wide 95% confidence interval of 1.2–38.5 km h<sup>-1</sup>), which indicates a rather slower speed that that used in the collision modelling (43 km h<sup>-1</sup>). Applying the Murgatroyd value would reduce collision risk, so the value applied in the model is more precautionary.</p>
	<p>Assessment of fatalities from surrounding Wind Energy facilities</p> <p>Understanding the cumulative effect of wind energy fatalities is vital when multiple sites are located in one area. Details of avifaunal</p>		<p>Section 10.3 of the revised AIA (Appendix E of the Revised BAR) provides more details regarding results from other operational wind farms (refer to Table 12.8).</p>

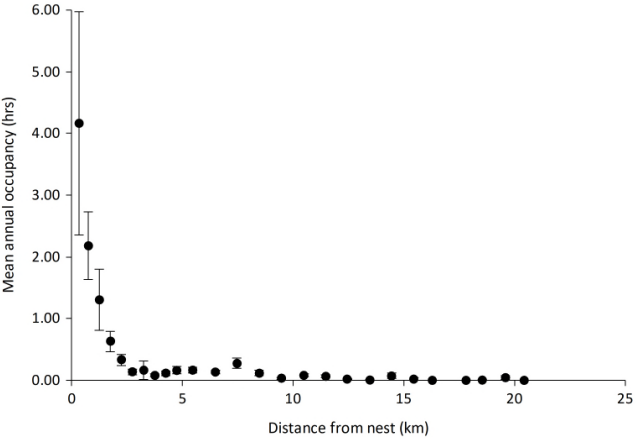
<sup>4</sup> Murgatroyd, M. 2016. Ecology of the Verreaux's eagle *Aquila verreauxii* in natural and agriculturally transformed habitats in South Africa. In *Animal Demography Unit & Percy FitzPatrick Institute of African Ornithology Department of Biological Sciences, Faculty of Science*. PhD. Cape Town.

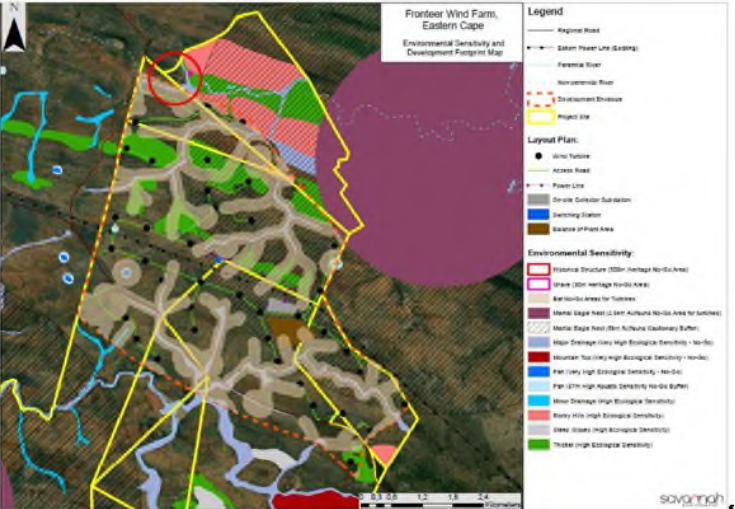
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	<p>impact monitoring and detailed reports on fatalities at existing WEFs is conspicuously absent from the avifaunal assessments. It is only indicated that "Available operational monitoring reports from these wind farms were obtained from BLSA and were reviewed. The Waainek WEF 12-month Post-construction avifaunal report (Sholto-Douglas et al. no date - 2018) was obtained and considered however no substantive information from the report is offered and neither is it clear how it was applied in the current assessment or in the cumulative assessment.</p>		
	<p>As it stands the cumulative impacts discuss the need for consideration of the overall impact but there is not any detailed investigation as to the current background cumulative effect in terms of fatalities per existing turbine from the operational facilities.</p>		
	<p>With respect to cumulative impacts the reports indicate that "In conclusion, if all operational and proposed facilities are considered and all appropriate and effective mitigation as outlined by their respective specialists, and if all mitigation measures outlined in this report are implemented for the proposed Fronteer development, the cumulative impact after mitigation is likely to have a LOW significance." It is assumed that the existing neighbouring WEFs are implementing appropriate and effective mitigation measures rather than using these existing facilities as valuable sources of fatality data.</p>		<p>This is a statement. No response is required.</p>
	<p>Peer review                      A number of comments and recommendations in the peer reviews have not been addressed in the updated avifaunal reports. These reports should be updated to respond to the recommendations in detail.</p>		<p>Revisions to the report (Appendix E of the Revised BAR) have been made in light of the review comments received.</p>
	<p>The peer review highlighted a recent paper by Murgatroyd et al. 2021 which highlights that the previously recommended nest buffer (3 km) for Verreaux's Eagle nests is inadequate and suggests that a precautionary buffer of 5.2km would be more appropriate (in the</p>		<p>Recent references have been added to the revised AIA (Appendix E of the Revised BAR), including discussion of Murgatroyd et al's 2021 Verreaux's Eagle modelling work.</p>

No.	Comment	Raised by	Response
	<p>absence of applying the Verreux's Eagle Risk Assessment Model).                      This suggestion is seemingly ignored by the avifaunal assessments.</p>		<p>It must be noted that the paper by Dr Murgatroyd has only just been published and post-dates most of the analytical work that was carried out for the assessment. The approach that it takes is actually very similar to that which we have adopted (though we have used local survey data rather than data on tagged individuals). Both studies model eagle flight activity spatially on the basis of environmental conditions such as topography and distance from the nest. Our site-based spatial modelling has been used to inform the site design, based on data from the wind farm site itself. BLSA notes that the paper "suggests that a precautionary buffer of 5.2km would be more appropriate". However, as set out in the Murgatroyd et al. paper, even that enlarged distance of 5.2km only captured 50% of reported collisions. As the paper concludes:</p> <p><i>"Our collision risk potential (CRP) model included the variables distance to nest, distance to conspecific nest, slope, distance to slope and elevation. Using our model, rather than a circular buffer, resulted in c. 4%–5% improvement in eagle protection while excluding development from the same amount (but not shape) of area. For an equal level of eagle protection, our model can make c. 20%–21% more area available for wind energy development compared to a circular buffer."</i></p> <p>If the Verreux's Eagle Risk Assessment Model can be made available, we would be pleased use it to help inform the assessment for this species. Unfortunately, the paper as published describing that model does not include sufficient detail to be able to replicate it without further information on the model parameters.</p>

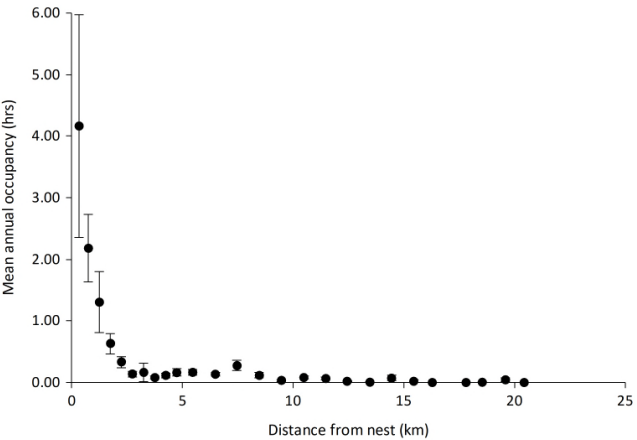


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	<p>Buffer Zones</p> <p>3.3.7.1 1 The Fronteer Avifauna Peer Review (23 Feb 2021) indicates –</p> <p>It is noted that that the nest buffers proposed in the report are smaller than those currently recommended by most bird specialists in South Africa. Justification for these reductions should be more clearly motivated in the report referencing applicable baseline recommendations and applicable site-specific pre-construction monitoring data that demonstrates why 'standard' buffers are likely not required to reduce the probability of impacts associated with the proposed project. The justification should give appropriate consideration to the limitations of the study in terms of the duration and timing of the data collection (e.g. how drought conditions may influence the confidence in the reduction of buffer sizes).</p> <p>While known Verreaux's Eagle and Martial Eagle nests are not specifically referred to in the Strategic Environmental Assessment (SEA) Cookhouse Focus Area 3 REDZ Focus Area, the National Web-based Screening Tool1 and other focus areas list areas within 3 km and 5 km of Verreaux's Eagle nests are considered to be of Very High Sensitivity and High Sensitivity respectively. Similarly the other focus areas consider a buffer of 5 km from active Martial Eagle nests</p>		<p>What is clear, however, is that even adopting very wide buffers, the collision risk to eagles is not removed and that a residual collision risk will remain. That will remain the case however much modelling and analysis is carried out, as both Murgatroyd et al's work and our own local studies have shown that these birds range widely from their nests. Avoiding the close proximity to nests can reduce the risk, but not remove it altogether.</p> <p>This follows on from the same principle as above, where Murgatroyd et al highlighted the limited benefit of simple circular buffers and their inefficiency in defining areas of higher collision risk, as birds (such as Martial Eagle) do not randomly move around a specific distance from their nests but choose to forage and fly over specific areas and habitats within their range. The specialist's spatial modelling has shown the importance of distance from the nest, but also altitude (higher flight activity in the 600-800m range), distance from ridge lines (higher closer to ridge lines), and slope (higher in areas of steeper slope).</p> <p>In relation to the design of the site buffers, the analysis used to inform the 2.5km distance for Martial Eagle, for example, is set out in Appendix 2. Figure 1 from that appendix is reproduced here as it illustrates the evidence base for the use of that specific distance. The survey data showed a strong relationship between flight density and distance from the nest, but this relationship flattened out beyond 2.5km. The highest densities were recorded within 500m of nests and there was a steady decline in flight density with distance from the nest, but only up to a distance of 2.5km. Beyond 2.5km flight density was consistently lower. Any</p>

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	<p>to be of Very High Sensitivity. These zones correspond to the buffers regularly recommended by bird specialists in South Africa. While Verreaux's Eagle buffers do not seem to be of particular relevance to the Fronteer Wind Farm, a 5 km buffer around the Martial Eagle nest to the north-east of the proposed development includes a significant portion of the area under consideration for development. I therefore think it would be worthwhile to outline the reasoning behind not considering these buffers to represent the precautionary approach for the project area, particularly in light of the recent global up-listing of Martial Eagle to Endangered status by the International Union for Conservation of Nature (IUCN).</p>		<p>exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk. A similar result was found for the Choje East Block, though there, higher flight activity was noted within 1.5km of the nest (though with a smaller amount of baseline data available a precautionary approach was adopted and a 2.5km applied in the East and as well as the West).</p> <p><i>Appendix 2. Figure 1. Martial Eagle flight density and distance from the nest, Choje West June 2019 - August 2020 (mean ± 95% confidence limits).</i></p>  <table border="1"> <caption>Estimated data for Figure 1: Martial Eagle flight density and distance from the nest</caption> <thead> <tr> <th>Distance from nest (km)</th> <th>Mean annual occupancy (hrs)</th> </tr> </thead> <tbody> <tr><td>0</td><td>4.2</td></tr> <tr><td>0.5</td><td>2.2</td></tr> <tr><td>1</td><td>1.3</td></tr> <tr><td>1.5</td><td>0.7</td></tr> <tr><td>2</td><td>0.4</td></tr> <tr><td>2.5</td><td>0.3</td></tr> <tr><td>3</td><td>0.2</td></tr> <tr><td>4</td><td>0.2</td></tr> <tr><td>5</td><td>0.2</td></tr> <tr><td>6</td><td>0.2</td></tr> <tr><td>7</td><td>0.3</td></tr> <tr><td>8</td><td>0.2</td></tr> <tr><td>10</td><td>0.1</td></tr> <tr><td>12</td><td>0.1</td></tr> <tr><td>14</td><td>0.1</td></tr> <tr><td>16</td><td>0.1</td></tr> <tr><td>18</td><td>0.1</td></tr> <tr><td>20</td><td>0.1</td></tr> </tbody> </table>	Distance from nest (km)	Mean annual occupancy (hrs)	0	4.2	0.5	2.2	1	1.3	1.5	0.7	2	0.4	2.5	0.3	3	0.2	4	0.2	5	0.2	6	0.2	7	0.3	8	0.2	10	0.1	12	0.1	14	0.1	16	0.1	18	0.1	20	0.1
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	<p>The map below shows the Martial eagle nest 2.5km buffer in purple and 5km buffer in hatch (17 turbines are proposed to be within the 5km buffer)</p>		<p>Chapter 9 of the BAR includes an explanation of the different buffers associated with the avifaunal nests identified. For Wind Garden, the following is stated:</p> <p><i>Considering the placement of turbines within the development area, there are thirteen (13) turbines located</i></p>																																						

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			<p>within cautionary buffers which require the minimisation of turbine placement within these areas. The specialist has indicated that the development as proposed would be acceptable for authorisation, subject to the implementation of the recommended appropriate mitigation measures. Considering this, the specialist is not requiring further minimisation of turbines within the cautionary buffers of 3km and 5km, respectively. However, the specialist does recommend that all turbines located within the cautionary buffers have a single blade painted black during construction. Given this is a novel mitigation, which has been proven to be effective internationally, a post-construction monitoring scheme should be implemented to determine its effectiveness.</p> <p>For Fonteer, the following is stated:</p> <p>For the Martial Eagle nests a buffer of 2.5km has been recommended which is the area around the nest sites within which no turbines must be placed (i.e. no-go area for the placement of turbines). Furthermore, a 5km buffer has been identified within which the number of turbines must be minimised and caution must be taken. It must be noted that none of the nests are present within the development envelope and development footprint. A 5km caution buffer does however infringe into the northern section of the development envelope with seventeen (17) turbines proposed to be placed here. This is considered acceptable with the implementation of the relevant mitigation measures as recommended by the specialist.</p>

No.	Comment	Raised by	Response
	<p>The avifaunal report (5 March 2021) indicates on pg 49 of 132:                      In relation to buffer sizes, Martial Eagle flight density was strongly related to distance from the nest, with the highest densities recorded within 500m and a steady decline in flight density up to 2.5km from the nest. Beyond 2.5km flight density was consistently lower. This provides strong evidence to support a 2.5km turbine exclusion zone around Martial Eagle nests, as flight activity is clearly considerably higher within that zone. Any exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk.</p> <p>And on page 92 of 132:                      Martial Eagle flight density was strongly related to distance from the nest, with the highest densities recorded within 500m and a steady decline in flight density up to 2.5km from the nest in the Choje West block (Figure 1). Beyond 2.5km flight density was consistently lower. This provides strong evidence to support the initial suggestion of a 2.5km turbine exclusion zone around Martial Eagle nests, as flight activity is clearly considerably higher within that zone. Any exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk. A similar result was found for the Choje East Block (Figure 2), though with higher flight activity within 1.5km of the nest.</p> <p>It is unclear from the available information whether (according to the peer reviewer) the explanation for the proposed 2.5km buffer instead of a 5km buffer is adequate or not. The proposed buffers for Martial Eagle nests are significantly less than recommended in most other impact assessments (i.e. 5-6 km). Van Eeden et al. (2017) 's research tracking Martial Eagles in the Kruger indicated a 50% Kernel Density with an average of 16.5km<sup>2</sup> - which would suggest a buffer with a radius of 2.9 km from a nest would be necessary to</p>		<p>The mitigation required is again to paint one blade black, mitigation which has been shown to effectively reduce collision rates internationally.</p> <p>Murgatroyd et al highlighted the limited benefit of simple circular buffers and their inefficiency in defining areas of higher collision risk, as birds (such as Martial Eagle) do not randomly move around a specific distance from their nests but choose to forage and fly over specific areas and habitats within their range. The specialist's spatial modelling has shown the importance of distance from the nest, but also altitude (higher flight activity in the 600-800m range), distance from ridge lines (higher closer to ridge lines), and slope (higher in areas of steeper slope).</p> <p>In relation to the design of the site buffers, the analysis used to inform the 2.5km distance for Martial Eagle, for example, is set out in Appendix 2. Figure 1 from that appendix is reproduced here as it illustrates the evidence base for the use of that specific distance. The survey data showed a strong relationship between flight density and distance from the nest, but this relationship flattened out beyond 2.5km. The highest densities were recorded within 500m of nests and there was a steady decline in flight density with distance from the nest, but only up to a distance of 2.5km. Beyond 2.5km flight density was consistently lower. Any exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk. A similar result was found for the Choje East Block, though there, higher flight activity was noted within 1.5km of the nest (though with a smaller amount of baseline data available a precautionary approach was adopted and a 2.5km applied in the East and as well as the West).</p>

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	<p>avoid just the core territory. Martial Eagle territories are likely to be much larger in the area of the proposed development.</p> <p>The proposed reduction of the buffer distance from the 5km "regularly recommended by bird specialists in South Africa" to 2.5km based on the reasoning that flight density is lower further away from the nesting site is not in keeping with the NEMA precautionary principle. The proximity of the proposed development sites to protected areas and the overlap with Critical Biodiversity Areas suggest that a precautionary approach must be adopted.</p>		<p>Appendix 2. Figure 1. Martial Eagle flight density and distance from the nest, Choje West June 2019 - August 2020 (mean <math>\pm</math> 95% confidence limits).</p>  <table border="1"> <caption>Estimated data for Figure 1: Martial Eagle flight density</caption> <thead> <tr> <th>Distance from nest (km)</th> <th>Mean annual occupancy (hrs)</th> </tr> </thead> <tbody> <tr><td>0</td><td>4.2</td></tr> <tr><td>0.5</td><td>2.2</td></tr> <tr><td>1</td><td>1.3</td></tr> <tr><td>1.5</td><td>0.7</td></tr> <tr><td>2</td><td>0.4</td></tr> <tr><td>2.5</td><td>0.3</td></tr> <tr><td>3</td><td>0.2</td></tr> <tr><td>4</td><td>0.2</td></tr> <tr><td>5</td><td>0.2</td></tr> <tr><td>6</td><td>0.2</td></tr> <tr><td>7</td><td>0.2</td></tr> <tr><td>8</td><td>0.2</td></tr> <tr><td>9</td><td>0.2</td></tr> <tr><td>10</td><td>0.1</td></tr> <tr><td>11</td><td>0.1</td></tr> <tr><td>12</td><td>0.1</td></tr> <tr><td>13</td><td>0.1</td></tr> <tr><td>14</td><td>0.1</td></tr> <tr><td>15</td><td>0.1</td></tr> <tr><td>16</td><td>0.1</td></tr> <tr><td>17</td><td>0.1</td></tr> <tr><td>18</td><td>0.1</td></tr> <tr><td>19</td><td>0.1</td></tr> <tr><td>20</td><td>0.1</td></tr> </tbody> </table>	Distance from nest (km)	Mean annual occupancy (hrs)	0	4.2	0.5	2.2	1	1.3	1.5	0.7	2	0.4	2.5	0.3	3	0.2	4	0.2	5	0.2	6	0.2	7	0.2	8	0.2	9	0.2	10	0.1	11	0.1	12	0.1	13	0.1	14	0.1	15	0.1	16	0.1	17	0.1	18	0.1	19	0.1	20	0.1
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	<p>NOISE IMPACT ASSESSMENT</p> <p>The reports indicates that the capacity of the Wind Garden installation will be 264 MW and that there will be 47 wind turbines, whereas the Fronteer installation 213MW with 38 turbines. This implies that each turbine is rated at 5,6 MW at both facilities. The noise impact assessment by Enviro-Acoustic Research CC uses the data for a Vestas V150-4.2 WTG at a height of 120 m. This is a 4.2 MW turbine.</p>		<p>The noise report considers the sound power emission levels of the WTG that the client indicated they are considering. However, due to various reasons, a developer does not want to reveal the actual WTG that they may consider, whether for commercial/economic reasons, possible Non-Disclosure Agreements etc. However, the details of the actual WTG are <b>totally</b> irrelevant to a noise analyses, as the major factors that determine the noise levels are:</p> <p>a. The layout of the WEF (which would include the number of WTG as well as the distance from various receptors); and</p>																																																		

No.	Comment	Raised by	Response
			<p>b. The sound power emission levels of the WTG (or noise source) selected/that the developer is considering.</p> <p>Minor factors in the noise levels are:</p> <ul style="list-style-type: none"> <li>c. The spectral characteristics of the WTG;</li> <li>d. Temperature and Humidity;</li> <li>e. Noise abatement technologies implemented by the manufacturer;</li> <li>f. Topography and wind shear effects;</li> <li>g. Ground surface characteristics.</li> </ul> <p>Insignificant factors are:</p> <ul style="list-style-type: none"> <li>a. The hub height of the WTG;</li> <li>b. The rotor diameter of the WTG;</li> <li>c. The manufacture of the WTG, the model name or number.</li> </ul> <p>The sound power emission levels are provided by the manufacturer either as the maximum warranted sound power levels, a calculated sound power level – for new WTG where the noise levels were not previously measured – or measured sound power levels as reported in terms of IEC 61400-11. It is unique for each make and model and the sound power levels already include the effect of the hub height, rotor diameter and abatement technologies.</p> <p>There are smaller WTG with a higher sound power emission levels and much larger WTG with a lower sound power emission level.</p>

No.	Comment	Raised by	Response
	<p>It is not known why a 4.2 MW turbine is used for the noise impact assessment by Enviro-Acoustic Research CC since it makes less noise than a 5.63 MW turbine. The Vestas V150-4.2 WTG 4.2 MW turbine has a sound power of 105 dBA while a 5.63 MW turbine has a sound power of at least 107 dBA potentially more. Due to the logarithmic nature of the decibel scale this is a 30 % increase in loudness. To use a turbine with lower power and lower noise than the proposed turbine is not scientifically defensible and misleading.</p> <p>The report cites many regulations and standards but fails to note that the project area for the location of the Wind Garden Wind Energy Farm (WEF) is specifically regulated by Noise control in the Eastern Cape Province is in the first place regulated by the Noise Control Regulations, 1992 (GN R.154 of 1992) published in terms of section 25 of the Environmental Conservation Act, No. 73 of 1989 (ECA) and must comply with the requirements of the ECA Noise Control Regulations and technical standards of the SANS such as SANS 10103:2008 for the measurement and rating of environmental noise with respect to annoyance. (SANS 10103 prescribes other SANS standards for its application.).</p> <p>The NIA reports ignores impacts on other sensitive environmental receptors. The report fails to mention that the turbine placement area is located bordering on formal protected areas with elephants, rhino and other wildlife that will be impacted by noise as well as game farms that rely on wildlife yet the impact of noise on fauna is not considered.</p>		<p><b>It is therefore definitely unscientific to state that a wind turbine with a higher generating capacity will have a higher sound power emission level.</b></p> <p>See above-mentioned response.</p> <p>This is highlighted in the fourth bullet, section 2.8 as well as paragraph 2, section 3.3.1 (with the National Noise Control Regulations specifically discussed in section 3.3.2).</p> <p>This is also discussed in section 7.3.2. and 7.3.3.2, where the noise control regulations were used to set noise limits.</p> <p>The definition of Ecotourism from Oxford Languages is:  <i>"tourism directed towards exotic, often threatened, natural environments, intended to support conservation efforts and observe wildlife."</i></p> <p>The report however does briefly discuss Noise Impact on Animals in section 7.1. The following should be noted:</p> <ul style="list-style-type: none"> <li>• There are no noise limits or guidelines that can be used to determine what noise levels will impact on animals.</li> </ul>

No.	Comment	Raised by	Response
			<ul style="list-style-type: none"> <li>• There are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals.</li> <li>• Animal communication is generally the highest during no and low wind conditions. It has been hypothesised that this is one of the reasons why birds sing so much in the mornings (their voices carry the farthest and there are generally less observable wind).</li> <li>• The stakeholder is ignoring the fact that background noise levels in remote areas are not always low in space or time. The site is windy and this generates significant noise itself and also significantly changes the ability of fauna to hear the environmental noises around them.</li> <li>• Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.). In February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.</li> <li>• Wind is a significant source of natural noise, with a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range.</li> </ul>



No.	Comment	Raised by	Response
	<p>The Wind Garden NIA report records residual / ambient noise measurements at five locations. There are however twenty three noise sensitive receptors / locations (as stated in the report) and thus for eighteen of them there is no measurement record of existing conditions. The Frontier NIA report similarly does not measure residual / ambient noise at all relevant sensitive receptors / locations.</p>		<ul style="list-style-type: none"> <li>• Wind turbines does not emit broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed.</li> <li>• The wind turbines will only operate during periods of higher wind speeds, a period when background noise levels are already elevated due to wind-induced noises.</li> <li>• The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with periods of higher winds also correlating with lower faunal activity, particularly with regard to communication.</li> <li>• This fact is also discussed Garstang (2003) that discuss the role that wind play in determining the range and detection of elephant communication.</li> </ul> <p>There are a number of factors that determine the suitability of a measurement location when deploying sound level measurement equipment (SLMs), including:</p> <ol style="list-style-type: none"> <li>a. Access and permission to deploy the SLMs;</li> <li>b. Potential safety and security concerns;</li> <li>c. Type of trees and faunal activity in the vicinity of the proposed measurement location. E.g. no instruments are deployed at properties with certain fruit trees due to constant bird communication significantly influencing the measurements;</li> <li>d. Presence of standing water, especially wetlands (same reason as above, with frogs being a significant noise source);</li> <li>e. Potential presence of dogs and baboons that may damage equipment, etc.</li> </ol>

No.	Comment	Raised by	Response
			<p>The markers representing NSD 15, 16, 17, 18 and 20 is a number of dwellings identified using aerial images. It was however reported that only dwelling 15 is used by the owner, with dwelling 20 being used on a temporary basis during the hunting season. The owner of this property is a willing participant in the wind farm development.</p> <p>The author of the report could however not gain access initially to the farm of NSD 15 to assess the site to deploy an SLM. However, considering the proximity of the river, this measurement location was excluded in lieu of a location at NSD 11. The site visit at NSD 11 highlighted that the river had little standing water and that the closest wetland was further than 300 m (a dam was visible approximately 100 – 200 m from potential measurement locations at NSD 15/20).</p> <p>In addition, SANS 10103:2008 does not require the measurements of ambient sound levels (the residual noise) at each potential receptor, nor does this guideline define, set or propose locations where sound levels should be measured. Nor are the author aware of any acoustic consultant in South Africa that would measure the ambient sound levels at all identified receptors.</p> <p>In addition, the measurement of future ambient sound levels is normally recommended once a noise study are completed, identifying potential receptors where noise levels may be of concern.</p> <p>The stakeholder fail to highlight that more than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from</p>

No.	Comment	Raised by	Response
	<p>No residual / ambient noise measurements were taken within the proposed WEF area. It is impossible to evaluate turbine noise effect on residual / ambient noise levels if none are known.</p> <p>Technical deficiencies with the Wind Garden NIA relating to ECA Noise Control Regulations and SANS 10103: The measurement and rating of environmental noise with respect to annoyance and to speech communication:</p>		<p>the noise study determined that "ambient sound levels are generally low and typical of a rural noise district during low wind conditions". This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this.</p> <p>In a focus area with a more complex sound character more measurement locations may be more beneficial. This would be a location with a combination of significant noise sources (e.g. industry, mines, railways and roads). This project does not have these noise sources, and such, additional sound level measurement locations would not provide better information.</p> <p>As responded and highlighted above:</p> <ul style="list-style-type: none"> <li>Ambient sound levels indicate an area with a rural character with a high potential to have low sound levels. Additional measurement locations or data will not change this finding.</li> <li>As highlighted in Section 7.3.3 of the report, acceptable rating levels did consider the rural night-time zone sound level (from SANS 10103:2008). This is the <b>lowest rating level</b> identified in SANS 10103, and rating levels cannot go lower.</li> </ul> <p>As discussed above, measurements collected at other locations will not provide greater quality data or better information, and the data is not meaningless.</p> <p>This is a misrepresentation, as measurements were collected at 5 locations, which is not the same as 5 measurements. The stakeholder fails to highlight that more than 750 measurements were collected, including 480</p>

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	<p>To determine existing noise levels with just five measurements in a ~650 Hectare is not in accordance with section 5 of SANS 10103. Conformance with SANS 10103 is required by the ECA Noise Control Regulations. To only measure residual / ambient levels domestic dwellings and to extrapolate these to be residual / ambient levels for a 600 hectare area is clearly incorrect.</p> <p>In SANS 10103:2008 the standard specifically states that "At each measuring point, the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, if practicable, at least 3,5 m away from walls, buildings and other large flat vertical surfaces." It is clear that from photographs B3 and B4 of the report that the microphones are less than 3,5 m from "walls, buildings and other large flat vertical surfaces" and consequently these measurements are not valid and the NIA.</p>		<p>measurements during the quieter periods. The findings from the noise study determined that "ambient sound levels are generally low and typical of a rural noise district during low wind conditions". This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this.</p> <p>The selection of measurement locations was discussed previously, and the reader is referred to that paragraph. It should be noted that there are a number of factors that determine the suitability of a measurement location when deploying sound level measurement equipment (SLMs), including:</p> <ol style="list-style-type: none"> <li>Access and permission to deploy the SLMs;</li> <li>Potential safety and security concerns;</li> <li>Type of trees and faunal activity in the vicinity of the proposed measurement location. E.g. no instruments are deployed at properties with certain fruit trees due to constant bird communication significantly influencing the measurements;</li> <li>Presence of standing water, especially wetlands (same reason as above, with frogs being a significant noise source);</li> <li>Potential presence of dogs and baboons that may damage equipment, etc.</li> </ol> <p>As highlighted by SANS 10103:2008 (underlined and bolded by the author), "<i>the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, <b>if practicable</b>, at least 3,5 m away from walls, buildings and other large flat vertical surfaces</i>".</p>

No.	Comment	Raised by	Response
			<p>When this is not possible, the data can be adjusted (reduced) with a value between 1 and 6 dBA (due to reflections from the flat surfaces).</p> <p>On this project the microphone was at 1.3 m, and, placed at locations to ensure that the equipment is safe, secure and will provide data that are not unduly influenced by the surrounding environment.</p> <p>At two locations this was not possible, due to numerous reasons. The author however did not adjust the data because:</p> <ul style="list-style-type: none"> <li>- At location WRLTSL03 the influence of the wall was much lower than the microphone and the influence of the wall was considered to be minimal; and</li> <li>- At location WRLTSL04 the wall is uneven with large openings, with the surface behind it well vegetated. The wall is more likely to act as a diffuser than a reflecting wall.</li> </ul>
	<p>It is noted that in Wind Garden NIA Table 4-1 of the report it is indicated that a Svantek sound level meter was fitted with the RION WS-03 outdoor all-weather windshield. The Svantek calibration laboratory in Poland states that the readings of the Svan 977 meter with a Rion weather shield could not be guaranteed as accurate and should not be used. Thus the readings of existing noise levels must be repeated as the measurements taken are not according to equipment supplier specification. The Fronteer NIA report reports similarly defective measurements.</p>		<p>The statement is <b>incorrect</b>, as the sound level data can be guaranteed as accurate within the accuracy of a Class 1 instrument.</p> <p>SANS 10103:2008 require the use of a windscreen specified by the manufacturer and that does not detectably influence the accuracy of the measurement.</p> <p>The author of the report did peruse the User Manual of the Svan 977 and could <b>not find any statement recommending, or specifying that the SA270 windshield should be used.</b> The Svan 977 is supplied with the SA 22 windshield and the SA 270 windshield must be purchased in addition.</p>

No.	Comment	Raised by	Response
			<p>It was also discussed with Mr. Laurence Olivier (the local distributor of Svan instruments for more than 15 years), whom highlighted that, to his knowledge, Svantek never specified any particular windshield with the 977 instruments. When the author originally purchased the SA270 windshield (with the dehumidifier unit), the Svantek did not supply the frequency response of this windshield after being asked.</p> <p>It is critical to note that microphone windshields are designed to be acoustically transparent. The primary purpose of the windshield is to reduce the noise created by turbulence around the microphone in wind, and all windshields do change the frequency response of the microphone slightly at higher frequencies. This change is normally negligible, but it should be considered if one needs a high degree of accuracy.</p> <p>Some instrument manufacturers do specify certain windshields for their microphones, as the instrument automatically compensates for the effect of the windshield (such as Norsonic) where the compensation filter cannot be disabled.</p> <p>The Svan 977 however has a setting where one can set the compensation filter to be used. Measurements for this project were done with the <b>compensation filter off</b>, and, because the <b>third-octave data are also collected at the same time</b>, the <b>actual third-octave data can be calculated accurately</b>, because the frequency response of the Rion WS-03 windshield is available. As such the sound levels can be calculated with a high degree of accuracy.</p>

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	<p>With respect to the calculation of noise impact using ISO 9613 we refer to Health Canada's Community Noise and Health Study (2014) as undertaken by MG Acoustics with the objective of informing health impact of wind energy noise and published by Keith et al 201620 and Keith et al 201821. The limitations of ISO 9613-2 are set out in both publications and Keith et al 2016 confirms the requirement for more advanced modelling calculations "for large distances, when there are large numbers of wind turbines, or when investigating specific meteorological classes" which are all applicable in the case of Wind Garden and Fronteer. The use of ISO 9613 is not adequate for the assessment of noise impact in complex terrain and areas with regular inversions in close proximity to sensitive receptors including protected areas.</p>		<p>However, normally, this is not calculated as the error is generally insignificant (within the accuracy of a Type 1 instrument).</p> <p>Because of this, and various other reasons, the Rion WS-03 is currently one of the best windshields to use for accurate measurement of sound levels during period of increased wind speeds, and the windshield used by a number of researchers in the world.</p> <p>It is important to understand the difference between noise modelling for impact assessment, and noise modelling for research purposes. Acoustic energy generally spread in a hemi-spherical manner from a noise source, with the intensity depending on the distance from the noise source. Therefore, sound intensity decreases inversely proportional to the squared distance (<math>1/r^2</math>). For a point source, the noise level decrease around 6 dB per doubling of distance from the noise source. This is because the same acoustic energy (such as generated by a wind turbine) is spread over an ever increasing sphere (or hemi-spere) as the distance increase.</p> <p>However, other factor does impact on the propagation of sound, as clearly highlighted in section 6 (assumptions and limitations). For the purpose of a noise impact assessment, the use of ISO 9613-2 is more than adequate.</p> <p>However, when one start to look at research project, where researchers have the benefit of measuring actual sound levels, using actual wind and temperature gradients, focusing on specific frequencies at a specific location, more complex models may be more accurate. But, as the author (Keith, 2018) highlights: <b><u>For comparison, infrasound</u></b></p>

No.	Comment	Raised by	Response
			<p><b><u>propagation was also estimated using ISO 9613-2 (1996) calculations for 63 Hz. In the Health Canada study, to a distance of 4.5 km, long term average FFP calculations were highly correlated with the ISO based calculations. This suggests that ISO 9613-2 (1996) could be an effective screening method. Both measurements and FFP calculations showed that beyond 1 km, ISO based calculations could underestimate sound pressure levels. FFP calculations would be recommended for large distances, when there are large numbers of wind turbines, or when investigating specific meteorological classes.</u></b></p> <p>At the distances these studies look at wind turbine noise, the actual noise levels are far below acceptable noise limits, and researchers use specific methods and analysis to identify harmonics. Even Keith (2018) recognize that: <b><u>The ability to measure wind turbine infrasound was influenced by ambient infrasound, the effectiveness of the windscreens, and the presence of shielding vegetation. Wind turbine SPLs are low enough that effective windscreens and narrowband analysis are required to ensure a 95% confidence of being able to distinguish wind turbine noise from ambient infrasound, even at the base of the wind turbines.</u></b></p>
	<p>The report fails to mention that the turbines are located on the border of a number of protected areas, private game reserves and game farms and no map is provided to indicate the sources of noise, noise levels relative to protected areas, game reserves and game farms and reports fails to protected area goods and services and impact to tourism product of reserves, game farms and hunting lodges as result of noise impact.</p>		<p>Noise sources as well as the projected noise level contours are illustrated in Figures 8-1 and 8-4 respectively. Boundaries of farms are generally not indicated on these figures as the figures become very busy with the information. The noise contours are however available as a shape file that can be imported into GIS software to discern the potential noise level contours in relation to various boundaries.</p>
	<p>The reports generally lack of a description of the methodology used in determining the turbine noise (fails to specify project turbine /</p>		<p>Sound power emission levels (turbine noise emission levels) are normally either measured by the manufacturer (in terms</p>



No.	Comment	Raised by	Response
	<p>adopts a smaller turbine but do not provide and noise profile), indicates use of ISO 9613 but does not show any details of calculations for verification and does not meet basic scientific principles of reproducibility. Also the report thus do not meet the NEMA EIA Regulations 385 Regulation 33 stipulating the need for "a description of the methodology adopted in preparing the report or carrying out the specialised process".</p>		<p>of IEC 61400-11) or calculated, using modelling software, considering the sound power emission levels of similar wind turbines in the model line-up. The Noise Study however clearly state the sound power emission levels used for modelling in Table 8-1, as well as the equivalent noise level for various equipment in Table 5-2.</p> <p>The methodology adopted in preparing the report is clearly defined in Section 2.8, that highlights the requirements of the latest protocols (GG 43110 / GNR 320) and the SANS guidelines (as highlighted in GNR 320).</p>
	<p>LACK OF FAUNAL NOISE ASSESSMENT                      3.5.1 The Ecological assessment and Noise impact assessment does not consider faunal noise impact.</p>		<p>The noise study did not initially consider the impact of noise on animals associated by wind turbines in detail, due to little available studies that could confirm any potential impact. The noise study has since been updated, including a section to motivate why noise from wind turbines are of a low concern.</p> <p>The ecological impact assessment has been updated to include consideration of the impact of noise on fauna.</p>
	<p>We herewith a review of key consideration of noise impact to fauna with particular relevance to protected area and game farm operation and wellbeing of fauna with specific reference to key species.</p>		<p>Responses to comments are provided below.</p>
	<p>Noise as Agent of Habitat Degradation:</p> <p>Noise can be an unseen source of habitat degradation (Ware et al., 2015) and can impact fauna in a number of ways, including but not limited to, physiological responses (Vijayakrishnan et al., 2018), behavioural and distributional changes (Kight and Swaddle, 2011; Ware et al., 2015), reproductive and developmental disruptions (Møller and Swaddle 1997; Francis et al., 2011; Kight and Swaddle,</p>		<p>It is not disputed that high noise levels will impact on animals. All the studies referred to by the stakeholder refer to noise levels that significantly exceed the projected noise levels from the wind farm, where the animals are captive and do not have the option to relocate (and are exposed to very high noise levels, far exceeding the noise levels that the WEF may emit).</p>

No.	Comment	Raised by	Response																		
	2011), changing trophic interactions (Villalobos-Jiménez et al., 2017), and lowered fitness (Schroeder et al., 2012) .		From Ware, 2015: <a href="https://www.pnas.org/content/112/39/12105">https://www.pnas.org/content/112/39/12105</a> (extract: <i>First, most of the literature reviewed here describes how captive terrestrial mammals respond to noises ranging from 65 to 130 dB re 20 μPa. Although exposure to noise levels at the lower end of this spectrum may not be uncommon in some anthropogenic habitats, only a small minority of animals will encounter amplitudes at the middle and upper end of the scale.</i> ) Kight and Swaddle, 2011: <a href="https://core.ac.uk/download/pdf/235397029.pdf">https://core.ac.uk/download/pdf/235397029.pdf</a> (noise levels between 38.9 (quiet, state park) and 67.5 dBA (busy road)).																		
	Table 2: A summary of the different effects noise can have on animals and their mechanisms of action (adapted from Sordello et al. 2020).  <table border="1"> <thead> <tr> <th colspan="2">Table 1: A summary of the different effects noise can have on animals and their mechanisms of action (adapted from Sordello et al. 2020).</th> </tr> <tr> <th>Effects of noise on animals</th> <th>Possible Result</th> </tr> </thead> <tbody> <tr> <td>Physiology</td> <td>Increased heart rate and stress levels, lowered body condition and fitness.</td> </tr> <tr> <td>Communication</td> <td>Locational changes, increased/decreased predation levels, group separation, reduced mate attraction, loss of offspring.</td> </tr> <tr> <td>Reproduction</td> <td>Lowered egg production and hatching success, decreased incubation, nest/offspring abandonment, lowered mate attraction.</td> </tr> <tr> <td>Development</td> <td>Delayed hatching, increased mortality, slower maturation.</td> </tr> <tr> <td>Distribution</td> <td>Avoidance of certain areas, change in habitat use and territories/home ranges, inability to defend territories.</td> </tr> <tr> <td>Foraging</td> <td>Less time spent foraging, weight loss and lowered body condition, premature death, lowered hunting success, increased predation rate.</td> </tr> <tr> <td>Ecological services</td> <td>Altered pollination levels, decreased seed dispersal and recruitment.</td> </tr> </tbody> </table>	Table 1: A summary of the different effects noise can have on animals and their mechanisms of action (adapted from Sordello et al. 2020).		Effects of noise on animals	Possible Result	Physiology	Increased heart rate and stress levels, lowered body condition and fitness.	Communication	Locational changes, increased/decreased predation levels, group separation, reduced mate attraction, loss of offspring.	Reproduction	Lowered egg production and hatching success, decreased incubation, nest/offspring abandonment, lowered mate attraction.	Development	Delayed hatching, increased mortality, slower maturation.	Distribution	Avoidance of certain areas, change in habitat use and territories/home ranges, inability to defend territories.	Foraging	Less time spent foraging, weight loss and lowered body condition, premature death, lowered hunting success, increased predation rate.	Ecological services	Altered pollination levels, decreased seed dispersal and recruitment.		Sordello did a review of available studies, again highlighting that high noise levels are detrimental to all animals. As per previous work, the studies referred to by the stakeholder refer to noise levels that significantly exceed the projected noise levels from the wind farm, where the animals are captive and do not have the option to relocate.
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No.	Comment	Raised by	Response
	<p>Low Frequency Sound</p> <p>Many species can detect noises at frequencies beyond the limitations of human ears: either infrasonic: sounds below human hearing, or ultrasonic: sounds at frequencies above human hearing (Kight and Swaddle, 2011).</p>		<p>Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.). In February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.</p> <p>Wind is a significant source of natural noise, with a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range.</p> <p>Wind turbines does not emit broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed.</p> <p>The wind turbines in addition will only operate during periods of higher wind speeds, a period when background noise levels (especially in the low frequencies) are already elevated due to wind-induced noises.</p> <p>The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with</p>

No.	Comment	Raised by	Response
			<p>periods of higher winds also correlating with lower faunal activity, particularly with regard to communication.</p> <p>Garstang (2003)<sup>5</sup> specifically highlights that factors such as wind speed does impact on faunal communication.</p> <p>In addition, there are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals.</p>
	<p>However, there are few studies investigating the impacts of low frequency and infrasound on terrestrial animal behaviour or communication even though various species including elephants (<i>Loxodonta africana</i>), hippopotamuses (<i>Hippopotamus amphibius</i>), rhinoceros (various species), and giraffe (<i>Giraffa camelopardalis</i>), have been demonstrated to produce calls with infrasonic components (Ioan and Ursu, 2012; Bergren et al., 2019).</p>		<p>The statement is responded to above.</p>
	<p>Elephant Communication                      3.5.5.1 With respect to elephant hearing Heffner and Heffner (1982) tested and found the Asian elephant (<i>Elephas maximus</i>) to have an audibility curve similar to that of other mammals but one that is more sensitive to low frequencies and less sensitive to high frequencies. The study shows a threshold at 16 Hz of 65 dB, at 17 Hz a threshold of 60 dB and at 63 Hz a threshold of 40 dB sound pressure level (Heffner and Heffner, 1982).</p>		<p>The statement is responded to above.</p>
	<p>It is worth noting that the African elephant (<i>Loxodonta Africana</i>) has large, mobile ears (pinnae), and the ears as well as the standing height of an African elephant are much larger than those of the Asian elephant (shoulder heigh ranges 3-4m vs 2-3.5m). Although it is not yet possible to calculate the theoretical audible limit for elephants, since some of the basic measurements (e.g., auditory thresholds and masking functions in the African elephant) are</p>		<p>The statement is responded to above.</p>

<sup>5</sup> Garstang, M. Long-distance, low-frequency elephant communication. *J Comp Physiol A* 190, 791–805 (2004). <https://doi.org/10.1007/s00359-004-0553-0>

No.	Comment	Raised by	Response
	<p>unknown (Langbauer et al. 1991), the larger ears and generally bigger anatomy of the African elephant will allow more sound of low frequency to be collected. Thus, it may be postulated that African elephant hearing may be more acute than that of the Asian elephant.</p>		
	<p>Elephant hearing                      As the elephant has an audibility curve similar to that of other mammals (but one that is more sensitive to low frequencies) and the dynamic range of mammalian auditory systems typically decreases with decreasing frequency, it is likely that like humans, elephants will have a compression in the equal-loudness-level contours. This implies that a slight increase in noise level can change the perceived loudness from barely audible to loud noise at lower frequencies in range of hearing (Moller and Pederson 2004).</p>		<p>The statement is responded to above.</p>
	<p>Any intrusion of low frequency noise at levels above hearing threshold would impact elephants and potentially significantly so as even seemingly small increases in sound pressure at further elevated levels will not only interfere with communication but may very well be disturbing and a source of irritation.</p>		<p>The statement is responded to above.</p>
	<p>Distance of Communication                      Langbauer et al. (1991) found in their study that these low frequency contact calls produced under inversion conditions can travel much further than originally assumed and elephants are likely able to communicate over distances of up to 10km and more, farther than during the more common atmospheric conditions (Larom et al., 1997).</p>		<p>The statement is responded to above.</p>
	<p>Other Species of General Interest                      Lion have been shown to have a fundamental call frequency around 200Hz (Pfefferle et al., 2007), but there is no research as of yet showing that their calls extend into the infrasonic range.</p>		<p>The statement is responded to above.</p>
	<p>With regards to Cape buffalo, , there have not been any studies conducted on their vocalisations. However, extensive research has</p>		<p>Statement. See also response above.</p>

No.	Comment	Raised by	Response
	<p>been done on cows (<i>Bos taurus</i>) vocalizations which may be applicable to buffalo. Cows have been shown to have contact calls with known individuals at low frequencies of around 80Hz (de la Torre et al., 2015), and frequencies as low as 40Hz have been reported (Green et al., 2020).</p>		
	<p>Faunal Noise Impact Conclusions                      3.5.9.1 In summary it can be said that exposure to noise, and especially chronic exposure, can cause a wide variety of negative consequences for wildlife, from physiological responses like increased stress levels (leading to decreased immune response, reproductive output and fitness and lowered cardiovascular health) and potential impact on development, to behavioural responses (like impaired vocal communication, directly impacting social systems and changed movement and activity patterns) and long term effects on demography.</p>		<p>It is not disputed that high noise levels will impact on animals. All the studies referred to by the stakeholder refer to noise levels that significantly exceed the projected noise levels from the wind farm, where the animals are captive and do not have the option to relocate.</p> <p>From <i>Ware</i>, 2015: <a href="https://www.pnas.org/content/112/39/12105">https://www.pnas.org/content/112/39/12105</a> (extract: <i>First, most of the literature reviewed here describes how captive terrestrial mammals respond to noises ranging from 65 to 130 dB re 20 μPa. Although exposure to noise levels at the lower end of this spectrum may not be uncommon in some anthropogenic habitats, only a small minority of animals will encounter amplitudes at the middle and upper end of the scale.</i>)</p> <p><i>Kight</i> and <i>Swaddle</i>, 2011: <a href="https://core.ac.uk/download/pdf/235397029.pdf">https://core.ac.uk/download/pdf/235397029.pdf</a> (noise levels between 38.9 (quiet, state park) and 67.5 dBA (busy road)).</p>
	<p>While the transition to sustainable energy sources in general, including wind energy, is an appreciable development, thorough considerations about likely and possible impact on ecosystems and wildlife need to be made, nonetheless. The low frequency noise caused by wind turbines is mostly not within human hearing range, but well within the hearing range of mammals like the African elephant and likely other large mammals, such as both species of rhino.</p>		<p>Refer to responses provided to comments above.</p>

No.	Comment	Raised by	Response
	<p>COMMENTS OF ENVIRONMENTAL IMPACT REPORT (EIR)                      GENERAL                      The separation of the projects into two EIAs / VIAs/ SIAs etc is used to dilute the impact down to the impact of each project on its own. DFFE should require that this should be assessed as one combined EIA albeit two separate applications.</p>		<p>The two projects are proposed by separate companies (i.e. Wind Garden (Pty) Ltd and Fronteer (Pty) Ltd) and will be operated separately. Therefore separate Environmental Authorisations are required. Separate BA reports (including supporting specialist studies) are required for each project. The cumulative impact assessment undertaken (Chapter 11 of the BAR) includes an assessment of potential impacts of all similar developments within a 30km radius of the project site.</p>
	<p>NEED AND DESIRABILITY                      4.2.1 Both BARs indicate that the “The project is also envisaged to have a positive stimulus on the local economy and employment creation, leading to the economy’s diversification and a small reduction in the unemployment rate. The project should therefore be considered for development. It should, however, be acknowledged that the negative impacts would be largely borne by the nearby farms and households residing on them, whilst the positive impacts will be largely concentrated in the local and national economies.”</p>		<p>As detailed in the BAR (Chapter 3), the study area falls within the Cookhouse REDZ and the Eastern Strategic Transmission Corridor. The area was designated as a REDZ and Strategic Transmission Corridor by virtue of the favourable wind resource and existing and planned grid connection infrastructure. In determining a technically feasible proposed project site, key considerations included wind resources, land availability and access to the national electricity grid. No other feasible sites were identified for investigation.</p>
	<p>This positive stimulus on the local economy and development through direct and indirect employment could be achieved more effectively through deploying the Wind Farms in a location that would avoid the significant impact to wilderness character and its tourism value as demonstrated in this submission.</p>		
	<p>Appendix 1 (3) (1) (f) of the EIA Regulations indicates that a Basic Assessment report must contain “a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.” [Our emphasis.]</p>		<p>As detailed in the BAR (Chapter 3), the study area falls within the Cookhouse REDZ and the Eastern Strategic Transmission Corridor. The area was designated as a REDZ and Strategic Transmission Corridor by virtue of the favourable wind resource and existing and planned grid connection infrastructure. In determining a technically feasible proposed project site, key considerations included wind resources, land availability and access to the national</p>
	<p>Although the BARs provide motivations for the need and desirability of the project. The listed desirable aspects can all be equally achieved through deployment of the Wind Farms in an alternative</p>		

No.	Comment	Raised by	Response
	<p>location with suitable wind resources within the province, or even beyond the province.</p> <p>In terms of the desirability of the WEFs in the context of the preferred locations the BARs indicate that "the proposed wind farm does not conflict with the current land use of the project site (i.e. the affected properties)." We strongly disagree with this statement. Wind Energy Facilities and Wildlife Tourism are conflicting land uses that should be mutually exclusive from one another.</p> <p>The reports, under section 6.6 acknowledge that "Due to the absence of crop production, the larger part of the study area is still in a natural state. There are a number of protected areas in the region. Besides the formally protected areas, there are also a number of informal private protected areas and game farms surrounding the project site. The nature reserves and game farms are tourist attractions that operate commercial lodges and game viewing activities or hunting and other associated outdoor activities." However, no comment is made on the desirability (or lack of desirability) of a WEF in such an area surrounded by a number of protected areas.</p> <p>REVIEW OF ALTERNATIVES                      4.3.1 EIA Regulations                      4.3.1.1 Appendix 1, Item 2 (e) of the EIA Regulations indicate that the objective of the basic assessment process is to "through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—</p> <ul style="list-style-type: none"> <li>(i) identify and motivate a preferred site, activity and technology alternative;"                         <ul style="list-style-type: none"> <li>i) "property on which or location where the activity is proposed to be undertaken;</li> <li>ii) type of activity to be undertaken;</li> <li>iii) design or layout of the activity;</li> </ul> </li> </ul>		<p>electricity grid. No other feasible sites were identified for investigation.</p> <p>The statement referred to is relevant to the project site. Additional detail on the surrounding area has been included in the Revised BAR.</p> <p>Additional detail on the surrounding area has been included in the Revised BAR.</p> <p>This is a statement. No response required.</p>



No.	Comment	Raised by	Response
	iv) technology to be used in the activity; or v) operational aspects of the activity, and includes the option of not implementing the activity." [Own emphasis]		
	Appendix 1, Item 3(1)(h)(x) of the EIA Regulations further stipulate that "if no alternatives, including alternative locations for the activity were investigated," the BAR, must provide "the motivation for not considering such."		This is a statement. No response required.
	Site and Location Alternatives 4.3.2.1 The reasons provided in the BARs for not assessing alternative site locations for the Wind Farm other than the proposed Location , are as follows: "The Wind Garden Wind Farm project site is planned for the area between Makhanda (Grahamstown) and Somerset East. This area falls within the Cookhouse REDZ and the Eastern Strategic Transmission Corridor. The area was designated as a REDZ and Strategic Transmission Corridor by virtue of the favourable wind resource and existing and planned grid connection infrastructure. As a result, Wind Garden (Pty) Ltd identified this area as a suitable area for the development of a commercial wind farm with the main aim to supply the electricity generated to private off-takers who have a need to shift towards cleaner and more sustainable sources of energy."		This is a statement. No response required.
	The BAR then further comments about this decision: "Environmental Screening and consideration of sensitive environmental features – Following the confirmation of the Wind Garden Wind Farm preferred project site as being technically feasible for the development of a wind farm, the developer commenced with the environmental screening of the site, and assess the main constraints and opportunities and determine whether or not there were any potential fatal flaws or significant no-		This is a statement. No response required.

No.	Comment	Raised by	Response
	<p>go areas that might compromise or limit the development of the Wind Garden Wind Farm and the potential for generating 264MW</p> <p>...</p> <p>"Based on the above considerations, the Wind Garden Wind Farm project site was identified by the developer as being the most technically feasible and viable project site within the broader area for further investigation in support of an application for authorisation. No feasible alternative sites were identified for assessment as part of this BA process"</p> <p>The above explanation shows that a site was selected prior to environmental screening and no alternative site locations were investigated from an environmental perspective. This is not in line with the requirements of the EIA Regulations and must be rejected by the DFFE. The explanation does not provide a coherent, well-reasoned and rational motivation with supporting evidence to proof that no suitable alternative locations elsewhere in the Eastern Cape or in South Africa exist where wind energy may be generated without the same significant environmental impact. No evidence was provided in the BAR of a detailed site selection process in which the EAP ranked the preferred and alternative sites with reference to the cumulative impacts based on the geographical, physical, biological, social, economic, and cultural aspects of the environment as required by the EIA Regulations.</p> <p>The statement: "The properties included in the project site are privately-owned parcels available in the area for a development of this nature through agreement with the landowners and are deemed technically feasible by the project developer for such development to take place" is problematic. It appears to indicate</p>		<p>In terms of the EIA Regulations definitions, "<b>alternatives</b>", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which <u>may include</u><sup>6</sup> alternatives to –</p> <ul style="list-style-type: none"> <li>(a) the property on which or location where it is proposed to undertake the activity;</li> <li>(b) the type of activity to be undertaken;</li> <li>(c) the design or layout of the activity;</li> <li>(d) the technology to be used in the activity; and</li> <li>(e) the operational aspects of the activity;</li> </ul> <p>Section 3(h)(x) of Appendix 1 states: <i>if no alternatives, including alternative locations for the activity were investigation, the motivation for not considering such.</i></p> <p>This is provided in Chapter 3.</p> <p>A fundamental requirement for any development is the availability of land for the development to take place on. Regulation 39 (1) of the EIA Regulations (2014), as amended require:</p>

<sup>6</sup> Own emphasis

No.	Comment	Raised by	Response
	<p>that the Applicant has already secured preferential rights to the land for the location. The legal nature of these agreements with landowners were not disclosed but it matters not as this is not a valid ground for failure to perform a proper investigation to alternative sites.</p> <p>Although it is important that the applicant has secured the support of the landowners for the selected locations (as it must and which is also the case for any other alternative locations), their approval does not place any legal obligation on the DFFE to accept the locations. The competent authority cannot be expected to rubber stamp the locations regardless of the result of the EIA and notwithstanding the significant environmental impact of the development from that location, because the BAR presents it with a fait accompli. This would clearly be unlawful and an automatic ground for the rejection of the application. The Applicant knows that it carries the risk during the application and that environmental authorisation is subject to the discretion of the DFFE based on the results of the EIA process.</p> <p>Reasons of convenience for the Applicant (which are subjective) not to have performed the prescribed alternative location assessment should not be confused with objective substantive grounds that would in exceptional cases justify the absence of location alternatives e.g. the location of the ore body for a mining application. The proposed WEF applications are not such a case.</p>		<p><i>If the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land.</i></p> <p>Therefore, there is a requirement for an agreement to be in place with the affected landowners for the development to occur on their properties.</p> <p>The applicant is aware that the completion of the EIA process and the fact that they have obtained the landowners consent to undertake the development on their land does not guarantee a favourable decision from the DFFE.</p> <p>Just as the location of the ore body for a mining application is important for a mine, the availability of a feasible wind resource for the wind farm is required.</p> <p><i>As detailed in Chapter 3, The developer firstly considered the available wind resource for the Eastern Cape and the Makhanda area through the consideration of various datasets and variables, as well as existing site-specific wind data for the site (monitoring has been undertaken on site</i></p>

No.	Comment	Raised by	Response
			<p>since 2011). Through the consideration of the datasets, involving wind presence and wind speed, as well as meteorological information and geographical factors it was confirmed that the area, and in particular the Wind Garden Wind Farm project site, is suitable for the development of a wind farm. Refer to <b>Figure 3.1</b>.</p> <p>The consideration and the confirmation of the wind presence and wind speed at a desktop level (through the consideration of existing data) and the extensive on-site measurements taken at the project site confirmed the wind resource and ultimately the suitability of the resource for the development of a commercial wind farm.</p> <div> </div> <p><b>Figure 3.1:</b> Average wind speed (as per raw data) expected at the Wind Garden project site</p>
	<p>The lack of a proper investigation about alternative site locations in accordance with the prescribed requirements of the EIA</p>		<p>Refer to responses provided to comments in the above sections.</p>

No.	Comment	Raised by	Response
	<p>Regulations is a material mistake in the BARs and cannot be lawfully condoned by the DFFE. Also, the Applicant's noncompliance with the peremptory requirements of the EIA Regulations to investigate during the BA processes and report in the prescribed manner in on alternative site locations for the projects means the BAR is incomplete and forms further ground for the DFFE to reject the application.</p>		
	<p>CUMULATIVE IMPACTS</p> <p>4.4.1 The VIAs refer at various instances to the cumulative impacts e.g. from the VIA as follows:</p> <p>4.4.2 "The cumulative visual impact of the proposed Fronteer, Waainek, Wind Garden and Albany WEFs will primarily occur on the plateau, but may also occur further north along the south facing slopes of the Fish River Rand.</p> <p>The cumulative visual impact is expected to be high, depending on the observer's sensitivity to wind turbine structures. This impact is relevant in spite of the fact that the wind farms are located in the Cookhouse REDZ" [Own emphasis.]</p>		<p>This is a statement. No response required.</p>
	<p>The VIAs and BARs, failed to also assess WEFs further away at Dassenridge and Cookhouse and consider the cumulative direct and indirect effect of all five these Facilities on wildlife and nature-based tourism of the planned Mega Protected Area (Addo - Great Fish Corridor (Albany Corridor)) due to the Wind Farms' significant degradation of the aesthetic character and sense of place.</p>		<p>As per the usual requirement by the DFFE for renewable energy projects, cumulative impacts of projects within a 30km radius of the site are considered in the BAR.</p>
	<p>Based on the specialist VIA these direct cumulative impacts are considered as high significance with no mitigation possible. The EAP confirms this in his/her summary in section 12.2.11:</p> <p>"Based on the specialist cumulative assessment and findings, the development of the Fronteer Wind Farm and its contribution to the overall impact of all wind energy facilities to be developed within a 30km radius, it can be concluded that the Fronteer Wind Farm</p>		<p>This is a statement. No response required.</p>

No.	Comment	Raised by	Response
	<p>cumulative impacts will be of a medium to low significance, with impacts of a high significance mainly relating to positive socio-economic impacts and visual impacts on the landscape." [Own emphasis.]</p> <p>The EAP then contradicts him/herself in concluding that "Therefore, the development of the Fronteer Wind Farm will not result in unacceptable, high cumulative impacts and will not result in a whole-scale change of the environment". This is a clear disregard for the findings of the VIA specialist and should be rejected by DFFE.</p>		
	<p>CONSIDERATION OF GUIDELINES IN EIA                      4.5.1 No formally adopted Guidelines for Environmental Impact Assessment exist in South Africa other than Best-Practice Guidelines for Assessing and Monitoring the Impact of Wind Energy Facilities on Birds in Southern Africa (3rd Edition, 2015) and the DFFE Minimum Requirements for Avifaunal Impact Assessment.</p>		<p>This conclusion is based on the methodology applied to the cumulative assessment, considering whether the project will result in any unacceptable impact or fatal flaw. As stated in Section 11.14: "<i>Change to the sense of place and character of the area is expected with the development of wind energy facilities. However, the change is not considered to be a fatal flaw.</i>"</p>
	<p>The World Bank Group "Environmental, Health and Safety Guidelines for Wind Energy" (August 2015) provide a useful guideline for the application of "Good International Industry Practice" –</p> <p>a) is required to be applied by any member of the World Bank Group including the International Finance Corporation (IFC); and</p>		<p>This statement is incorrect. There are several guidelines applicable to EIA processes, as detailed in Chapter 7 of the BAR.</p>
	<p>b) the IFC further prescribes standards of environmental assessment and management to which many financiers (including numerous South African funds of renewable energy subscribe in the form of the IFC standards) who are involved in such a project.</p>		<p>The IFC EHS Guidelines (both the general guidelines and those relevant to wind energy) are included within the BAR (Section 7.7.1), and informed the scope of the studies undertaken.</p>
	<p>World Bank Group Environmental, Health and Safety (EHS) Guidelines</p> <p>a) World Bank Group Environmental, Health and Safety (EHS) Guidelines indicate that where any host country regulations differ from the levels and measures presented in the World Bank Group</p>		<p>The World Bank makes use of the IFC EHS Guidelines.</p>

No.	Comment	Raised by	Response
	(WBG) Guidelines then the projects are expected to conform to the whichever are the most stringent.		
	b) Since apart from Avifaunal Assessment no formally adopted Guidelines for wind farm site selection exist in South Africa and numerous of South African renewable energy project funders (e.g Nedbank and RMB) apply IFC standards it is expected that these World Bank Group Guidelines would be appropriate to apply in the EIA.		The IFC EHS Guidelines (both the general guidelines and those relevant to wind energy) are included within the BAR (Section 7.7.1), and informed the scope of the studies undertaken.
	c) The WBG Guidelines repeat the need to consider the choice of site carefully from the earliest stage of planning. "The general approach to the management of EHS issues should consider potential impacts as early as possible in the project cycle, including the incorporation of EHS considerations into the site selection, in order to maximize the range of options available to avoid and minimize potential adverse impacts. Importantly, many EHS impacts associated with wind energy facilities may be avoided by careful site selection." (Own Emphasis).		Comment noted. No further action required.
	d) WBG Wind Energy Guidelines Section 1.1.1, "Landscapes, Seascapes and Visual Impacts", the Guidelines advise that potential impacts – i) Note 12 "on Legally Protected and Internationally Recognised Areas of Importance to biodiversity and cultural heritage features are also a consideration." Accordingly it would have been expected that the Proponent of the WEFs at the hand of the EIA process would have considered the impact of the WEFs on Protected Areas and Provincial Nature Reserves Legally Protected and Internationally Recognised Areas of Importance to biodiversity and cultural heritage and failing consideration of which would not be in line with NEMPAA.		The proposed project site is not within any protected environment or conservancy itself. The visual, heritage and socio-economic impact assessment reports (Appendix K. I and L respectively) consider the impacts on the surrounding areas which include private and provincial nature reserves.
	ii) Note 13 it is advocated that "...avoidance and minimization measures to address landscape...and visual impacts are largely associated with the siting and layout of wind		The visual impact was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with

No.	Comment	Raised by	Response
	<p>turbines and associated infrastructure...". Given that the siting of the turbines on the ridge line overlooking Protected Areas and the Provincial Reserve are intrusive on sensitive landscape that form the basis for wildlife and nature tourism within avoidance of impact through avoidance of turbine placement i.e. the no-go option can be considered both on a per turbine as well as per development basis.</p>		<p>specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be moderate to high.</p>
	<p>e) WBG Wind Energy Guidelines Section 1.1.3 Biodiversity indicate –</p> <p>i) Note 25 indicates: "Site selection is critical to avoiding and minimizing potential adverse impacts on biodiversity. Site selection should include the following:                      Consideration of the proximity of the proposed wind energy facility to sites of high biodiversity value in the region. Early screening can improve macro-level project site selection and the scoping of priorities for further assessment, thus reducing unnecessary biodiversity impacts and costs in the future. Sites of local, regional, and international importance may include national and international protected areas (including marine protected areas), Important Bird Areas (IBA), Key Biodiversity Areas (KBAs).                      Consultation with relevant national and/or international conservation organizations also helps to inform site selection for both onshore and offshore facilities."</p> <p>ii) It is patently clear that Protected Areas and Provincial Reserves are affected and the relevant local, provincial and national conservation organizations (Indalo, ECPTA and SANParks) have not been consulted to help to inform site selection.</p> <p>International Finance Group Guidelines                      The International Finance Group (IFC) is a member of the World Bank Group which has established a set of "Performance Standards" (January 2012) under its Sustainability</p>		<p>The up-front biodiversity screening study and pre-construction avifauna and bat monitoring undertaken for the larger area informed the placement of infrastructure to minimise direct impacts on biodiversity through informing the layout of the facility. The public participation process allows for the consultation with conservation bodies and authorities regarding the project. No direct impact on biodiversity of the surrounding areas is envisaged as a result of the proposed project.</p> <p>This is a statement. No response required.</p>



No.	Comment	Raised by	Response
	<p>Framework. The Sustainability Framework articulates IFC's strategic commitment to sustainable development (ref: <a href="https://www.ifc.org/wps/">https://www.ifc.org/wps/</a>).</p>		
	<p>a) Standard 6 Guidance Note GN27: In practice, natural and modified habitats exist on a continuum that ranges from largely untouched, pristine natural habitats to intensively managed, modified habitats. Project sites will often be located among a mosaic of habitats with varying levels of anthropogenic and/or natural disturbance. Clients are responsible for delineating the project site as best as possible in terms of modified and natural habitat... Is the project site (or parts of it) an isolated area of natural habitat within a heavily disturbed or managed landscape? Is the project site located near areas of high biodiversity value (for example, wildlife refuges, corridors, or protected areas)? Or, is the project site located in a mosaic of modified and natural habitats that contain biodiversity values of varying importance to conservation?</p>		<p>PS 6 relates to Biodiversity Conservation and Sustainable Management of Living Natural Resources. The up-front biodiversity screening study and pre-construction avifauna and bat monitoring undertaken for the larger area informed the placement of infrastructure to minimise direct impacts on biodiversity through informing the layout of the facility. The public participation process allows for the consultation with conservation bodies and authorities regarding the project. No direct impact on biodiversity of the surrounding areas is envisaged as a result of the proposed project.</p>
	<p>i) ii) The WEF project sites are located near areas of high biodiversity value and is located within mosaic of modified and natural habitats that contain biodiversity values of varying importance forming corridors between protected areas (Buffalo Kloof Protected Environment/Waters Meeting Nature Reserve, Blaauwkrantz Nature Reserve, Kwandwe Protected Environment and Great Fish Nature Reserve).</p>		
	<p>iii) An evaluation of the adherence to IFC Performance Standard 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources is contained in Appendix: A</p>		<p>This is a statement. No response required.</p>
	<p>CONCLUSION                      5.1 The Indalo Protected PGR Association as custodian of the Indalo Protected Environment herewith provides preliminary comment and places on record that the EIR and specialist</p>		<p>Comments are noted. no further action required.</p>

No.	Comment	Raised by	Response
	<p>studies are deficient to the extent that these inadequacies are covering up fatal flaws in the application, if these material deficiencies were to be addressed it would become clear that the development would obstruct the development of the Albany Mega-Reserve, degrade the scenic value of the area and devalue its unique nature and wilderness tourism product and substantially impact on biodiversity which Indalo is obligated to protect. Accordingly, Indalo is categorically in favour of the outright refusal of the WEFs based upon the grounds set out in this comment on BAR.</p> <p>In other words, Indalo favours the ultimate, most effective mitigation measure for the WEFs and the fatal flaws that they hold in terms of impact to the Indalo Protected Areas neighbouring game farms and their potential for expansion and integration into the larger Albany Mega-Reserve, is by avoiding the WEFs through their outright refusal.</p>		

## 2. COMMENTS RECEIVED AFTER THE REVIEW AND COMMENT PERIOD OF THE BASIC ASSESSMENT REPORT

### 2.1. Organs of State

No.	Comment	Raised by	Response
	None received		

### 2.2. Interested and Affected Parties

No.	Comment	Raised by	Response
1.	PROPOSED WIND GARDEN AND FRONTEER WIND ENERGY FACILITIES, EASTERN CAPE PROVINCE (DFFE REF. NO.:	Richard Summers	Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.). In

No.	Comment	Raised by	Response
	<p>14/12/16/3/3/1/2314 AND 14/12//3//3/1/2315 RESPECTIVELY) – PUBLIC PARTICIPATION PROCESS</p> <p>1. We refer to the abovementioned projects and confirm that we act on behalf of several registered interested and affected parties (I&amp;APs), including Kwandwe Private Game Reserve ('Kwandwe').</p> <p>2. Since the submission of preliminary comments on behalf of our registered I&amp;AP clients on 6 May 2021, we have had further opportunity to consult with Kwandwe regarding the potential impact of the abovementioned projects on the environment.</p> <p>3. This letter stems from the fact that neither the draft BA Assessment Reports ("BARs") nor any of the specialist studies undertaken deals specifically with the potential impacts on megafauna in a terrestrial context. No reasons are provided in the draft BARs for this omission. Specifically, the potential impact of the wind energy facilities on two species in particular – Elephants (<i>Loxodonta Africana</i>) and Black Rhino (<i>Diceros bicornis</i>) is of particular concern to Kwandwe and must be assessed as a valid project-related impact. The assessment should include but not be limited to the effect of vibrations, blasting and acoustic impacts associated with the construction and operational phases of the projects on megafauna.</p> <p>4. Given the strategic significance of Kwandwe as a cor Protected area in the surrounding ecological landscape, coupled with the pivotal role Kwandwe plays in Elephant and Black Rhino conservation, it is crucial that these concerns be acknowledged and addressed during the assessment process. The failure to address the impacts on terrestrial megafauna in the draft BARs and specialist studies is a serious gap in the assessment process.</p>	<p>Director: Richard Summers Inc.</p> <p>Letter: 07 June 2021</p>	<p>February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.</p> <p>Wind is a significant source of natural noise, with a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range.</p> <p>Wind turbines does not emit broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed.</p> <p>The wind turbines in addition will only operate during periods of higher wind speeds, a period when background noise levels (especially in the low frequencies) are already elevated due to wind-induced noises.</p> <p>The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with periods of higher winds also correlating with lower faunal activity, particularly with regard to communication.</p>

No.	Comment	Raised by	Response
	<p>5. While this submission does not form part of any formal commenting period, the concern is being raised and formally tabled. The issue needs to be addressed due to the gravity of the omission in the assessment process to date. In the circumstances, we hereby request that the aforementioned concerns are addressed in respect of the abovementioned projects in the course and scope of the revised BARs and specialist reports that are currently underway.</p>		<p>Garstang (2003)<sup>7</sup> specifically highlights that factors such as wind speed do impact on faunal communication.</p> <p>In addition, there are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals.</p>
	<p>6. We look forward to receiving your favourable response.</p>		<p>The Noise impact Assessment Report (Appendix J of the Revised BAR) does briefly discuss Noise Impact on Animals in section 7.1. The following should be noted:</p> <ul style="list-style-type: none"> <li>• There are no noise limits or guidelines that can be used to determine what noise levels will impact on animals.</li> <li>• There are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals.</li> <li>• Animal communication is generally the highest during no and low wind conditions. It has been hypothesised that this is one of the reasons why birds sing so much in the mornings (their voices carry the farthest and there are generally less observable wind).</li> <li>• Background noise levels in remote areas are not always low in space or time. The site is windy and this generates significant noise itself and also significantly changes the ability of fauna to hear the environmental noises around them.</li> <li>• Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.). In February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with</li> </ul>

<sup>7</sup> Garstang, M. Long-distance, low-frequency elephant communication. J Comp Physiol A 190, 791–805 (2004). <https://doi.org/10.1007/s00359-004-0553-0>

No.	Comment	Raised by	Response
			<p>wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.</p> <ul style="list-style-type: none"> <li>• Wind is a significant source of natural noise, with a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range.</li> <li>• Wind turbines does not emit broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed.</li> <li>• The wind turbines will only operate during periods of higher wind speeds, a period when background noise levels are already elevated due to wind-induced noises.</li> <li>• The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with periods of higher winds also correlating with lower faunal activity, particularly with regard to communication.</li> <li>• This fact is also discussed Garstang (2003) that discuss the role that wind play in determining the range and detection of elephant communication.</li> </ul> <p>The Ecology Impact Assessment (Section 3.5 in Appendix D of the Revised BAR) also includes the following on impacts on wind farms on fauna:</p> <p><i>A potential but little-known impact may occur as a result of the infra-sound generated by the wind turbines. Some fauna and</i></p>

No.	Comment	Raised by	Response
			<p><i>in particular, elephants are known to communicate using low-frequency sounds and would potentially be impacted by similar low-frequency noise generate by wind turbines. This is however not a documented impact associated with wind turbines and there are no published records of elephants being negatively impacted by wind turbines. A major source of background infrasound in the natural environment is wind generated, with the result that increasing levels of infrasound generated by wind turbines occur simultaneously with increasing levels of natural background noise as the wind speed increases. The contribution of wind turbines to infrasound appears to become undetectable from background levels, even in rural environments within 1.5km of wind farms (Evans et al. 2013). As such, while elephants living nearby wind farms may experience some noise disturbance, this impact is currently too poorly documented to be assessed with sufficient confidence to allow firm predictions in this regard. There does however appear to be some evidence that this impact would not extend for very large distances from wind farms and as such can likely be considered to represent a local impact.</i></p>

### 3. COMMENTS RECEIVED DURING THE COMMENCEMENT OF THE BASIC ASSESSMENT PROCESS

#### 3.1. Organs of State

No.	Comment	Raised by	Response
33.	<p>Please find attached Eskom general requirements for works at or near Eskom infrastructure and servitudes. Please also find attached the Eskom setbacks guideline the applicant needs to consider during planning of the layouts and positioning of infrastructure.</p>	<p>John Geeringh                      Senior Consultant                      Environmental Management                      Land and Rights                      Eskom Transmission Division</p>	<p>The requirements for development at or near Eskom infrastructure servitudes are noted. These requirements have been submitted to the developer for their attention and consideration for the development of the Wind Garden Wind Farm.</p>

No.	Comment	Raised by	Response
	<p><b>Renewable Energy Generation Plant Setbacks to Eskom Infrastructure document was submitted and is included in Appendix C7 of the BAR. The requirements listed below forms part of the set of documents attached to the e-mail.</b></p> <ol style="list-style-type: none"> <li>1. Eskom's rights and services must be acknowledged and respected at all times.</li> <li>2. Eskom shall at all times retain unobstructed access to and egress from its servitudes.</li> <li>3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals.</li> <li>4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.</li> <li>5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.</li> <li>6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.</li> <li>7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be</li> </ol>	<p>E-mail: 19 October 2020</p>	

No.	Comment	Raised by	Response
	<p>rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.</p> <p>8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.</p> <p>9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager.  <u>Note:</u> Where and electrical outage is required, at least fourteen work days are required to arrange it.</p> <p>10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</p> <p>11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the</p>		



No.	Comment	Raised by	Response
	<p>cost of any remedial action which has to be carried out by Eskom.</p> <p>12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</p> <p>13. Equipment shall be regarded electrically live and therefore dangerous at all times.</p> <p>14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</p> <p>15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</p> <p>16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</p> <p>17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</p>		
34.	SANRAL has the following comments, with regards to the proposed above mentioned subject development, within the	Chumisa Njingana Engineer	It can be confirmed that there will be no infrastructure within the National Road Reserve as the development of the Wind

No.	Comment	Raised by	Response
	<p>Blue Crane Local Municipality (R63/N10) and Makana Local Municipality (N2/R67):</p> <ul style="list-style-type: none"> <li>• No installation of any infrastructure inside the Road Reserve.</li> <li>• The wind turbines must be erected at least 200 metres from the National Road Reserve boundary, if this requirement cannot be met, then a good motivation has to be submitted to SANRAL as to why the wind turbines should be erected closer.</li> <li>• All other buildings / structures should be erected at least 60 metres from the National Road Reserve boundary and / or 500 metres from any intersection.</li> <li>• If access is required from the National Road, an approval from SANRAL is required, otherwise access can be obtained from the nearest numbered route.</li> <li>• A formal application together with the plans of the proposed wind farm must be submitted to SANRAL.</li> <li>• Construction of all work may only commence after written approval has been obtained from SANRAL.</li> </ul>	<p>SANRAL</p> <p>E-mail: 22 November 2020</p>	<p>Garden Wind Farm is not planned to take place near any national roads.</p> <p>It can be confirmed that there will be no infrastructure (including wind turbines) within 200m from a National Road as the development of the Wind Garden Wind Farm is not planned to take place near any national roads.</p> <p>It can be confirmed that there will be no infrastructure (including buildings) within 60m from a National Road or within 500m of an intersection which includes a national road as the development of the Wind Garden Wind Farm is not planned to take place near any national roads.</p> <p>It can be confirmed that there will be no intersections required over national roads as the development of the Wind Garden Wind Farm is not planned to take place near any national roads.</p> <p>The required applications will be submitted to SANRAL if applicable.</p> <p>The required approvals will be obtained from SANRAL if applicable.</p>
35.	<p>Can you please send a kml/kmz file of the localities for this proposed project?</p>	<p>Shanè Gertze                      Environmental Planner                      Eastern Cape Parks &amp; Tourism Agency</p> <p>E-mail: 03 December 2021</p>	<p>The requested KMZ file was submitted to the stakeholder via email on 05 January 2021.</p>

### 3.2. Key Stakeholders and Interested & Affected Parties

No.	Comment	Raised by	Response
1.	I suggest that your half page advert in The Herald today is possibly not legal. The headline refers to an area between Somerset East and a town that I believe no longer exists. Perhaps you should consult your lawyers on the matter to ascertain the correctness of the issue.	Unknown recipient  E-mail: 12 November 2020	The I&AP was contacted to obtain his name and contact details. He informed the project team that there is no need to register him on the project's database (refer to <b>Appendix C7</b> of the BAR). The use of the name Grahamstown has been rectified in the project documentation, which now refers to Makhanda.
2.	I was just looking at your cluster of renewable energy projects project and was wondering if all the wind farms are being developed by 1 developer or multiple developers?	Jessica Els I&AP  E-mail: 12 November 2020	The various renewable energy facilities that form part of the cluster are proposed by the same umbrella company but are assessed under separate special purpose vehicles as per the list of applicants provided via e-mail to the I&AP on 12 November 2020 (refer to <b>Appendix C6</b> of the BAR). The Applicant for the Wind Garden Wind Farm is Wind Garden (Pty) Ltd.
3.	Major affect on tourism based game reserves. Has direct impact on grading of our lodges, but more importantly, the noise & danger impact on our flora & fauna.	Neale Howarth Chairman Indalo Protected Environment  Comment Form: 18 November 2020	<p>The concerns raised by the I&amp;AP regarding the impacts on the game reserves and the associated tourism, noise impacts and threats and disturbance to flora and fauna have been noted as part of the EIA process.</p> <p>Independent specialist studies have been undertaken as part of the BA process to assess these issues raised by the I&amp;AP. The Socio-Economic Impact Assessment (<b>Appendix L</b>) assessed the impact of the Wind Garden Wind Farm on the local tourism and game farming industry which has indicated that the impact will be of a low significance during construction and operation, with the implementation of the recommended mitigation measures.</p> <p>The Ecological Impact Assessment (<b>Appendix D</b>) has assessed the impact of the development on flora and fauna. The results indicate that there will be a medium impact on vegetation and protected plant species and a low impact on fauna during the construction phase with the implementation of the</p>

No.	Comment	Raised by	Response
			<p>recommended mitigation measures. During the operation phase there will be a low impact on fauna, with the implementation of the mitigation measures. No impacts to flora have been identified by the specialist for the operation phase, except for alien invasion for which appropriate mitigation measures have been identified.</p> <p>The Avifauna Impact Assessment (<b>Appendix E</b>) has assessed impacts on avifauna species present within the project site. The Avifauna Impact Assessment identified that all impacts associated with the development of the Wind Garden Wind Farm development footprint will be of a medium significance before mitigation and can be mitigated to an acceptable level of impact (i.e. medium or low significance, depending on the impact being considered). No impacts of a high significance or fatal flaws are expected to occur with the implementation of the recommended mitigation measures.</p> <p>The Bat Impact Assessment (<b>Appendix F</b>) has assessed impacts on bats. Five of the bat species (and potentially more unidentified species) that were recorded on site exhibit behaviour that may bring them into contact with wind turbine blades. Based on the bat activity recorded at the Wind Garden Wind Farm, the significance ratings for the majority of the impacts to bats posed by the development are predicted to be medium or high before mitigation. After mitigation, all impacts are predicted to be low. Based on the opportunity for reduction of the impacts through appropriate mitigation measures from a high or medium significance to a low acceptable significance no fatal flaws are expected to occur.</p>

No.	Comment	Raised by	Response
4.	As an Eastern Cape resident I have a keen interest in the development of the province and these projects could bring much needed development and jobs to the region.	Stevon Hobson Engineering Advice & Services (Pty) Ltd  E-mail: 18 November 2020	The place of residence and interest of the I&AP in the project is noted. It is confirmed that the I&AP has been registered on the project database ( <b>Appendix C2</b> ).  A Socio-Economic Impact Assessment ( <b>Appendix L</b> ) was undertaken for the project which considers the positive impacts associated with the development, including employment opportunities and economic development.
5.	My company is a specialist piping fabricator and constructor and we, as a team, would like to engage in more renewable energy projects as opportunities present themselves. Our interests lie in wind, Solar and gas to power projects.	Grahame Britchford Project Manager: Arminco Piping Projects  E-mail: 18 November 2020	The interest of the I&AP is noted. It is confirmed that the I&AP has been registered on the project database ( <b>Appendix C2</b> ). The details of the I&AP have been provided to the developer for their records.
6.	We require the BA before final comments.	Angus Sholto-Douglas Managing Director C-SA Properties (Pty) Ltd  Comment Form: 18 November 2020	The Basic Assessment (BA) process formally commenced on 17 November 2020 and the I&AP has been registered on the project database.  The I&AP was notified of the availability of the BAR via email on 03 March 2021, which included the details of where the report can be accessed.  All comments raised by the I&AP on the Wind Garden Wind Farm BAR will be recorded, included and addressed within the final BAR to be submitted to the DEFF for decision-making.
	The map of Kwandwe Protected Environment is incorrect.		The information for the area was sourced from the most recent DEFF South Africa Protected and Conservation Areas.
	The impact of a WEF on a border of a border of a PE and in the Biodiversity expansion corridor is of grave concern and questionable intent.		It is confirmed within the Ecological Impact Assessment ( <b>Appendix D</b> ) that the development does not fall within a National Protected Areas Expansion Strategy (NPAES) Focus Area. The Wind Garden Wind Farm is not located directly adjacent to a protected area.

No.	Comment	Raised by	Response
	<p>We reserve all our right to strongly oppose this poorly conceived plan which has failed twice before!!</p> <p>When can we expect to receive the Basic Assessment so we can comment on the detail of the proposed development?</p>	<p>E-mail: 19 November 2020</p>	<p>The opposition raised by the I&amp;AP to the development of the Wind Garden Wind Farm is noted.</p> <p>All registered I&amp;APs have been notified of the availability of the BAR for their review and comment (refer to <b>Appendix C6</b> of the BAR). The availability of the report has also been advertised in the Herald (a provincial newspaper) and Hartland Nuus (a local community newspaper) (refer to <b>Appendix C3</b> of the BAR).</p>
7.	<p>Kwandwe Private Game Reserve lies in the Great Fish River Valley, east of the R67 between Grahamstown and Fort Beaufort. Presently Kwandwe permanently employs 260 people, most of who originate from the immediate area. Kwandwe has made significant investment in the local economy, including, but not limited to the Fort Brown Primary School, the Mgcamabele Community Centre and the establishment of the Ubunye Foundation.</p> <p>Kwandwe and its subsidiaries inject an average R3,8million per month directly into the Makhanda economy through salaries and support of local business.</p> <p>Kwandwe has numerous neighbours who will also be adversely affected by the proposed Wind Garden and Fronteer Wind Farms, namely Clifton Wildlife Estate, Hay Lodge, Likhanyo Game Reserve, Vaalkrans Game Reserve, Lanka Safaris, Hellspoort Game Reserve, Woodlands Safari Estate and Ezulu.</p> <p>Kwandwe prides itself on a conservation record that has spanned twenty years, conserving a wide variety of endangered species. Renewable energy is of critical importance to our planet and we as a group support this. We do, however, believe that Wind Energy Facilities need to be</p>	<p>Hendrik Odendaal                      General Manager                      C-SA Properties (Pty) Ltd                      Kwandwe Private Game Reserve</p> <p>Letter: 23 November 2020</p>	<p>The position of the I&amp;AP and the contributions of the Kwandwe Private Game Reserve to the community are noted.</p> <p>The main concern raised by the Reserve is the potential impact of the wind farm development on their tourism and game farming activities. These concerns are individually addressed in the responses which follow.</p>

No.	Comment	Raised by	Response
	<p>placed responsibly where minimal impact on the avifauna and wildlife based tourism ventures occurs.</p> <p>We firmly believe that the position of these WEF's, will have significant impact on the tourism ventures of our greater area, especially Kwandwe Private Game Reserve.</p> <p>1. THE VISUAL IMPACT OF THE PROPOSED FRONTIER AND WIND GARDEN WEF'S</p> <p>The clientele of Kwandwe is made up of mainly international guests, bringing much needed foreign currency into our economy. These guests are looking for experiences in wildlife areas that have as little exposure to visual and sound pollution. The proposed 130m high masts on the ridges on our south-western boundary will consequently detract from the sense of place and wildness of the experience we offer to our guests and have gained a reputation for over the past twenty years. The Socio-Economic value of private game reserves in the Eastern Cape is well researched and studied by:</p> <p>2.1. Nelson Mandela University, Centre for African Conservation Ecology Report No. 60, August 2011 titled "Combining conservation and socio-economic development: An assessment of eco-tourism-based private game reserves in the Eastern Cape by Andrew Muir; Andrew Skowno and Graham Kerley.</p> <p>2.2. Centre of African Conservation Ecology Report No 56. "COMBINING CONSERVATION AND DEVELOPMENT ON PRIVATE LANDS: AN ASSESSMENT OF ECOTOURISM BASED PRIVATE GAME RESERVES IN THE EASTERN CAPE" by Jeffrey A. Langholz and Graham Kerley.</p> <p>2.3. J. D. Snowball and G. G. Antrobus: (2008) Ecotourism and Socio-economic development: The impact of the</p>		<p>A Visual Impact Assessment (<b>Appendix K</b> of the BAR) has been undertaken as part of the BA process. It was concluded that the Wind Garden Wind Farm could have a high visual impact on objecting landowners and residents of (or visitors to) homesteads and tourist facilities within a 10 - 20km radius of the wind turbine structures. This includes residents of/visitors to Shenfield (Lanka Safaris), Peninsula and Fonteinskloof, Douglas Heights, Cranford, Heatherton Towers, Melton, Beaumont and Vetteweiden (all located within Kwandwe Nature Reserve). No mitigation of this impact is possible (i.e. the structures will be visible regardless), but general mitigation and management measures are recommended as best practice. Even though the above impact rating could be high, and in spite of the fact that no mitigation of this impact is possible (i.e. the structures will be visible regardless), the rating should be viewed in the context of the following potential moderating factors:</p> <ul style="list-style-type: none"> <li>» In most instances the wind turbines will only be partially exposed.</li> <li>» Fewer turbines is expected to be exposed to the north due to the shielding effect of the escarpment.</li> <li>» The generally longer distances of observation (i.e. beyond 10km) is expected to mitigate the impact to some degree.</li> </ul> <p>Additional to this, and according to the Socio-Economic Impact Assessment (<b>Appendix L</b>), objections are more likely to</p>

No.	Comment	Raised by	Response
	<p>conservation, economic and social activities of private game reserves in the Eastern Cape. Rhodes University, Department of Economics and Economic History.</p> <p>Renato Johnsson's paper "The Benefits of Wildlife Tourism in the Eastern Cape." (unpublished) refers. Johnsson's paper comments on the Socio-economic studies conducted above.</p> <p>2.4. A 2019 Socio-Economic Research paper will be published by Rhodes University later in the year, giving an updated perspective on the socio-economic value of Private Game Reserves in the Eastern Cape.</p>		<p>be received during the pre-construction stage of the Wind Garden Wind Farm, with more tolerance shown during operation. This is attributed to the fact that initially perceived negative impacts associated with wind energy facilities do not always come to fruition.</p>
	<p>2. NEGATIVE IMPACT ON ECO-TOURISM</p> <p>Private Game Reserves are an important magnet that attracts tourists to the region, notably foreign tourists. For a large proportion of the estimated 1.5 million foreign tourists who visit South Africa every year, <b>scenery and wildlife</b> is the primary attraction, with 45% of them visiting at least one wildlife or nature reserve during their trip (Hall, 2007 cited in Indalo 2008.)</p> <p>Ecotourism, as opposed to agriculture is an activity more likely to achieve economic and ecological sustainability in the long run, with greater benefits for the local communities in terms of employment, empowerment and general upliftment.</p> <p>The original TERU report of 2004 found that ecotourism-based game farming has long been described as a sustainable alternative to livestock farming, especially in semi-arid areas — such as in the Eastern Cape - where low rainfall precludes cropping and livestock production is marginal. The study finds that:</p>		<p>The Socio-Economic Impact Assessment (<b>Appendix L</b>) has assessed the impact of the development on the local tourism and game farming industry during both the construction and operation phases due to the associated noise and visual impacts of a wind farm. It was concluded that during the construction phase, The presence of construction machinery, increased traffic to and from the site (transporting staff, equipment, and material) and staff on or near the site will likely be the largest disturbances. The longer construction continues, the greater the disturbances will likely be. As the towers of the wind turbines are erected there is likely to be an increased disturbance as towers and turbines become increasing visible in the surrounding area. During this period, the full negative impact may be experienced by local tourism. Once construction is completed the disturbances associated with the vehicular traffic, equipment and staff will be reduced and the remaining disturbance will be that of the wind farm itself. The impact can be mitigated to a low significance. The examination of the wind farm impacts on tourism from literature have indicated that no lasting impacts to tourism are</p>



No.	Comment	Raised by	Response
	<p>"As a land- use, eco-tourism-based game farming is an economically and ecologically desirable alternative to other land uses, including mohair and dairy farming. Not only does it generate more income per unit area, but it also creates more jobs that are better paid" (2004: 20) "Private Game Reserves seek to blend earnings with ecology and business with biodiversity" (2006: 4)</p> <p>This report provides the main findings of the studies; the employment effects of the conversion from farming to ecotourism resulted in more and better jobs being created, and which has featured the upskilling of local workers in order for the local communities to be able to become involved in the ecotourism ventures. The studies also revealed the contribution of ecotourism to the wider economy, including attracting tourists to stay in the region longer. The move towards eco-tourism has further increased the conservation estate in the Province and provides for the conservation of the rural wildlife for the enjoyment of future generations.</p> <p>3. IMPACT ON COMMUNITY OUTREACHPROGRAMMES AND EMPLOYMENT</p> <p>Another important feature of the private game reserves of the INDALO association, which was highlighted in the study conducted by Rhodes University, was the extent to which PGRs have developed linkages with the communities in their area, "not because of any legal requirement, but rather from a sense of corporate responsibility."</p>		<p>likely to occur. According to the literature review it was revealed that during pre-planning and planning, the negative impacts would be noticed the most, however, once operational, the impacts experienced during pre-planning and planning will most likely dissipate.</p> <p>The full extent of the negative impact will, however, most probably be achieved during the operation phase of the project when the word about the proximity of the project to local game farms spread amongst potential tourists and repeat visitors and when the turbines are fully operational and visible. The negative effects of wind farms on tourists' interest to visit the area have not been confirmed. However, based on the initial analysis of surrounding product owners, the effect of the existing Waainek Wind Farm did not impact the number of tourists visiting the area after its construction. The primary concern amongst residents was that of an ailing economy, crime and poor infrastructure.</p> <p>While it is noted that there is low probability of any negative impacts occurring, there is a possibility that the development of the wind farm may decrease the number of visitors to the region. The impact was identified to be of a medium significance which can be reduced to a low acceptable level with the implementation of the recommended mitigation measures.</p> <p>Considering the above, the Wind Garden Wind Farm is not expected to impact on the community outreach programmes and employment being provided by the Kwandwe Private Game Reserve. The development of the Wind Garden Wind Farm will also contribute to the surrounding communities and</p>

No.	Comment	Raised by	Response
	<p>"A lesser known feature of Indalo PGRs is the extent of their engagement in community outreach programmes. All the reserves in the study reported some involvement in current community development projects. The engagement includes involvement with local institutions such as schools, taking less privileged children on game drives, in environmental and conservation awareness programmes, AIDs education, facilitating volunteer programmes at an AIDs orphanage, training of family members in small business activities and providing outlets for the sale of products such as vegetables and curios, and sponsoring recreational facilities and activities".</p> <p>From the onset the INDALO Private Game Reserves have demonstrated a commitment to job creation and community development through the retraining and conversion of their local workers to make the change from agriculture to the tourism industry. This includes employing local staff despite a lack of skills and, in many cases, illiteracy and providing them with skills training.</p> <p>For most of the INDALO PGRs strict human resource and procurement policies are in place to employ previous farm workers and to recruit staff from the local community, with a long-term objective to implement skills development and employment equity plans. Due to a lack of hospitality-related skills, substantial in- house training is required. Training may take as long as 18 months to 5 years. Skills required on the PGRs include an ability to speak English, numeracy, literacy, hospitality skills, game ranging, security, anti-poaching, chef skills and public relations.</p>		<p>local residents through socio-economic development and employment opportunities, rather than detracting from the current contributions made by the Kwandwe Private Game Reserve.</p> <p>The proposal provided by the I&amp;AP for a 10km buffer around protected areas is noted. It must however be considered that the impacts from a socio-economic perspective were assessed to be of a low significance with the implementation of mitigation. Visual impacts were identified to be of a high significance due to the nature of the development, however this is not considered to be a fatal flaw by the specialist <b>(Appendix K)</b>.</p>

No.	Comment	Raised by	Response
	<p>While the reliance on local rural population to provide an upscale tourism service presents a daunting challenge, the 2006 report considers that INDALO PGRs "are finding creative ways to meet tourists' high expectations for superb service while also honoring their commitment to local communities."</p> <p>4. IMPACT ON WIDER ECONOMY AND SOCIAL STRUCTURE</p> <p>Ecotourism's Contribution to the Wider Economy:</p> <p>There is an urgent need for national and provincial government to acknowledge the important contribution this industry is making towards the country's economy. The studies have shown that 3 500 people are dependent on income gained working in Private Game Reserves (PGR's). In terms of multiplier effects the revenue generated by these eco-tourism businesses translates into an infusion of R180 million into the regional economy.</p> <p>Multiplier effects occur in the economy because guests to PGRs purchase further items during their time in the Eastern Cape. These includes buying crafts and souvenirs, staying in hotels, renting cars, buying petrol, purchasing clothes, visiting other attractions, and dining in restaurants. Therefore the tourists' true economic impact in the region is much wider that what is spent at the PGRs.</p> <p>The INDALO studies sought to determine the general contribution to the economy by the visitors attracted to the region by the private game reserves. The 2004 study estimated that A 70% multiplier effect applied to gross incomes of R87.2 million generated by 12 existing PGRs in 2002/2003 would imply</p>		

No.	Comment	Raised by	Response
	<p>that visitors made direct and indirect expenditures close to R150 million (2004: 16) The 2006 study, using the same equation, found that R105.8 million in revenue generated by PGRs in 2004/2005 translates into a total infusion of R180 million into the regional economy (2006: 12). The spending of overseas guests also generates important foreign exchange earnings for the South Africa treasury.</p> <p>In addition to economic multiplier effects there are also social multiplier effects, the study by the University of Port Elizabeth remarked:</p> <p>"Eco-tourism lends itself very well to developing and building partnerships with communities. An array of potential initiatives exists, with regard to previously disadvantaged communities and informal settlements within and around the PGRs. Potential initiatives include promoting development in townships / settlements through arts and crafts; introducing local children to environmental education; conservation outreach programs within the communities themselves and linkages with teachers in local schools."</p> <p>5. KWANDWE PRIVATE GAME RESERVE</p> <p>Kwandwe's website introduction is as follows:</p> <p>"Nestled in the heart of South Africa's unspoilt Eastern Cape province lies Kwandwe Private Game Reserve, a world-class Big Five safari destination. The 22,000 hectares of pristine private wilderness stretches either side of the Great Fish River which meanders for 30 kilometres through scenic landscape and comprises just twenty-six rooms split across five very individual</p>		

No.	Comment	Raised by	Response
	<p>and distinct safari lodges and villas, according it one of the highest land to guest ratios in South Africa. Renowned for quality guiding, understated luxury and the thousands of animals and wildlife that call the Reserve home, Kwandwe offers a range of safari activities and accommodation options to make every African Dream come true". <a href="http://www.kwandwe.com">www.kwandwe.com</a>.</p> <p>Kwandwe is committed to making a positive and lasting difference in the rural Eastern Cape, one of South Africa's least developed provinces. Working through its social development partner, the Ubunye Foundation, Kwandwe invests in projects that improve lives and create sustainable livelihoods opportunities in marginalised rural communities. <a href="http://www.ubunvefoundation.co.za">www.ubunvefoundation.co.za</a> <a href="https://youtu.be/D_-HvZulvFU">https://youtu.be/D_-HvZulvFU</a></p> <p>Kwandwe has been trading for 18 years and has an established track record of conservation and community development. These efforts have led to Kwandwe being declared a <b>Protected Environment</b>. There is a projected further 6,500 hectares that will be added into the Kwandwe Protected Environment, this will be done on the basis that we are secure in the knowledge that the sense of place and "wildness" of the Great Fish River Valley is not compromised by visual pollution.</p> <p>It is our proposal that Protected Environments should receive protection from the visual pollution of WEF and <b>an exclusion zone of at least ten kilometers around all Protected Environments</b> should be observed. This said, should a proposed WEF still pose a significant visual threat to the business activity, this exclusion zone should be considered on the merits of each application.</p>		

No.	Comment	Raised by	Response
	<p>Every guest staying at Kwandwe makes a direct contribution to community development through the Conservation and Community Levy (funds raised from this levy are split equally between these two initiatives).</p> <p>Kwandwe Private Game Reserve firmly believes that WEF's in the two areas proposed above, pose a significant threat to their eco-tourism business. The visual impact of turbines is well-documented, and it is believed that such visual impact will result in reduced numbers of tourists visiting the private game reserve, which will in turn result in a reduction of employment.</p> <p>The Wildlife Economy Lab run by the National Department of Environmental Affairs and the Department of Tourism plotted out an ambitious and attainable plan, which has been endorsed by all stake holders. There is a green economy that underpins the rural economy, it is clearly evident in the Great Fish River Valley with consumptive use, non-consumptive eco-tourism as well as Provincial Nature Reserves. It is clear that a sustainable and long-standing wildlife economy has been developed.</p>		
6.	<p>In conclusion</p> <p>President Cyril Ramaphosa stated that the tourism sector "... is a sector that is thriving and that has tremendous potential for further growth and for the creation of jobs. There is growing global consensus on the need for countries to pursue paths of sustainable development, to grow and transform our respective economies while minimising our impact on nature.</p> <p>Tourism has an extensive value chain, stimulating economic activity in manufacturing, in the services sector and in the</p>		<p>The comment has been noted and responses to specific issues provided above.</p>

No.	Comment	Raised by	Response
	<p>creative and cultural industries. We have set ourselves a bold target to raise over \$100 billion in new investment over five years. Tourism plays a critical role in that strategy." 4 May 2019, South African Tourism Indaba, Durban.</p> <p>I firmly believe that the proposed WEF's pose a significant threat to our eco-tourism business, and in turn on the valuable socio-economic role of Private Game Reserves and Protected Areas.</p>		
8.	<p>Could you please provide details about who the applicant is?</p>	<p>Shaun Taylor                      Enel Green Power</p> <p>E-mail: 26 November 2020</p>	<p>The information requested, together with the BID, was e-mailed to the I&amp;AP on 26 November 2020 (refer to <b>Appendix C7</b> of the BAR).</p>
9.	<p>I hope you are well? I presume that BirdLife South Africa is a I&amp;AP for these projects and that our Cape Vulture Guidelines are being applied, but just double-checking?</p>	<p>Samantha Ralston-Paton                      Birds and Renewable Energy                      Project Manager                      BirdLife South Africa</p> <p>E-mail: 30 November 2020</p>	<p>BirdLife SA is a registered stakeholder I&amp;AP on the project's database.</p> <p>An Avifauna Impact Assessment is included as <b>Appendix E</b> of the BAR.</p>
10.	<p>We have received information (two documents) from a farmer about the envisaged projects.</p> <p>Alien invader cacti, predominantly the spiny <i>Opuntia ficus-indica</i> and <i>O. engelmannii</i> have infested to various degrees the Eastern Cape Province.</p> <p>Our Company, Spiny Cactus Pear Processing (Pty) Ltd has been involved in preparing the construction sites for the erection of a wind turbine project near Bedford. We were specifically engaged to clear the invader alien spiny cacti from the access roads and platforms stands for the contractors to erect the wind turbine towers and auxiliary facilities.</p>	<p>HO De Waal                      Director: Spiny Cactus                      Processing (Pty) Ltd</p> <p>Letter: 02 December 2020</p>	<p>The content of the letter dated 02 December 2020 was acknowledged on 02 December 2020 and was submitted to the applicant for record purposes (refer to <b>Appendix C7</b> of the BAR).</p>

No.	Comment	Raised by	Response
	<p>Considerable competency and expertise have been developed in harvesting and processing alien spiny invader plants as livestock feed.</p> <p>Attached please find a document providing some background in this regard. We assume our expertise will be required to implement the envisaged projects. Please advise how and with whom we can engage to participate</p>		
11.	<p>Ek het met Andries Troskie gesels en hy het genoem dat julle besig is met werk aan die groep windplase Wes van Middleton.</p> <p>Soos ek kortliks aan Mnr Chris Buchner genoem het, is ek tans werksaam op die Golden Valley Wind Energy Facility as EPC Site Civil Engineer vir Goldwind Africa. Die projek nader sy einde en ek wil hoor of ek die ontwikkelaar en/of kontrakteur(s) se kontakbesonderhede by u kan kry. Ons projekspan is almal op kontrakbasis aangestel en die kontrakte verstryk in Maart 2021. Indien dit moontlik is, sal ek graag my CV by die HR Departement wou uitkry, sodat ek aansoek kan doen vir 'n moontlike pos.</p> <p>Aangesien ek woonagtig is in Somerset Oos, is ek redelik naby aan die verskillende ontwikkelings wat Dries Troskie aan my genoem het. Sy plaas is blykbaar deel vand Hamlet Wind Farm, maar die ander aangrensende ontwikkelings en selfs die in Grahamstad, is bereikbaar naby.</p> <p>Indien ons kan gesels, sal ek baie waardeer.</p> <p><b>Translation:</b>                      I spoke to Andries Troskie and he mentioned that you are working on a group of wind farms west of Middleton.</p>	<p>Francois Havenga                      I&amp;AP</p> <p>E-mail: 03 December 2020</p>	<p>The BID containing the technical and process related information regarding the proposed development was distributed to the I&amp;AP (refer to <b>Appendix C6</b> of the BAR). The I&amp;AP has been registered on the project database (<b>Appendix C2</b>).</p> <p>Savannah Environmental has been appointed to conduct the environmental impact studies and is not part of the construction / operational phase of the projects.</p> <p>The I&amp;APs e-mail and attached CV was forwarded to the Applicant for record purposes.</p>



No.	Comment	Raised by	Response
	<p>As briefly mentioned to Mr Chris Buchner, I am currently working at the Golden Valley Wind Energy Facility as EPC Site Civil Engineer for Goldwind Africa. The project is nearing its end and I want to hear if I can obtain the developer and / or contractor (s) contact details from you. Our project team was appointed on a contract basis which will expires in March 2021. If possible, I would appreciate it if my CV can be forwarded to the HR Department to apply for a possible position.</p> <p>Since I live in Somerset East, I am quite close to the various developments that Dries Troskie mentioned. His farm is apparently part of Hamlet Wind Farm, and the other adjacent developments and those in Grahamstown, are within easy reach.</p>		
12.	<p>I hereby write to you as an owner of two neat self catering units that are available in Adelaide. The units are in a secure location in the central town of Adelaide. Each unit consists of bedroom, a small lounge, a kitchen and a bathroom with a shower and toilet.</p> <p>Please assist if there are any Windfarm projects which would want to utilize our cosy accommodation.</p> <p>These units are located on my property, which has a 3-bedroomed house that I am willing to rent out. The main house is fully furnished.</p>	<p>Charles Hanyani I&amp;AP</p> <p>E-mail: 10 December 2020</p>	<p>The information received regarding the self-catering facilities was submitted to the Applicant for record purposes.</p>
13.	<p>Please acknowledge the request.*</p> <p>I will also appreciate it if you can give me a schedule or time frame for the submission of comments to the process.</p> <p><b>*List of I&amp;APs to be registered on projects' databases.</b></p>	<p>Gwen Theron LEAP: Environmental Planner</p> <p>E-mail: 15 December 2020</p>	<p>The registration of Dr Theron and additional stakeholders listed in the email was confirmed and proof of the registrations were attached to the acknowledgement e-mail (refer to <b>Appendix C6</b> of the BAR).</p>

No.	Comment	Raised by	Response
	<p><b><u>Wind Relic WEF Opposing Landowners map included in Appendix C7 of the BAR</u></b></p>		<p>An I&amp;AP on the list could not be registered as no details were provided for <a href="mailto:pa@wrsa.co.za">pa@wrsa.co.za</a>. Information was requested from the stakeholder and the information has not been received to date.</p> <p>All registered I&amp;APs have been notified of the availability of the BAR for their review and comments (refer to <b>Appendix C6</b> of the BAR). The availability of the BAR has also been advertised in the Herald (a provincial newspaper) and Hartland Nuus (a local community newspaper) (refer to <b>Appendix C3</b> of the BAR).</p> <p>The map indicating opposing landowners to the development is noted.</p> <p>All comments received from the I&amp;APs during the 30-day review period of the BAR will be recorded, included and addressed within the final BAR to be submitted to DEFF for decision-making.</p>
14.	<p>This mail is based on a notification for upcoming events at Kommadagga, as per your notification, in the region of the Eastern Cape</p> <p>There is an opportunity to view more farm land, in the Kommadagga region, which I think might be of interest to you. Therefore, I want to invite you and your development Team to investigate the possibilities for a possible wind farm project.</p> <p>We can arrange accommodation, if need be, however it is subjected to confirmation in advance by email and phone call.</p> <p>I'm looking forward to hearing from you, and we'll be in touch</p>	<p>Gerhard Kapp I&amp;AP</p> <p>E-mail: 15 December 2020</p>	<p>The information regarding the availability of farm land for wind energy facilities has been submitted to the applicant (refer to <b>Appendix C7</b> of the BAR).</p>

No.	Comment	Raised by	Response
15.	Socio Economic impact on local communities.	Louise Bussell Reservation Manager Kwandwe  Comment Form: 16 December 2020	The socio-economic impacts associated with the development of the Wind Garden Wind Farm, including impacts on the existing communities, has been assessed within the Socio-Economic Impact Assessment ( <b>Appendix L</b> ). Both positive and negative impacts during construction and operation have been identified.
	Visual impact on the natural heritage area.		The Heritage Impact Assessment ( <b>Appendix I</b> ) considers the impact of the project on the cultural landscape of the area. The impact will be of a medium significance, however the impact can be reduced to a low impact with the implementation of the recommended mitigation measures.
	Long term ecological impact of proposed projects.		The Ecological Impact Assessment ( <b>Appendix D</b> ) has identified impacts of medium significance to be associated with the development of the Wind Garden Wind Farm prior to the implementation of appropriate recommendation and mitigation measures. With the implementation of the mitigation measures, the majority of impacts would be reduced to a low significance, with only one impact of a medium significance. All impacts are considered to be acceptable. No impacts of a high significance or fatal flaws are expected to occur after implementation of the recommended mitigation measures.
16.	<p>Toe hulle hier was einde 2020 het hulle vir ons die 2 plaaskaarte gegee en met die kruisies aangedui waar die turbines sal wees. Die titelaktes van die plaas is Restant van die plaas [REDACTED].</p> <p><b>Translation:</b></p>	<p>Lucia Froehlich Landonwer</p> <p>E-mail: 02 February 2021</p>	<p>The properties that were discussed with the landowner do not form part of the Application for Environmental Authorisation for the Wind Garden Wind Farm.</p>

<sup>8</sup> This information is protected by POPI Act and is only submitted to the decision-making authority

No.	Comment	Raised by	Response
	<p>When they were here at the end of 2020, they gave us the 2 farm maps and indicated with crosses where the turbines would be.</p> <p>The title deeds of the farm are Remainder of the farm [REDACTED]                      [REDACTED]                      [REDACTED]</p>		
17.	<p>This is to confirm Wind Relic and Dimsum partnership from yesterday question.</p> <p>Pls could you also supply me with answer to the following questions:</p> <ol style="list-style-type: none"> <li>1. who is the project manager of the clusters of renewable energy facilities</li> <li>2. who are the directors of wind relic and all the applicants company's</li> <li>3. could you pls provide me with the shareholders certificates in wind relic and all the other applicant companies</li> <li>4. it would be appreciated if you could get back to me with a response as soon as possible. Maybe by the end of the week</li> </ol>	<p>Chad Comley I&amp;AP</p> <p>E-mail: 17 February 2021</p>	<p>The queries / requests relating to company information and/or matters do not fall within the ambit of the BA process undertaken for the Wind Garden Wind Farm.</p> <p>The information requested regarding shareholding and directorship can be obtained from the Companies and Intellectual Property Commission (CIPC).</p>
18.	<p>I hope you are well. I wonder if you could please assist me with a development. I came across in a Town Planning Notice for the development of a cluster of renewable energy facility between Somerset East and Grahamstown, Eastern Cape.</p> <p>I do not have any objections, I am an interested party and I wanted to know if you would please provide me with the details of the client or any professionals involved.</p>	<p>Estelle Pillay Regional Content Researcher Projects Leads2Business</p> <p>E-mail: 22 February 2021</p>	<p>Savannah Environmental is the appointed EAP undertaking the various environmental studies for the BA process and is not associated with or responsible for the Town Planning application. Savannah Environmental is also not part of the procurement / construction phase of these projects.</p> <p>The responses to the requested information are:</p> <ul style="list-style-type: none"> <li>• EIA Consultant: Savannah Environmental</li> <li>• Town Planners: Not part of the BA process scope of work</li> </ul>

No.	Comment	Raised by	Response
	<p>I am interested in following the progress of the various stages of this development from the town planning stages, through design and construction. I follow all the building and construction projects in South Africa and Africa right from the conceptual stages up until construction is complete.</p> <p>EIA Consultant: ?                      Town Planners: ?                      Client: ?                      Private Developer: ?</p> <p>Please can you provide me with the copy of the Background Information Document for this development.</p>		<ul style="list-style-type: none"> <li>• Client: Information for all the projects are included in the Background Information Document</li> <li>• Private Developer: Yes</li> </ul>

Annexure C9a  
Response to Global Green Review

20 June 2020

**RESPONSE TO EXTERNAL REVIEW OF THE DRAFT BASIC ASSESSMENT REPORTS FOR FRONTEER AND WIND GARDEN WIND FARMS, EASTERN CAPE UNDERTAKEN BY GLOBAL GREEN**

The peer review of the above-mentioned reports undertaken by Global Green, date April 2021 has reference. This letter provides a response from the independent Environmental Assessment Practitioner (EAP) for the two projects. It is noted that an overall rating of E is attributed to the reports. As per the review, the implications for decision making are as follows: *These ratings (D-F) mean that the quality of the report content does not comply with minimum legal requirements and is insufficient to allow the competent authority to make a reasonable decision (that is rational and proportional) in line with the requirements of the Promotion of Administrative Justice Act (PAJA – Act 3 of 2000).*

The EAP strongly disagrees with this conclusion. The requirements of the EIA Regulations, 2014 - Appendix 1: Content of basic assessment reports, and how this was complied with is included at the beginning of each chapter in the BA Reports. A consolidated table is included within this letter.

Requirement	Relevant Section
3(a) the details of the (i) EAP who prepared the report and (ii) the expertise of the EAP, including a curriculum vitae.	The details of the EAP who prepared the report and the expertise of the EAP is included in section 1.3. The curriculum vitae of the EAP, project team and independent specialists are included in <b>Appendix A</b> .
3(b) the location of the activity including (i) the 21 digit Surveyor General code of each cadastral land parcel, (ii) where available the physical address and farm name and (iii) where the required information in items (i) and (ii) is not available, the co-ordinates of the boundary of the property or properties.	The location of the project is included in section 1.2, <b>Table 1.1</b> and <b>Figure 1.1</b> . The information provided includes the 21-digit Surveyor General code of the affected properties and the farm names. Additional information is also provided regarding the location of the development which includes the relevant province, local and district municipalities, ward and current land zoning.
3(b) the location of the activity including (i) the 21 digit Surveyor General code of each cadastral land parcel, (ii) where available the physical address and farm name and (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.	The location of the proposed project is detailed in Chapter 1, Table 1.1, as well as section 2.2.1.
3(c)(i)(ii) a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or on land where the property has not been defined, the coordinates within which the activity is to be undertaken	A layout map illustrating the development footprint of the project, including associated infrastructure is included as Figure 2.3. This development footprint has been assessed within the BA Report and the independent specialist studies.

Requirement	Relevant Section
3(d)(ii) a description of the scope of the proposed activity, including a description of the activities to be undertaken including associated structures and infrastructure	A description of the activities to be undertaken with the development of project is included in Table 2.1 and Table 2.2.
3(g) a motivation for the preferred site, activity and technology alternative	The identification and motivation for the preferred project site, the development footprint within the development envelope, the proposed activity and the proposed technology is included in sections 3.3.1, 3.3.2 and 3.3.3.
3(h)(i) details of the alternative considered	The details of all alternatives considered as part of the Wind Garden Wind Farm is included in sections 3.3.1 – 3.3.4. A summary of the alternative is also included in section 3.3.
3(h)(ix) the outcome of the site selection matrix	The site selection process followed by the developer in order to identify the preferred project site, development envelope and development footprint is described in section 3.3.1.
3(h)(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such	Where no alternatives have been considered, motivation has been included. This is included in section 3.3.
<p>(e) a description of the policy and legislative context within which the development is proposed including-</p> <p>(i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report.</p> <p>(ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments.</p>	A description of the policy and legislative context within which the project is proposed is included and considered within this chapter.
3(f) a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location.	The need and desirability of the project is included and discussed as a whole within this chapter. The need and desirability for the development of the project has been considered from an international, national, regional and site-specific perspective.
3(d)(i) a description of the scope of the proposed activity, including all listed and specified activities triggered and being applied for.	All listed activities triggered as a result of the development of the project have been included in section 7.2, <b>Table 7.1</b> . The specific project activity relating to the relevant triggered listed activity has also been included in <b>Table 7.1</b> .
3(h)(ii) details of the public participation process undertaken in terms of Regulation 41 of the Regulations, including copies of the supporting documents and inputs.	A public participation plan was prepared and approved by the <u>DFFE</u> ( <b>Appendix C1</b> ). The details of the public participation process undertaken have been included and described in section 7.3.2.
3(h)(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them.	All comments received from the commencement of the BA process has been included and responded to in the Comments and Responses (C&R) Report ( <b>Appendix C9</b> ). All comments raised during the public participation process to date has been included and responded to as part of a C&R report ( <b>Appendix C9</b> ) to be submitted as part of the Final BA Report to <u>DFFE</u> for decision-making.
3(h)(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives.	The methodology used to assess the significance of the impacts of the project has been included in section 7.4.



Requirement	Relevant Section
(o) a description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed.	The assumptions and limitations of the BA process being undertaken for the project is included in section 7.6.
3(h)(iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	<p>The environmental attributes associated with the project site and development envelope, as well as the broader environment, are described and considered within this chapter and includes the following:</p> <ul style="list-style-type: none"> <li>» The regional setting within which the project site and development envelope are located is described in section 8.2.</li> <li>» The climatic conditions of the area within which the project is located is discussed in section 8.3.</li> <li>» The biophysical characteristics of the project site, development envelope and the surrounding areas is described in section 8.4. This includes the topography and terrain, geology, soils and agricultural potential and the ecological profile of the site (i.e. broad-scale vegetation patterns, fine-scale vegetation patterns, critical biodiversity areas and broad-scale processes, surface water features, terrestrial fauna, bats and avifauna).</li> <li>» The heritage of the project site, development envelope and the surrounding areas (including the archaeology, palaeontology and cultural landscape) is discussed in section 8.5.</li> <li>» The noise levels and developments sensitive to noise are described in section 8.6.</li> <li>» The visual quality of the affected environment is discussed in section 8.7.</li> <li>» The current traffic conditions for the area surrounding the project site are included in section 8.8.</li> <li>» The social context within which the project site is located is described in section 8.9.</li> </ul>
3(l)(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers	The chapter as a whole is the approach followed to provide an overall sensitivity map of the development envelope and development footprint and in turn to inform the necessary avoidance required through the placement of infrastructure. This chapter therefore gives guidance on the mitigation hierarchy for the project facility layout.
3(h)(v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts (aa) can be reversed, (bb) may cause irreplaceable loss of resources, and (cc) can be avoided, managed or mitigated.	The impacts and risk associated with the development of the project, including the nature, significance, consequence, extent, duration and probability of the impacts and the degree to which the impact can be reversed and cause an irreplaceable loss of resources are included in sections 10.3.2, 10.4.2, 10.5.2, 10.6.2, 10.7.2, 10.8.2, 10.9.2, 10.10.2, 10.11.2 and 10.12.2.
3(h)(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	The positive and negative impacts associated with the development of the project are included in sections 10.3.2, 10.4.2, 10.5.2, 10.6.2, 10.7.2, 10.8.2, 10.9.2, 10.10.2, 10.11.2 and 10.12.
3(h)(viii) the possible mitigation measures that could be applied and the level of residual risk.	The mitigation measures that can be applied to the impacts associated with the project are included in

Requirement	Relevant Section
	sections 10.3.2, 10.4.2, 10.5.2, 10.6.2, 10.7.2, 10.8.2, 10.9.2, 10.10.2, 10.11.2 and 10.12.
3(i) a full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures,.	A description of all environmental impacts identified for the project during the BA process, and the extent to which the impact significance can be reduced through the implementation of the recommended mitigation measures provided by the specialists are included in sections 10.3.2, 10.4.2, 10.5.2, 10.6.2, 10.7.2, 10.8.2, 10.9.2, 10.10.2, 10.11.2 and 10.12.
3(j) an assessment of each identified potentially significant impact and risk, including (i) cumulative impacts, (ii) the nature, significance and consequences of the impact and risk, (iii) the extent and duration of the impact and risk, (iv) the probability of the impact and risk occurring, (v) the degree to which the impact and risk can be reversed, (vi) the degree to which the impact and risk may cause irreplaceable loss of resources and, (vii) the degree to which the impact and risk can be avoided, managed or mitigated.	An assessment of each impact associated with the development of the project, including the nature and significance, the extent and duration, the probability, the reversibility, and the potential loss of irreplaceable resources, as well as the degree to which the significance of the impacts can be mitigated are included in sections 10.3.2, 10.4.2, 10.5.2, 10.6.2, 10.7.2, 10.8.2, 10.9.2, 10.10.2, 10.11.2 and 10.12.
3(m) based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management outcomes for the development for inclusion in the EMPr.	Mitigation measures recommended by the various specialists for the reduction of the impact significance are included in sections 10.3.2, 10.4.2, 10.5.2, 10.6.2, 10.7.2, 10.8.2, 10.9.2, 10.10.2, 10.11.2 and 10.12.
3(j)(i) an assessment of each identified potentially significant impact and risk, including cumulative impacts.	The cumulative impacts associated with the development of the project are included and assessed within this chapter.
3(k) where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report	A summary of the findings of the specialist studies undertaken for the project has been included in section 12.2.
3(l) an environmental impact statement which contains (i) a summary of the key findings of the environmental impact assessment, (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers and (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.	<p>An environmental impact statement containing the key findings of the environmental impacts of the project has been included as section 12.5. An Environmental Sensitivity and Layout map of the project has been included as <b>Figure 12.1</b> which overlays the development footprint (as assessed within the BA) of the wind farm with the environmental sensitive features located within the project site. An optimised layout which adheres to the avoidance measures based on the sensitivity analysis (Chapter 9) has been provided by the developer and has been overlain with the environmental sensitivities (<b>Figure 12.2</b>).</p> <p>A summary of the positive and negative impacts associated with the project has been included in section 12.2.</p>
3(n) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.	All conditions required to be included in the Environmental Authorisation of the project has been included in section 12.6.
3(p) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the	A reasoned opinion as to whether the project should be authorised has been included in section 12.5.

Requirement	Relevant Section
opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	

As can be seen from the above, the report is compliant with the requirements of the EIA Regulations.

Sincerely,



Jo-Anne Thomas  
Reg. EAP (EAPASA)

Annexure C9b  
Response to Avisense Review

# Response to peer review of the bird impact study for the proposed Wind Garden WindFarm in the Grahamstown area of the Eastern Cape Province, South Africa by Andrew Jenkins & Anthony van Zyl

## DRAFT FOR COMMENT

Andrew Jenkins and Anthony van Zyl of Avisense Consulting have produced a peer review of our ornithological impact assessment report for the proposed Wind Garden wind farm. This document presents our response to that review.

The review makes a number of criticisms of the baseline survey methodology, which are addressed specifically below, but does accept that it *“is broadly compliant with national best practice (Jenkins 2015) and provides some level of detail on most of the relevant aspects of the affected avifauna”* but asserts deficiencies in *“it’s execution and detail”*.

The review included eight days of surveys during April 2021 where the authors claimed to have evaluated *“the coverage, accuracy and overall adequacy of the field work done to determine the status of cliff- and tree-nesting raptors”*. The authors accepted that their access to much of the study area was heavily restricted (they were unable to gain ground access to the whole of the development site) and limited the effectiveness of this work, but attempted to address this partly through use of helicopter as a survey platform, an unusual choice given the high level of disturbance that helicopters can cause. As a result, most of their results had a high degree of uncertainty and they were unable to confirm the specific identify of any eagle nests in the area.

The specific issues review raised in the review are dealt with in turn below.

1. *The report refers to and maps sampling sites in a control area located to the south of the development area, but the ‘Before’ data collected here are not presented anywhere in the report, or compared with the equivalent data collected in the WEF area. The denies the reader the opportunity to examine the quantity and nature of these data and to assess their comparability with the on-site data and legitimacy for use in a BACI-type study.*

**Response:** the data from the reference area were collected in exactly the same way as the data for the development site itself. The report itself focuses on the birds in the vicinity of the wind farm site as it is these that could be affected by the proposed development. The full area surveyed is shown in Figure 3 of the report.

2. *While it is clear that the locations of large eagle nest sites in the proximity of the proposed WEF are of critical importance in assessing the potential impacts of the development, only two searches for such nests were conducted over the study period. Both these surveys were conducted in mid-late winter – usefully timed for Verreaux’s Eagle and Martial Eagle, but of little use in searches for active Crowned Eagle nests, or in surveying cliff habitat for Lanner Falcon, Peregrine Falcon Falco peregrinus, Booted Eagle Hieraaetus pennatus or Jackal Buzzard nests, all of which are spring/summer breeders. Furthermore, no information is presented on the extent or intensity of these nest surveys – what habitats were targeted, where and how, so there is no way of knowing what habitats have or haven’t been searched or how well the searching has been done.*

**Response:** this is simply incorrect. At least four survey visits were made to all potentially suitable

raptor nest sites, as well as information from other surveys especially the VP surveys (which involved long periods of viewing over the survey area). The raptor survey methodology is set out in the report section 4.2.2. The reviewers appear not to have read the report properly. We are highly confident that the field survey team did locate all relevant nests on the developments site and outside that where full access was possible, but that even where access could not be obtained active territories were confirmed and nesting areas identified. The reviewers' April 2021 survey data do not present any new information that would suggest that this conclusion is not correct.

- 3. Stemming from (2) above, the locations and actual status of at least three of the large eagle nests listed in the baseline report (Barkhuysen & Percival 2021) remain uncertain, we suspect because the nest survey team was unable to access the relevant properties (owned either by the defence force or by landowners in opposition to the development) to do this directly, and reverted to estimation from a distance, based mainly on behavioural evidence. While we are sympathetic to this kind of constraint on the efficiency of fieldwork, in the scheme of a full year of baseline monitoring it is imperative that such obstacles are overcome, and sensitive sites are accurately located and effectively protected from harmful impacts.*

**Response:** as noted in the response to the previous point, the reviewers appear not to have read the report properly with regard to the survey effort undertaken. Whilst access to some areas outside the development was not possible (despite repeated efforts to gain access), the surveys that were possible (including many hours spent observing over areas to which access on the ground was not possible) provided sufficient information to undertake a robust assessment.

- 4. The complex integration of undulating, rugged terrain, impenetrable thicket and hidden or inaccessible ravines, riparian forest and forest patches is difficult habitat to survey, and we didn't find as much to add to or change the outcome of the large eagle survey work informing the bird impact study as we had expected. However, given the proximity of potentially suitable habitat to the proposed development area and gaps in the spacing of known or suspected breeding pairs, we do not feel that this survey work has been done well enough. In particular, we are concerned that (i) the actual locations of the Martial Eagle nest to the east of the project and the Verreaux's Eagle site to the north remain unknown, and (ii) there is an as-yet unknown Martial Eagle site somewhere to the northwest of the WEF area, close enough to influence the sustainability of the development.*

**Response:** the reviewers have again understated the survey effort that has been undertaken and as a result, their conclusions are again flawed.

- 5. The baseline report refers to the likelihood that both Blue Crane and Secretarybird – globally threatened and impact susceptible species (Taylor et al. 2015, <https://www.iucnredlist.org/search>) – breed on or close to the development area, and yet no concerted effort was made to find such sites during the baseline study. Why was this important work not done during the baseline study when it could have made a material difference to the outcomes of the EIA Secretarybird is now both regionally and globally Endangered, and regularly active nest sites either close to or within the development area would require considerable buffering – applied at the authorization and design stages of the project, rather than during pre-construction – to be fully protected from displacement and mortality impacts.*

**Response:** again, the reviewers have not appreciated the full extent of the survey effort that has been undertaken. The baseline surveys included many watches and walks to search for these species' nests, but none were specifically located in this area. Records were infrequent and no

specific nest site identified for either, but it was assumed on a precautionary basis that they could breed in the area for the purpose of the assessment.

6. *Although the report is dated 2021, references made to the regional and global threat status of key species are outdated. For example, both Martial Eagle and Secretarybird are now globally Endangered – important changes to consider when assigning the significance ratings of negative impacts.*

**Response:** the assessment was made on the basis of the December 2019 IUCN list and it is accepted that this has been subsequently updated as stated in 2020. Further consideration has been given to this change, but it has been concluded that it does not make any material change to the conclusions reached previously.

### *Quality of the Impact Assessment*

Whilst the reviewers claim that in their opinion the collision risk modelling and bird impact assessment are not of the required standard, their primary reason for this appears to be based on *“the quality, extent and intensity of the nest survey and monitoring information being particularly poor”*. As shown above, this conclusion that they have reached is based on a flawed interpretation of the report. The claim a *“possibility that at least one or two important nest sites may have been overlooked”* has no evidence base and is simple speculation based on a misinterpretation of the baseline surveys carried out.

Concerns are raised about the amount of VP data. There has though been a very considerable amount of surveys (900 hours over the Wind Garden/Fronteer study area as a whole, i.e. the area indicated in Figure 3 of the report). The lack of records flying through the collision risk zone was not a result of a lack of survey effort but rather reflect the very low use that these species made of the zone.

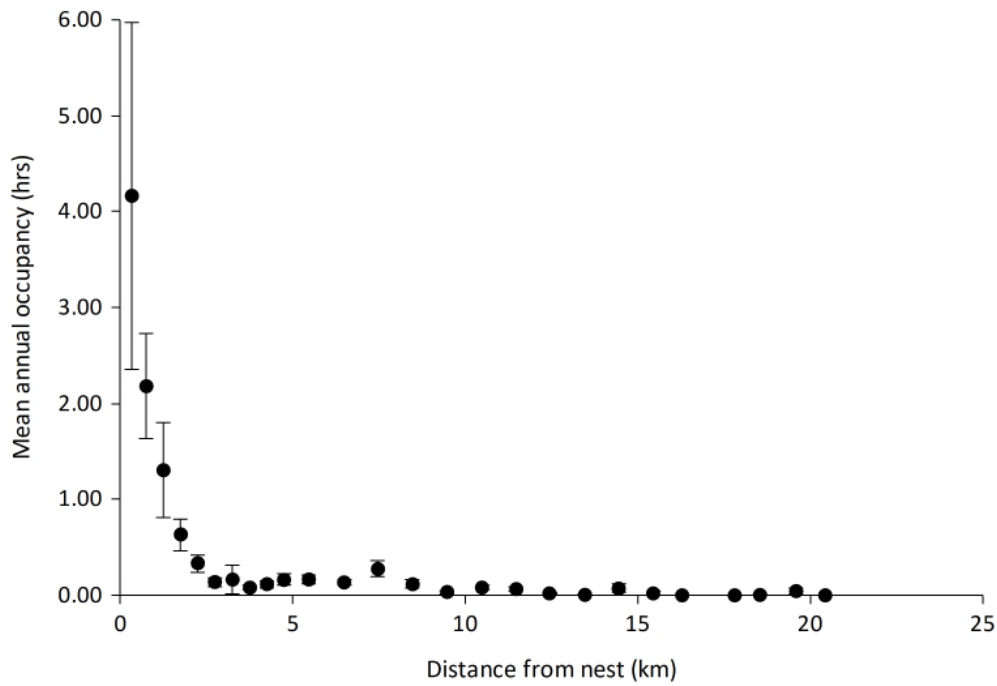
Assertions about the quality of VP data ignore the fact that this is a well-proven methodology that has been adopted worldwide to assist in wind farm collision risk analysis. To describe rigorously collected VP data as ‘notoriously unreliable’ is at best disingenuous, if not misleading.

The review raises concerns about the way that eagle nest buffers have been implemented. There are, however, clear problems with simple circular buffers, as Murgatroyd et al (2021) have highlighted in their recent paper – circular buffers have limited benefit and are inefficient in defining areas of higher collision risk, as these eagles do not randomly move around a specific distance from their nests but choose to forage and fly over specific areas and habitats within their range. This is why buffers based on actual bird use of an area (and spatial modeling using those data) provide a more robust solution. Our spatial modelling has shown the importance of distance from the nest, but also altitude (higher flight activity in the 600-800m range), distance from ridge lines (higher closer to ridge lines), and slope (higher in areas of steeper slope).

In relation to the design of the site buffers, the analysis used to inform the 2.5km distance for Martial Eagle is set out in Appendix 2. Figure 1 from that appendix is reproduced here as it illustrates the evidence base for the use of that specific distance. The survey data showed a strong relationship between flight density and distance from the nest, but this relationship flattened out beyond 2.5km. The highest densities were recorded within 500m of nests and there was a steady decline in flight density with distance from the nest, but only up to a distance of 2.5km. Beyond 2.5km flight density was consistently lower. Any exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk. A similar result was found for the Choje East Block, though there, higher flight activity was noted within 1.5km of the nest (though with a smaller amount of baseline data available a precautionary approach was adopted and a 2.5km applied in

the East and as well as the West).

Appendix 2. Figure 1. Martial Eagle flight density and distance from the nest, Choje West June 2019 - August 2020 (mean  $\pm$  95% confidence limits).



The review raised additional concerns about the assessment of foraging range loss. Specifically, it notes that the range sizes used were taken from studies of higher-density populations of both species, and it is suggested that the territories at the Wind Garden site would be larger. It is then claimed that if territories were indeed larger, then “percentage losses of foraging habitat to turbines in each case are likely to be greater”. This appears to demonstrate a lack of understanding of the range loss impacts. With a specific fixed loss from the wind farm, the percentage impact would actually be lower on a larger territory – the size of the territory is simply the denominator in the percentage calculation.

These concerns raised therefore do not, as the reviewers claim, increase the magnitude of any effects or the significance of those effects but would, in proportionate terms, reduce it as the birds would have more alternative foraging areas within their larger range.

In relation to the use of Shutdown-on-demand as a mitigation measure, the reviewers claim that “no formally published study that clearly demonstrates the efficacy of such an approach in a situation where the flight behaviour of target species is relatively unpredictable”. This is incorrect. For example, a recent study by McClure et al (2021)<sup>1</sup> showed a substantial reduction in collision risk to eagles from an automated shutdown system in the USA.

They state that shutdown-on-demand should be used as a ‘mitigation measure of last resort’ and that is precisely how it is being proposed to be used at Wind Garden, as a back-up to ensure that

<sup>1</sup> McClure, C. J. W., Rolek, B. W., Dunn, L., McCabe, J. D., Martinson, L. & Katzner, T. 2021. Eagle fatalities are reduced by automated curtailment of wind turbines. *Journal of Applied Ecology*, **58**: 446-452.



collision risk is minimised. The draft Ornithological Mitigation Plan that is being developed with stakeholders (and to which the developer has committed) sets out further details of how this would be implemented.

The reviewers are dismissive of the principle of delivering on- and off-site habitat management measures, despite the fact that it is a widely-used technique for reducing risk. They acknowledge the proven success of a scheme for golden eagles in Scotland (Walker et al 2005) but dismiss it as 'exceptional circumstances'. Yet much international guidance recommends such an approach to achieve not net loss (or net gain). As an example, the European Commission (2010)<sup>2</sup> guidance on wind energy and protected nature conservation areas specially picks out this case study as an example of good practice. The BLSA guidance for Verreaux's Eagle (BirdLife 2017), as the reviewers acknowledge, also sets out measures that could be implemented for this species, including both on-site (to reduce the possibility of birds being attracted into the wind farm) and off-site enhancement. We are not proposing these measures in isolation but rather as part of a comprehensive mitigation package.

## **Conclusion**

This review is flawed and lacking in rigour, and has not fully considered all of the information provided in the report. Despite its superficial criticisms of the ornithological impact assessment, it offers no substantive evidence-based reason to alter the conclusions reached in the assessment. It remains the case that the Wind Garden site is low ornithological sensitivity, and that the proposed wind farm will not result in any significant ornithological impact. This conclusion is further emphasised by the commitment of the developer to implement an Ornithological Mitigation Plan that is being developed with stakeholders, to ensure the delivery of the proposed mitigation and enhancement measures.

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<sup>2</sup> European Commission. 2010. EU Guidance on wind energy development in accordance with the EU nature legislation. 116pp.

Annexure C9c  
Response to ENIA Review

Savannah Environmental  
 Woodlands Drive Office Park  
 Woodmead  
 2191

**Attention: Ms. Jo-Anne Thomas**

Dear Madam

**REPLY OF COMMENTS: RE: REVIEW OF FINDINGS OF ENVIRONMENTAL NOISE IMPACT ASSESSMENT OF PROPOSED WIND ENERGY FARM, WIND GARDEN WIND POWER (PTY) LTD**

The above-mentioned letter from Mackenzie Hoy Consulting Acoustic Engineers (**Machoy**) with comments on the report **SE-WRWGWEF/ENIA/202010-Rev 0** titled – ‘De Jager, M. 2020: “Environmental Noise Impact Assessment for the proposed Wind Garden Wind Farm and associated Infrastructure Near Makhanda (Grahamstown), Eastern Cape Province’. Enviro-Acoustic Research, Pretoria” – is of relevance.

This letter is divided into two parts, the main part of this letter together with a number of Annexures, that provide more information, should the reader require a more detailed description, evidence or references. This letter only briefly summarizes the key comments made, and it is recommended that the reader peruse this letter together with report **SE-WRWGWEF/ENIA/202010-Rev 0** and the letter from **Machoy**. As the requirements of the **National Noise Control Regulations** and **SANS 10103:2008** are of relevance, important definitions and clauses are included in [Annexure A](#).

This letter will address the questions raised under section 2 (**Discussion**), as section 1 is mainly statements.

Ref	Comment from Machoy	Reply from EARES
2.1.1	The report indicates that the capacity of the installation will be 264 MW and that there will be 47 wind turbines. This implies that each turbine is rated at 5,5 MW. The noise impact assessment by Enviro-Acoustic Research CC uses the data for a Vestas V150-4.2 WTG at a height of 120 m. This is a 4.2 MW turbine. <i>And</i>	The noise report considers the sound power emission levels of the WTG that the client indicated they are considering. However, due to various reasons, a developer does not want to reveal the actual WTG that they may consider, whether for commercial/economic reasons, possible Non-Disclosure Agreements etc. However, the details of the actual WTG are <b>totally</b> irrelevant to a noise analyses, as the major factors that determine the noise levels are:  <u><i>Continued on the next page.</i></u>

Ref	Comment from Machoy	Reply from EARES
2.1.2. (and 2.7.1)	<p>It is not known why a 4.2 MW turbine is used for the noise impact assessment by Enviro-Acoustic Research CC since it makes less noise than a 5.63 MW turbine. The 4.2 MW turbine has a sound power of 105 dBA while a 5.63 MW turbine has a sound power of 107 dBA. Due to the logarithmic nature of the decibel scale this is a 30 % increase in loudness. To use a turbine with lower power and lower noise than the proposed turbine is misleading and unscientific.</p>	<p><u>Continued from the previous page.</u></p> <ul style="list-style-type: none"> <li>a. The layout of the WEF (which would include the number of WTG as well as the distance from various receptors); and</li> <li>b. The sound power emission levels of the WTG (or noise source) selected/that the developer is considering.</li> </ul> <p>Minor factors in the noise levels are:</p> <ul style="list-style-type: none"> <li>c. The spectral characteristics of the WTG;</li> <li>d. Temperature and Humidity;</li> <li>e. Noise abatement technologies implemented by the manufacturer;</li> <li>f. Topography and wind shear effects;</li> <li>g. Ground surface characteristics.</li> </ul> <p>Insignificant factors are:</p> <ul style="list-style-type: none"> <li>h. The hub height of the WTG;</li> <li>i. The rotor diameter of the WTG;</li> <li>j. The manufacture of the WTG, the model name or number.</li> </ul> <p>The sound power emission levels are provided by the manufacturer either as the maximum warranted sound power levels, a calculated sound power level – for new WTG where the noise levels were not previously measured – or measured sound power levels as reported in terms of IEC 61400-11. It is unique for each make and model and the sound power levels already include the effect of the hub height, rotor diameter and abatement technologies.</p> <p>There are smaller WTG with a higher sound power emission levels (see reference 1, <a href="#">Annexure B</a>). Reference 2 and 3 illustrated much larger WTG with a lower sound power emission level. References B.4, B.5 and B.6 (<a href="#">Annexure B</a>) present larger WTG with lower sound power emission levels when operating in different modes.</p> <p><b>It is therefore definitely unscientific to state that a wind turbine with a higher generating capacity will have a higher sound power emission level.</b></p>

Ref	Comment from Machoy	Reply from EARES
<p>2.1.3 and 2.1.4 (and 2.7.2)</p>	<p>The report further states that “Land use is mostly wilderness (ecotourism) with agricultural activities (game, sheep and cattle farming) and</p> <p>The report ignores impacts on other sensitive environmental receptors. The report fails to mention that the turbine placement area is located within an area which has extensive game reserves with elephants, rhino and other wildlife as well as game farms. By confining the noise impact assessment to only consider noise impact on human beings the effect of the turbine noise on animals is ignored. For instance Garstang (2003)<sup>1</sup> some 15 years prior NIA comprehensively investigated elephant communication and reports that “The pervasive use of low-frequency sounds by elephants is now well established together with increasing evidence of the distances traveled and complex social functions of vocalizations at low frequencies.” In view of the wide spread literature relating to elephant communication between elephants which occurs at low frequencies (including infrasound - below audible range) this omission is fundamentally incorrect.</p>	<p>The definition of Ecotourism from Oxford Languages is: <i>“tourism directed towards exotic, often threatened, natural environments, intended to support conservation efforts and observe wildlife.”</i></p> <p>The report however does briefly discuss Noise Impact on Animals in section 7.1. The following should be noted:</p> <ul style="list-style-type: none"> <li>• There are no noise limits or guidelines that can be used to determine what noise levels will impact on animals.</li> <li>• There are no published studies in reputable journals that provide support for the negative impacts of noise from wind turbines on animals.</li> <li>• Animal communication is generally the highest during no and low wind conditions. It has been hypothesised that this is one of the reasons why birds sing so much in the mornings (their voices carry the farthest and there are generally less observable wind).</li> <li>• Machoy is ignoring the fact that background noise levels in remote areas are not always low in space or time. The site is windy and this generates significant noise itself and also significantly changes the ability of fauna to hear the environmental noises around them.</li> <li>• Infrasound is present in the environment, and is generated by a wide range of natural sources (e.g. wind, waves etc.). In February 2013, the Environmental Protection Authority of South Australia published the results of a study into infrasound levels near wind farms. This study measured infrasound levels at urban locations, rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organized shut-downs of the wind farms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.</li> </ul> <p><u>Continued on the next page.</u></p>

<sup>1</sup> Garstang, M. Long-distance, low-frequency elephant communication. J Comp Physiol A 190, 791–805 (2004). <https://doi.org/10.1007/s00359-004-0553-0>

Ref	Comment from Machoy	Reply from EARES
2.1.4 (and 2.7.2)		<p><u>Continued from the previous page.</u></p> <ul style="list-style-type: none"> <li>• Wind is a significant source of natural noise, with a character similar to the noise generated by wind turbines, with a significant portion of the acoustic energy in the low frequency and infrasound range.</li> <li>• Wind turbines does not emit broad-band sound on a continual basis as the turbines only turn and generate noise when the wind speeds are above the cut-in speed.</li> <li>• The wind turbines will only operate during periods of higher wind speeds, a period when background noise levels are already elevated due to wind-induced noises.</li> <li>• The elevated background noise relating with wind also provide additional masking of the wind turbine noise, with periods of higher winds also correlating with lower faunal activity, particularly with regard to communication.</li> <li>• This fact is also discussed in the paper referred to by Machoy (Garstang, 2003) that discuss the role that wind play in determining the range and detection of elephant communication.</li> </ul>
2.2.1 (and 2.7.3)	<p>The report cites many regulations and standards but fails to note that the project area for the location of the Wind Garden WEF falls within the Metropolitan Area of the Nelson Mandela Metropolitan Municipality (NMMM). This means that the noise pollution caused by the WEF is regulated by the NMMM Noise Control By-Law (LAN. 37 of 2010 published in PG No. 2322 of 24 March 2010) which requires measurement of environmental noise under SANS 10103:2008.</p>	<p>The ambient sound level measurements were done as per the requirements of NGR 320 of 20 March 2020 as well as SANS 10103:2008 (as required by LAN 37 of 2010), while considering the conditions and well as the limitations of each measurement location. This is to ensure that the resulting sound level measurements provide data that is not significantly influenced by the surrounding environment or the effects of higher wind speeds. Following SANS 10103:2008 is therefore in compliance with LAN 37 of 2010.</p>
2.3.1	<p>There is an extensive list and listing of various international guidelines, none of which are relevant to South Africa.</p>	<p>The report considers both local legislation, regulations and guidelines, as well as international guidelines. Of the more than 340,000 wind turbines operation in the rest of the world (more than 2,000 wind farms), less than 500 are currently operational in South Africa (36 wind farms). The rest of the world have had experience with the effects and impacts of wind farms since 1980, South Africa since 2002.</p> <p><u>Continued on the next page.</u></p>

Ref	Comment from Machoy	Reply from EARES
2.3.1		<p><u>Continued from the previous page.</u></p> <p>Almost all the scientific articles, papers, publications and presentations available are based on the research and experiences gained from these international wind farms. As such, discarding the knowledge and experiences gained by the rest of the world would be irresponsible and unwise.</p>
2.4.1	<p>The measurement protocols are noted as being in accordance with the South African National Standard SANS 10103:2008 "<b><i>The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication</i></b>", which is correct.</p>	<p>Statement</p>
2.4.2	<p>The measurements were conducted at five locations</p>	<p>Statement</p>
<p>2.4.3 (and 2.7.4 and 2.7.5)</p>	<p>At none of the eight noise sensitive locations within the proposed WEF area were ambient sound levels measured, 'with Figure 4-1 from the report included'. The report records residual / ambient noise measurements at five locations. There are however twenty three noise sensitive locations (as stated in the report) and thus for eighteen of them these is no measurement record of existing conditions.</p>	<p>There are a number of factors that determine the suitability of a measurement location when deploying sound level measurement equipment (SLMs), including:</p> <ul style="list-style-type: none"> <li>k. Access and permission to deploy the SLMs;</li> <li>l. Potential safety and security concerns;</li> <li>m. Type of trees and faunal activity in the vicinity of the proposed measurement location. E.g. no instruments are deployed at properties with certain fruit trees due to constant bird communication significantly influencing the measurements;</li> <li>n. Presence of standing water, especially wetlands (same reason as above, with frogs being a significant noise source);</li> <li>o. Potential presence of dogs and baboons that may damage equipment, etc.</li> </ul> <p>The markers representing NSD 15, 16, 17, 18 and 20 is a number of dwellings identified using aerial images. It was however reported that only dwelling 15 is used by the owner, with dwelling 20 being used on a temporary basis during the hunting season. The owner of this property is a willing participant in the wind farm development.</p> <p><u>Continued on the next page.</u></p>

Ref	Comment from Machoy	Reply from EARES
2.4.3 (and 2.7.4 and 2.7.5)		<p><u>Continued from the previous page.</u></p> <p>The author of the report could however not gain access initially to the farm of NSD 15 to assess the site to deploy an SLM. However, considering the proximity of the river, this measurement location was excluded in lieu of a location at NSD 11. The site visit at NSD 11 highlighted that the river had little standing water and that the closest wetland was further than 300 m (a dam was visible approximately 100 – 200 m from potential measurement locations at NSD 15/20).</p> <p>In addition, SANS 10103:2008 does not require the measurements of ambient sound levels (the residual noise) at each potential receptor, nor does this guideline define, set or propose locations where sound levels should be measured. Nor are the author aware of any acoustic consultant in South Africa that would measure the ambient sound levels at all identified receptors.</p> <p>In addition, the measurement of future ambient sound levels is normally recommended once a noise study are completed, identifying potential receptors where noise levels may be of concern.</p> <p>Machoy fail to highlight that more than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from the noise study determined that <i>“ambient sound levels are generally low and typical of a rural noise district during low wind conditions”</i>. This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this.</p> <p>In a focus area with a more complex sound character more measurement locations may be more beneficial. This would be a location with a combination of significant noise sources (e.g. industry, mines, railways and roads). This project does not have these noise sources, and such, additional sound level measurement locations would not provide better information.</p>



Ref	Comment from Machoy	Reply from EARES
2.4.4 and 2.4.5 (and 2.7.6)	<p>No residual / ambient noise measurements were taken within the proposed WEF area. It is impossible to evaluate turbine noise effect on residual / ambient noise levels if none are known.</p> <p>Thus:</p> <ol style="list-style-type: none"> <li>No measurements were taken within the WEF area.</li> <li>No measurements were taken at the noise sensitive locations.</li> <li>The choice of residual / ambient measurement location seems to be arbitrary and thus meaningless.</li> </ol>	<p>As highlighted at point 2.4.3:</p> <ul style="list-style-type: none"> <li>Ambient sound levels indicate an area with a rural character with a high potential to have low sound levels. Additional measurement locations or data will not change this finding.</li> <li>As highlighted in Section 7.3.3 of the report, acceptable rating levels did consider the rural night-time zone sound level (from SANS 10103:2008).</li> </ul> <p>As discussed in point 2.4.3., measurements collected at other locations will not provide greater quality data or better information, and the data is not meaningless.</p>
2.4.6 (i) (and 2.7.6)	<p>To determine existing noise levels with just five measurements in a ~650 Hectare is not in accordance with section 5 of SANS 10103: <i>The measurement and rating of environmental noise with respect to annoyance and to speech communication</i>. Conformance with SANS 10103 is required by the regulations</p>	<p>This is a misrepresentation, as measurements were collected at 5 locations, which is not the same as 5 measurements.</p> <p>Machoy fail to highlight that more than 750 measurements were collected, including 480 measurements during the quieter periods. The findings from the noise study determined that <i>“ambient sound levels are generally low and typical of a rural noise district during low wind conditions”</i>. This is the lowest acceptable rating level (rating level for noise in districts as per SANS 10103:2008) and more data, or more measurement locations will not change this.</p>
2.4.6 (ii)	<p>Thus these measurements are meaningless.</p>	<p>Previously covered in point 2.4.3.</p>
2.4.6 (iii) (and 2.7.7)	<p>A statement that the Svan 977 SLM must be fitted with the Svantek SA 277 windshield and the SA 270D Weather Protection and Dehumidifier.</p> <p>A statement that the readings of the Svan 977 meter with a Rion weather shield could not be guaranteed as accurate and should not be accepted (Thus the reading of existing noise levels must be repeated)</p>	<p>The statement is <b>incorrect</b>, as the sound level data can be guaranteed as accurate within the accuracy of a Class 1 instrument.</p> <p>SANS 10103:2008 require the use of a windscreen specified by the manufacturer and that does not detectably influence the accuracy of the measurement.</p> <p>The author of the report did peruse the User Manual of the Svan 977 and could <b>not find any statement recommending, or specifying that the SA270 windshield should be used</b>. The Svan 977 is supplied with the SA 22 windshield and the SA 270 windshield must be purchased in addition.</p> <p><u>Continued on the next page.</u></p>

Ref	Comment from Machoy	Reply from EARES
2.4.6 (iii)		<p><u>Continued from previous page.</u></p> <p>It was also discussed with Mr. Laurence Olivier (the local distributor of Svan instruments for more than 15 years), whom highlighted that, to his knowledge, Svantek never specified any particular windshield with the 977 instruments. When the author originally purchased the SA270 windshield (with the dehumidifier unit), the Svantek did not supply the frequency response of this windshield after being asked.</p> <p>It is critical to note that microphone windshields are designed to be acoustically transparent. The primary purpose of the windshield is to reduce the noise created by turbulence around the microphone in wind, and all windshields do change the frequency response of the microphone slightly at higher frequencies. This change is normally negligible, but it should be considered if one needs a high degree of accuracy.</p> <p>Some instrument manufacturers do specify certain windshields for their microphones, as the instrument automatically compensates for the effect of the windshield (such as Norsonic) where the compensation filter cannot be disabled.</p> <p>The Svan 977 however has a setting where one can set the compensation filter to be used. Measurements for this project were done with the <b>compensation filter off</b>, and, because the <b>third-octave data are also collected at the same time</b>, the <b>actual third-octave data can be calculated accurately</b>, because the frequency response of the Rion WS-03 windshield is available. As such, the sound levels can be calculated with a high degree of accuracy. However, normally, this is not calculated as the error is generally insignificant (within the accuracy of a Type 1 instrument).</p> <p>Because of this, and various other reasons, the Rion WS-03 is currently one of the best windshields to use for accurate measurement of sound levels during periods of increased wind speeds, and the windshield used by a number of researchers in the world. The reader is again referred to <a href="#">Annexure C</a>.</p> <p><u>Continued on the next page.</u></p>

Ref	Comment from Machoy	Reply from EARES
2.4.6 (iii)		<p><u>Continued from previous page.</u></p> <p>Why Machoy would recommend the use of a 7 - 9 cm windshield, when there are numerous studies that highlight the potential error when using such windshields in an area where higher winds are expected, are mind-boggling. Also refer to <a href="#">Annexure C</a>.</p> <p>The use of such a windshield would have resulted in a <b>significantly higher ambient sound level</b>, resulting in a higher rating level with a significantly higher uncertainty.</p> <p>As highlighted in <a href="#">Annexure C</a>, the use of a smaller (such as the SA 270) windshield would have increased the uncertainty significantly, potentially over-measuring the sound level with more than 10 dB at higher wind speeds (especially low frequencies).</p>
2.5.1 and 2.5.2 (and 2.7.8)	Statement referring to Figure 8-4 of the report as well as to a figure produced with the German software, SoundPlan. It states that Figure 8.4 and the SoundPlan map differs in contours, concluding that the contours are not computer generated.	<p>The Figure from Machoy is duplicated below, with the 35 dBA contour highlighted by the author in black. Overlaid on this Figure are the contours developed by the author, using the German software SoundPlan Essentials, purchased from Machoy.</p> <p><i>Continued on the next page.</i></p>

Ref	Comment from Machoy	Reply from EARES
2.5.1 and 2.5.2 (and 2.7.8)	<p><u>Continued from previous page.</u></p> <p>From the Figure depicted above, the following should be noted:</p> <ul style="list-style-type: none"> <li>• Machoy appears to left out the top-most right wind turbine (turbine E25);</li> <li>• The contours developed by Machoy calculated noise levels slightly less (approximately 2 – 3 dB less) than the author. The reasons may be numerous, including that Machoy using a different ground surface constant, etc.</li> <li>• The author did not include the contours below 35 dBA because showing these contours are meaningless, as it is highly unlikely to impossible for ambient sound levels to be significantly less than 35 dBA during periods when the wind turbines will be operating. This is due to wind-induced noises that would raise ambient sound levels.</li> </ul> <p>The statement of Machoy that the contours are not computer generated is disingenuous.</p>	
2.6.1	<p>Machoy included a number of Photos of the measurement locations included in Appendix B of the report.</p>	<p>Statement</p>
2.6.2 (a) (and 2.7.9)	<p>Machoy states in paragraph 2.4.4 above it is noted none of the measurement locations is at a (sic) identified noise sensitive location or with in the WEF area. He highlights that SANS 10103:2008 specifically states that “At each measuring point, the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, <b>if practicable</b>, at least 3,5 m away from walls, buildings and other large flat vertical surfaces.” It is clear that from photographs B3 and B4 that the microphones are less than 3,5 m from “walls, buildings and other large flat vertical surfaces” and consequently these measurements are not valid.</p>	<p>As highlighted by SANS 10103:2008 (underlined and bolded by the author), <i>“the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, <b>if practicable</b>, at least 3,5 m away from walls, buildings and other large flat vertical surfaces”</i>.</p> <p>When this is not possible, the data can be adjusted (reduced) with a value between 1 and 6 dBA (due to reflections from the flat surfaces).</p> <p>On this project the microphone was at 1.3 m, and, placed at locations to ensure that the equipment is safe, secure and will provide data that are not unduly influenced by the surrounding environment.</p> <p>At two locations this was not possible, due to numerous reasons. The author however did not adjust the data because:</p> <ul style="list-style-type: none"> <li>- At location WRLTSL03 the influence of the wall was much lower than the microphone and the influence of the wall was considered to be minimal; and</li> <li>- At location WRLTSL04 the wall is uneven with large openings, with the surface behind it well vegetated. The wall is more likely to act as a diffuser than a reflecting wall.</li> </ul>
2.6.2 (b) (and 2.7.10)	<p>Further, to only measure near domestic dwellings and to extrapolate these to be residual / ambient levels for a 600 hectare area is clearly incorrect.</p>	<p>This was discussed in points 2.4.3, 2.4.4, 2.4.5 and 2.4.6(i), highlighting that the statement is distorting the measurements and that the data collected is valid.</p>

Should you require any further details, or have any additional questions, please do not hesitate to call me on the above numbers.

Yours Faithfully,

Morné de Jager  
Enviro-Acoustic Research cc

# **ANNEXURE A:**

**Measurement requirements in terms of GNR  
154 of 1992 and SANS 10103:2008**

**Government Notice R154 in Government Gazette 13717 defines, or states that:**

**‘disturbing noise’** means a noise level which exceeds the zone sound level or, if no zone sound level has been designated, a noise level which exceeds the ambient sound level at the same measuring point by 7 dBA or more;

**‘measuring point’**, relating to-

(a) a piece of land from which an alleged disturbing noise emanates, means a point outside the property projection plane where an alleged disturbing noise, in the opinion of a local authority, shall be measured in accordance with the provisions of regulation 6;

(b) a building with more than one occupant, means a point in or outside the building where an alleged disturbing noise, in the opinion of a local authority, shall be measured in accordance with the provisions of regulation 6; and

(c) a stationary vehicle, means a point as described in SABS 0181-1981, titled: ‘Code of Practice for the measurement of noise emitted by road vehicles when stationary’, published under General Notice 463 of 9 July 1982, where a measuring microphone shall be placed;

**‘integrating impulse sound level meter’** means a device which integrates a function of the root mean square value of sound pressure over a period of time while it is set on "I"-time weighting and indicates the result in dBA;

**‘noise level’** means the reading on an integrating impulse sound level meter taken at a measuring point in the presence of any alleged disturbing noise at the end of a total period of at least 10 minutes, after such meter had been put into operation, and, if the alleged disturbing noise has a discernible pitch, to which 5 dBA has been added;

**‘sound level’** means the reading on a sound level meter taken at a measuring point;

**‘sound level meter’** means a device measuring sound pressure while it is set on "F"-time weighting and indicates the result in dBA;

**‘zone sound level’** means a derived dBA value determined indirectly by means of a series of measurements, calculations or table readings. and designated by a local authority for an area.

Use of measuring instruments

6.(1) The measurement of dBA values in respect of controlled areas, ambient sound levels or noise levels in terms of these Regulations shall be done as follows:

(a) Outdoor measurements on a piece of land: By placing the microphone of an integrating impulse sound level meter at least 1,2 metres, but not more than 1,4 metres, above the ground and at least 3,5 metres away from walls, buildings or other sound reflecting surfaces; and

(b) indoor measurements in a room or enclosed space, which is not ventilated mechanically: By placing the microphone of an integrating impulse sound level meter at least 1,2 metres, but not more than 1,4 metres, above the floor and at least 1,2 metres away from the wall, with all the windows and outer doors of the room or enclosed space entirely open: Provided that the windows and doors are closed for indoor measurements in rooms or enclosed spaces which are mechanically ventilated.

- (2) Any person taking readings, shall ensure that-
- (a) the microphone of an integrating impulse sound level meter is at all times provided with a windshield;
  - (b) the measuring instruments are operated strictly in accordance with the manufacturer's instructions; and
  - (c) sound measuring instruments are checked annually by the South African Bureau of Standards or a calibration laboratory approved by the Minister in order to comply with the appropriate specifications for accuracy.



**SANS 10103:2008 – “The measurement and rating of environmental noise with respect to annoyance and to speech communication” define or states that:**

**measurement time interval**

time interval over which measurements are made or can be made

**5.1 Measurement procedures**

**5.1.1 Measuring equipment**

**5.1.1.1 Integrating sound level meter configuration**, that complies at least with the accuracy requirements specified for a class 1 instrument in SANS 656, SANS 658 and SANS 61672-1. A windscreens of a type specified by the manufacturer as being suitable for the particular microphone, and that does not detectably influence the accuracy of the meter under the ambient conditions of the test, shall be used.

**5.1.1.2 Sound calibrator**, that complies with the requirements prescribed for a class 1 calibrator in SANS 60942.

**5.1.2 Calibration of equipment**

**5.1.2.1 Calibration**

All items of the sound measuring equipment used should be calibrated against the requirements of SANS 656, SANS 658, SANS 60942 and SANS 61672-1 (by an accredited laboratory), at intervals not exceeding one year for the sound calibrator, and two years for the rest of the equipment, that they comply with the requirements for accuracy prescribed in 5.1.1.

**5.1.3 Microphone positions**

**5.1.3.1 Outdoor measurements**

**5.1.3.1.1 Discrete measurement positions**

Measuring points that are representative of the noise climate should be selected. At each measuring point, the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, if practicable, at least 3,5 m away from walls, buildings and other large flat vertical surfaces.

**5.1.4 Measurement time intervals**

The measurement time intervals should be so chosen that the results are representative of the reference time interval, and that variations in the rating level owing to the variation of the emission at the source, and owing to weather influence on sound propagation, are adequately covered. The choice of the measurement time interval will depend on the method of data acquisition and on the time structure of the noise. If the noise displays a clear periodicity, the measurement time intervals should cover at least three periods, where possible. If continuous measurement over the period is not possible, the time intervals should be so chosen that each represents a part of the cycle and that together they represent a complete sample that is characteristic of the noise radiation being measured. If the sound pressure level varies stepwise, the measurement time intervals should be so selected that each represents a period within which the noise could have been considered to be approximately steady. If the noise is of a random nature, the measurement time intervals should be so chosen as to give sufficient independent samples to adequately characterize the noise radiation.

# **ANNEXURE B:**

**Sound Power Emission Levels for Various  
Wind Turbine Generators**

Suzlon Energy Limited	<b>SOUND LEVEL GUIDELINE S97DFIG-2100kW (TRK)</b>	<b>SUZLON</b> POWERING A GREENER TOMORROW
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**Basic information**

- Turbine model: S97DFIG-2100kW
- Operational mode: Normal operation
- Air density: 1.225 Kg/m<sup>3</sup>
- Turbulence intensity: 10%
- Wind shear: 0.16
- Maximum vertical inflow angle: 10 deg.
- Blade condition: clean/no ice

**Measurement standard**

All values are given according to IEC 61400-11:ed2.1.

**Sound power level**

The reference sound power level  $L_{WA,ref}$  for the S97- 2100kW turbines shall not exceed:

	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s
LwA @ 80 m hub height	103.3	105.1	105.7	105.4	105.9
LwA @ 90 m hub height	103.5	105.2	105.6	105.5	105.9
LwA @ 100 m hub height	103.7	105.3	105.6	105.6	105.9

All wind speeds are given at the reference height of 10 meters above ground.

**Reference B.1: Sound Power Emission Levels of the 2.1 MW Suzlon S97 DFIG WTG (Reference S97DFIG\_2100kW\_Nov 2011)**

**Table 6-1 Summary of results at hub height**

WS at hub height [m/s]	SPL $L_{WA,k}$ [dB]	Combined uncertainty in the SPL $U_{C,L,WA,k}$ [dB]	Audible tone? <sup>1)</sup>	Tonal audibility $\Delta L_{a,k}$ [dB]	Frequency of the most prevalent tone [Hz]
7.5	102.0	1.2	Yes	0.52	126
8.0	103.3	1.1	No	-2.09	134
8.5	104.3	0.8	No	-2.43	140
9.0	104.7	0.7	No	-2.97	142
9.5	104.7	0.6	-	-	-
10.0	104.8	0.7	-	-	-
10.5	104.7	0.7	No	-2.16	143
11.0	104.6	0.7	No	-1.66	144
11.5	104.5	0.7	No	-1.11	143
12.0	104.3	0.7	No	-1.62	144
12.5	104.5	0.8	No	-0.98	143
13.0	104.6	0.8	No	-1.93	144
13.5	104.5	0.7	No	-1.74	143
14.0	104.8	0.8	No	-1.70	143

**Reference B.2: Sound Power Emission Levels of the 4.2 MW Vestas V150 WTG (Reference 10163788-A-1-A)**

Wind speed $v$ [m/s] <sup>6</sup>	Power $P$ [kW]	Sound power level $L_{WA}$ [dB(A)] <sup>7</sup>	Thrust coefficient $c_T$ [-]	Power coefficient $c_P$ [-]
3	27	-	0.85	0.140
4	157	-	0.81	0.343
5	363	-	0.79	0.406
6	675	-	0.79	0.436
7	1121	103.3	0.79	0.456
8	1650	104.8	0.75	0.450
9	2231	105.5	0.69	0.427
10	2749	105.5	0.58	0.384
11	2948	105.2	0.44	0.309
11.5	2970	105.1	0.38	0.273
12	2970	104.9	0.32	0.240
13	2970	104.8	0.25	0.189
14	2970	104.8	0.20	0.151
15	2970	104.8	0.16	0.123
16	2970	104.8	0.13	0.101
17	2970	104.8	0.11	0.084
18	2970	104.8	0.09	0.071
19	2970	104.8	0.08	0.060
20	2970	104.8	0.07	0.052
21	2970	104.8	0.06	0.045
22	2970	104.8	0.05	0.039

HH*	$V_{10}$ <sup>8</sup> [m/s]	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
89 m	$L_{WA}$ <sup>9</sup> [dB(A)]	103.4	105.2	105.5	105.1	104.8	104.8	104.8	104.8
119 m	$L_{WA}$ <sup>9</sup> [dB(A)]	103.9	105.5	105.5	105.0	104.8	104.8	104.8	104.8
139 m	$L_{WA}$ <sup>9</sup> [dB(A)]	104.1	105.5	105.4	104.9	104.8	104.8	104.8	104.8

\* Hub height depending on foundation design

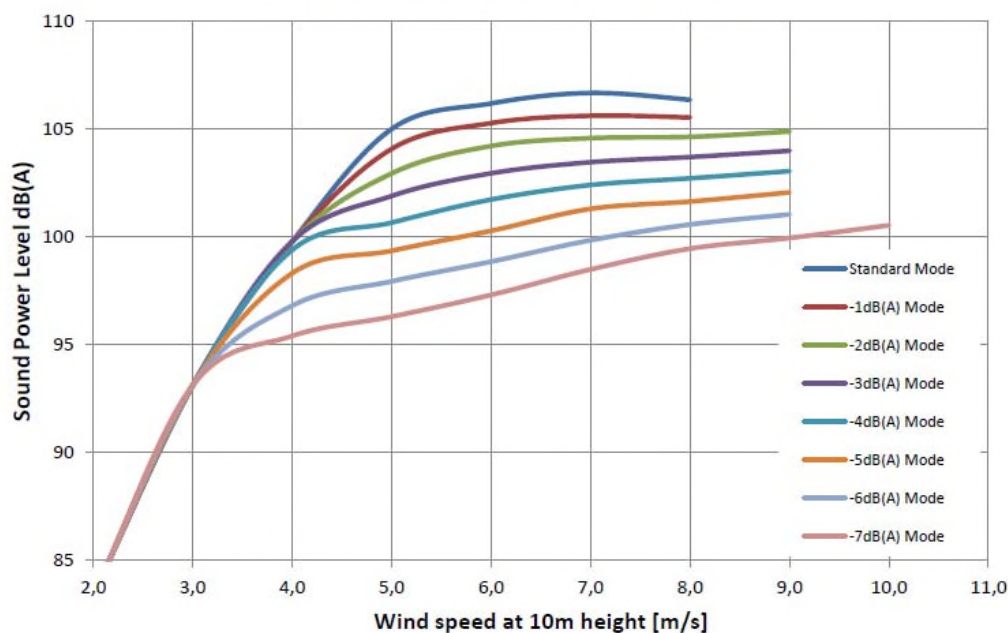
Reference B.3: Sound Power Emission Levels of the 3.0MW Repower 3.0M122 WTG (Reference SD-3.5-WT.PC.00-A-B-EN)

SG 6.0-155 Mode 0, P6000	
Wind Speed [m/s]	LW [dB(A)]
3	92.0
4	92.0
5	94.8
6	98.8
7	102.1
8	105.0
9	105.0
10	105.0
11	105.0
12	105.0
13	105.0
Up to cut-out	105.0

Noise [dB(A)]	Low Noise Operation Mode			
	Wind Speed [m/s]	M3	M4	M5
3.0	92.0	92.0	92.0	92.0
4.0	92.0	92.0	92.0	92.0
5.0	94.8	94.8	94.8	94.8
6.0	98.8	98.8	98.8	98.8
7.0	102.0	101.0	100.0	99.0
8.0	102.0	101.0	100.0	99.0
9.0	102.0	101.0	100.0	99.0
10.0	102.0	101.0	100.0	99.0
11.0	102.0	101.0	100.0	99.0
12.0	102.0	101.0	100.0	99.0
13.0	102.0	101.0	100.0	99.0
Up to cut-out	102.0	101.0	100.0	99.0

Reference B.4: Sound Power Emission Levels of the 6 MW Siemens SG 6.0-155 WTG (Reference D2048746 / 04)

### Noise Curve L147-4.3MW



Reference B.5: Sound Power Emission Levels of the 4.3 MW Lagerwey L147-4.3MW SE WTG (Reference SD291ENR0)



Noise level, rated power and available hub heights

Nordex N149/4.0-4.5 – Noise level, rated power and available hub heights

operating mode	rated power [kW]	maximum sound power level over the complete operating range of the wind turbine		available hub heights [m]					
		L <sub>WA</sub> [dB(A)]	L <sub>WA</sub> (STE) [dB(A)]	105	125	135	145	155	164
Mode 0	4500	108.1	106.1	●	●	●	●	●	●
Mode 1	4380	107.5	105.5	●	●	●	●	●	●
Mode 2	4280	107.0	105.0	●	●	●	●	●	●
Mode 3	4200	106.6	104.6	●	●	●	●	●	●
Mode 4	4100	106.1	104.1	●	●	●	●	●	●
Mode 5	4000	105.6	103.6	●	●	●	●	●	●
Mode 6	3880	105.0	103.0	●	–	–	–	●	●
Mode 7	3790	104.5	102.5	●	–	–	–	●	●
Mode 8	3720	104.0	102.0	●	–	–	–	–	●
Mode 9	3470	102.5	100.5	●	●	●	●	–	●
Mode 10	3370	102.0	100.0	●	●	●	●	–	●
Mode 11	3300	101.5	99.5	●	●	●	●	–	●
Mode 12	3230	101.0	99.0	●	●	●	●	●	●
Mode 13	3150	100.5	98.5	●	●	●	●	●	●
Mode 14	3080	100.0	98.0	●	●	●	●	●	●
Mode 15	3010	99.5	97.5	●	●	●	●	●	●
Mode 16	2940	99.0	97.0	●	●	●	●	●	●
Mode 17	2870	98.5	96.5	●	●	●	●	●	●

L<sub>WA</sub> ... A-weighted sound power level  
 STE ... Serrated Trailing Edge

● mode available  
 – mode not available

Reference B.6: Sound Power Emission Levels of the 4.0-4.5MW Nordex N149/4.0-4.5 WTG (Reference F008\_270\_A12\_EN, Rev 04)

## Sound Power Level for the E-115 with 3000 kW rated power

in relation to standardized wind speed $v_s$ at 10 m height					
$v_s$ in 10 m height	hub height	92 m	135 m	149 m	
	3 m/s		91.0 dB(A)	91.9 dB(A)	92.2 dB(A)
4 m/s		96.5 dB(A)	97.5 dB(A)	97.7 dB(A)	
5 m/s		100.6 dB(A)	101.5 dB(A)	101.8 dB(A)	
6 m/s		103.5 dB(A)	104.2 dB(A)	104.2 dB(A)	
7 m/s		104.7 dB(A)	104.8 dB(A)	104.9 dB(A)	
8 m/s		105.0 dB(A)	105.0 dB(A)	105.0 dB(A)	
9 m/s		105.0 dB(A)	105.0 dB(A)	105.0 dB(A)	
10 m/s		105.0 dB(A)	105.0 dB(A)	105.0 dB(A)	
95% rated power		105.0 dB(A)	105.0 dB(A)	105.0 dB(A)	

- The relation between the sound power level and the standardized wind speed  $v_s$  in 10 m height as shown above is valid on the premise of a logarithmic wind profile with a roughness length of 0.05 m. The relation between the sound power level and the wind speed at hub height applies for all hub heights. During the sound measurements the wind speeds are derived from the power output and the power curve of the WEC.
- A tonal audibility of  $\Delta L_{a,k} < 4$  dB can be expected over the whole operational range (valid in the near vicinity of the turbine according to IEC 61400-11 ed. 2).
- The sound power level values given in the table are valid for the **Operational Mode 0<sub>s</sub> / OM 0<sub>s</sub>**. The respective power curve is the D0377232-0\_#\_eng\_#\_PC\_E-115\_3000kW\_OM0s\_calculated\_V1.0
- Due to the typical measurement uncertainties, if the sound power level is measured according to one of the accepted methods the measured values can differ from the values shown in this document in the range of +/- 1 dB.

Accepted measurement methods are:

- IEC 61400-11 ed. 2 („Wind turbine generator systems – Part 11: Acoustic noise measurement techniques; Second edition, 2002-12“), and
- the FGW-Guidelines („Technische Richtlinie für Windenergieanlagen – Teil 1: Bestimmung der Schallemissionswerte“, published by the association „Fördergesellschaft für Windenergie e.V.“, 18<sup>th</sup> revision).

If the difference between total noise and background noise during a measurement is less than 6 dB a higher uncertainty must be considered.

- For noise-sensitive sites it is possible to operate the E-115 with reduced rotational speed and reduced rated power during night time. The sound power levels resulting from such operational mode can be provided in a separate document upon request.

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Author/Revisor/ date:	NNo / 02-2015	Documentname	D0375679-1.doc
Approved / date:	RWo/ 02-2015	Revision /date:	1.0
Translation / date			

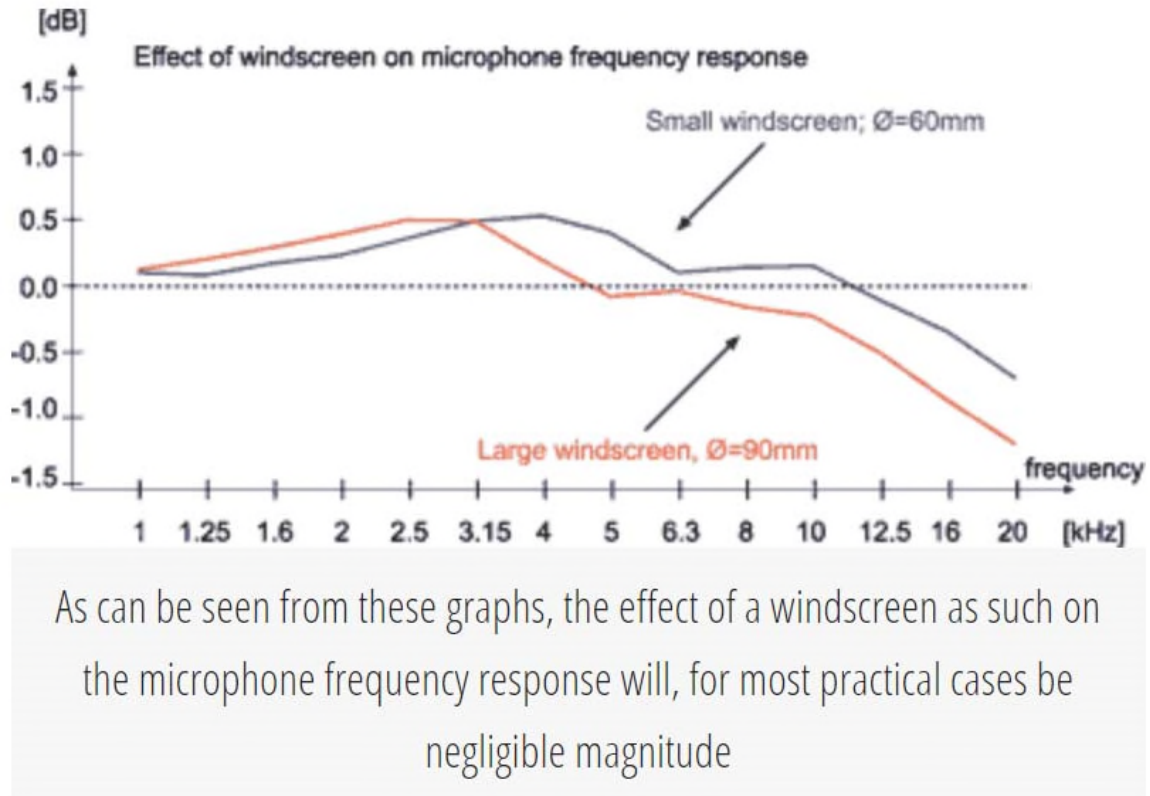
## Reference A.7: Sound Power Emission Levels of the 3 MW Enercon E-155 WTG (Reference D0331018-3)

# **ANNEXURE C:**

**The benefits of using the 20-cm Rion  
WS-03 versus smaller windshields**



All windshields have a slight influence on the sound levels measured, though this impact is generally insignificant and negligible. This is illustrated in the Figures E.1, E.2 and E.3. The potential influence can and should be considered when there is significant acoustic energy higher than 7 – 10 kHz. Most modern windshields are manufactured from an open cell polyurethane foam, with manufacturers deciding on the different windshield diameters as well as the density of the open cells. Each of these factors will influence the effectiveness of the windshield to minimise the turbulence over the microphone diaphragm, as well as minimised the generation of wind-induced noises. This is illustrated in **Figure E.3** on the next page.



As can be seen from these graphs, the effect of a windscreen as such on the microphone frequency response will, for most practical cases be negligible magnitude

Figure E.1: [https://web2.norsonic.com/product\\_single/microphone-windshields/](https://web2.norsonic.com/product_single/microphone-windshields/)

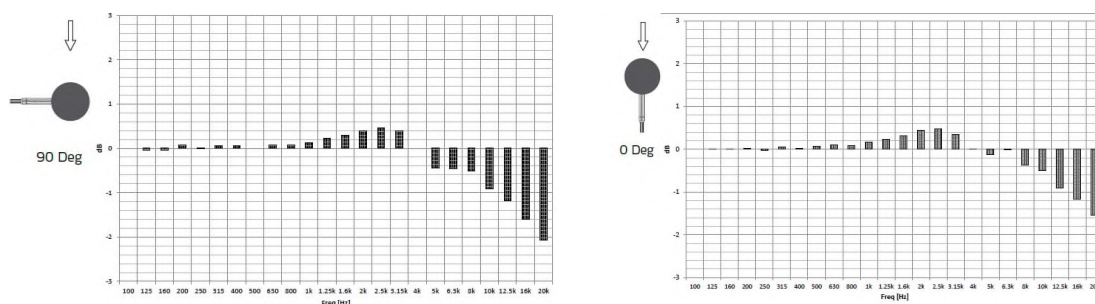
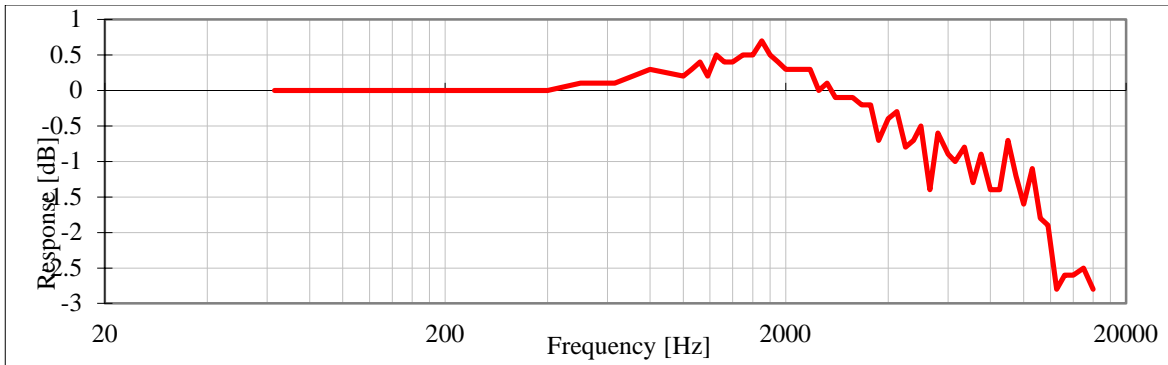
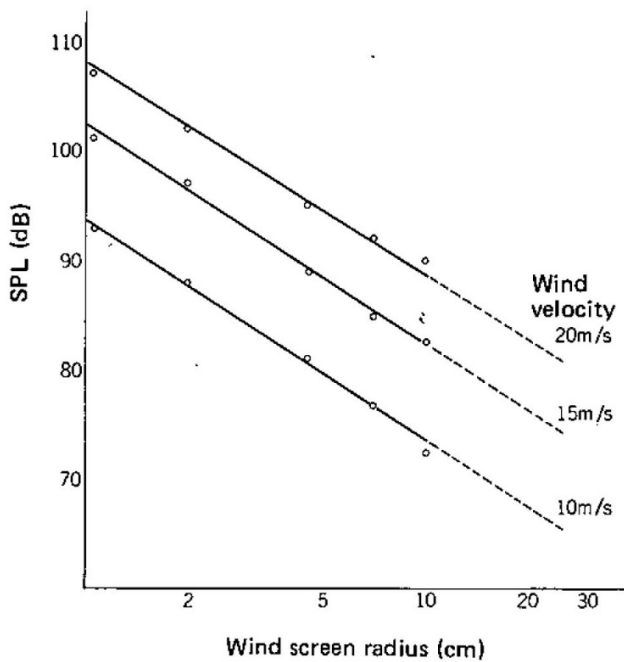


Figure E.2: Effects of a GRAS AM0069 90 mm windscreen on the frequency response for a 46AF ½” free-field microphone (GRAS, Application Note, May 2016)

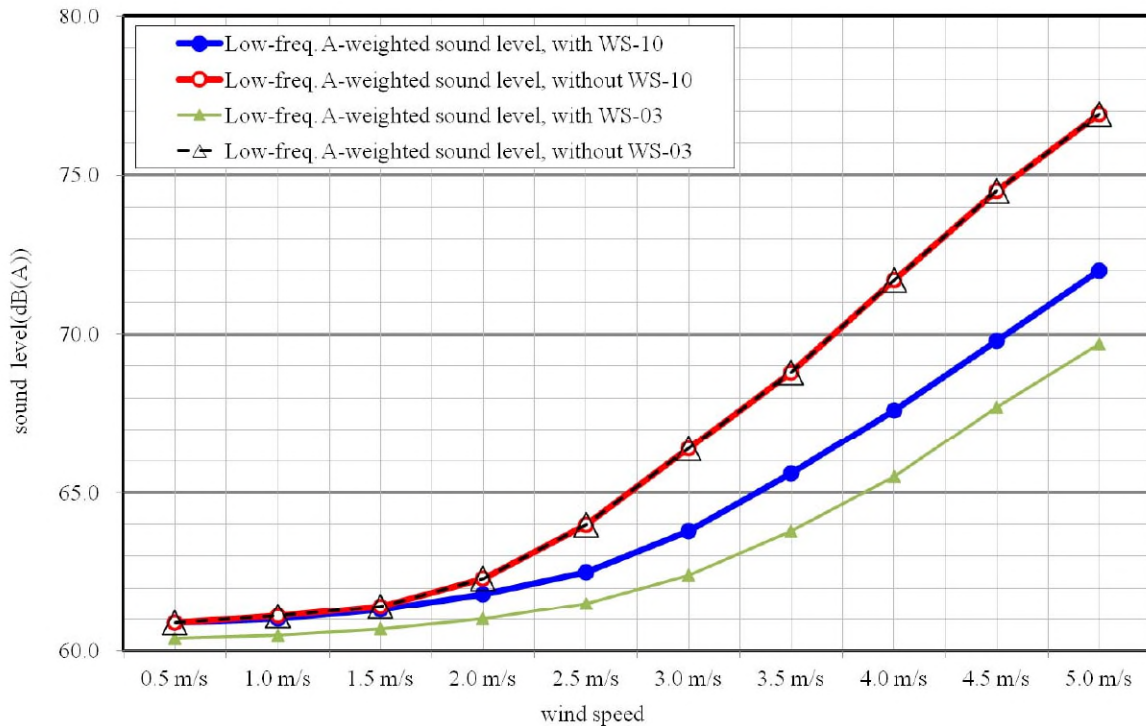


**Figure E.3: Rion, Effect of the Rion WS-15 windshield on frequencies of the sound level measured (Rion Co., Ltd)**

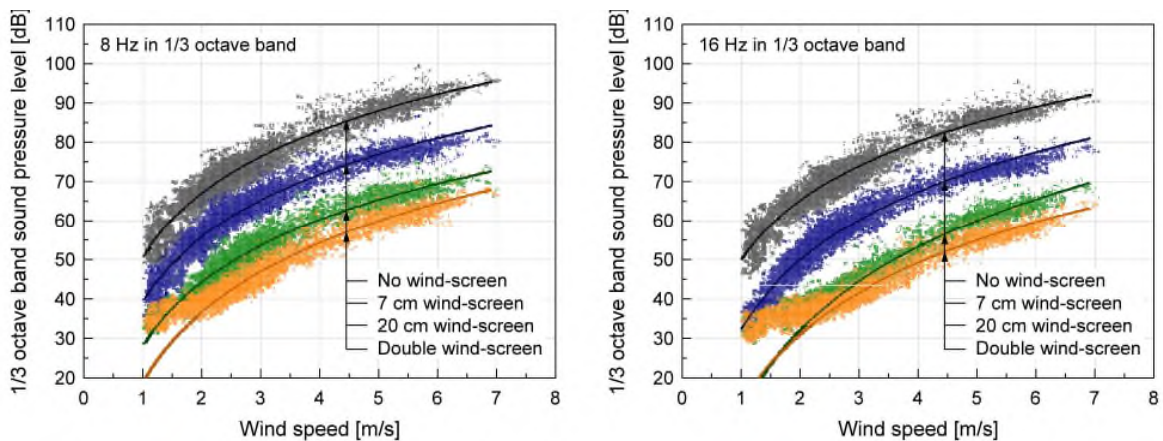
As can be noted from Figures E.4, E.5 and E.6, the effect of turbulence on the microphone does decrease (especially at the lower frequencies) as the diameter of the windshield increase. It is therefore not only recommended, but critical that a larger windshield be selected when measurements are done when elevated wind speeds are expected. The use of a smaller windshield will increase the uncertainty associated with the measurement.



**Figure E.4: Relation between wind screen size and wind noise (Rion WS-03 Technical Notes, available from Rion Co., Ltd)**



**Figure E.5: Trend plot of variation of low-frequency sound level with the WS-10 (7-cm) and the WS-03 (20-cm) windshields (from: Lin, IC *et al.* 2014: “The Effect of Wind on Low Frequency Noise”. Presentation - Inter Noise 2014, Melbourne Australia.**



**Figure E.6: Wind-noise versus wind speed at low frequencies as wind speed increase (From: Tachibana, H. 2013: “Assessment of wind turbine noise in immission areas”. 5<sup>th</sup> International Conference on Wind Turbine Noise, Denver 28 – 30 August 2013.**

As highlighted, a larger windshield is critical when doing sound level measurements in areas when elevated wind speeds are expected. As such the author used the Rion WS-03 windshield, with the structure of the Rion WS-03 depicted in Figure E.6. The design also allows a high confidence that the windshield will protect the sensitive microphone and pre-amplifier from rain and high instances of humidity (such as early morning dew) without significantly impacting on the frequency response. Rion WS-03 is one of the few manufacturers that have the frequency response data of the windshield when wet.

As such, EARES promote and actively use the Rion WS-03 (see also Figures E.6 and E.7), as the use of this windshield offer a number of advantages with a few disadvantages. The main disadvantages are:

- d. Takes significantly more space;
- e. Takes more time to setup;
- f. Significantly higher cost (current replacement cost is R22,000 for the WS-03 compared to the R600 – R1200 for the typical 7 – 9 cm windshield used). As windshields does degrade over time, these windshields must be replaced occasionally, with EARES replacing the outer foam every 2 – 3 years (at a cost of R2,696 ex VAT each).

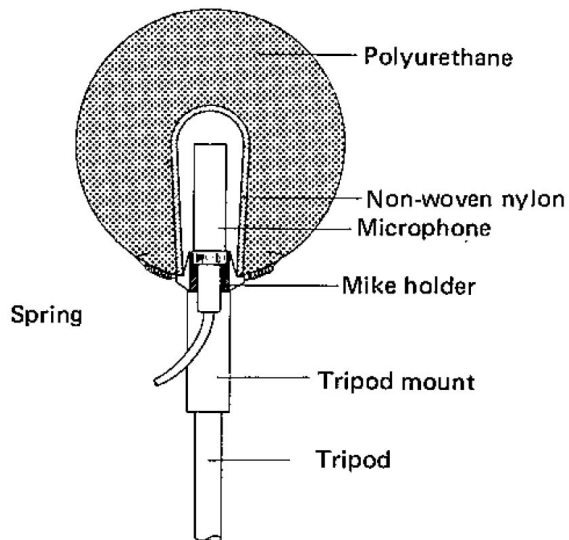


Figure E.6: Structure of the Rion WS-03 windshield



Figure E.7: Various different windshields used at EARES

Annexure C9d  
Response to Visual Impact Assessment Review



Lourens du Plessis t/a LOGIS  
531A Witogje Street  
Die Wilgers, Pretoria  
PO Box 384, La Montagne, 0184  
M: 082 922 9019  
E: lourens@logis.co.za  
W: logis.co.za

20 May 2021

**Savannah Environmental (Pty) Ltd**  
Care of Jo-Anne Thomas

Per email: Joanne@savannahsa.com

Dear Jo-Anne

**Proposed Fronteer and Wind Garden Wind Energy Facilities, Makana Municipality, Eastern Cape Province**

***Review of Visual Impact Assessment (20 April 2021)***

I acknowledge receipt (received 17 May 2021) of the above Review of Visual Impact Assessment as prepared for Richards Summers Inc. by Bernard Oberholzer and Quintin Lawson.

Please find below and attached responses to the report.

Feel free to contact me at any time, should you have any queries.

Kind regards,

---

**Lourens du Plessis (PrGISc)**

## 1. Background to the review

Issues raised by Richard Summers Attorneys, on behalf of their client/s for both wind farms, include the following:

- Concern that not all the related project infrastructure has been assessed, such as internal and connecting powerlines, and access roads.

**Response:** An impact table and statement was included for the ancillary infrastructure.

- Concern that not all sensitive receptors / viewpoints have been identified and assessed, nor have adequate photomontages been provided for those receptors most affected.

**Response:** A total of 76 potential sensitive visual receptors were identified (and listed) within the study area, including 12 with specific objections. It is not possible to consult with all of these, nor is it possible to provide photo simulations for all that are affected. The photo simulations are representative of what the wind turbine would look like from varying distances and not intended to show the wind farm from all directions.

- Concern that site-specific environmental and scenic features have not been identified, nor how these would be affected.

**Response:** A site screening exercise was undertaken during the initial stages of planning (see attached). This was based on an initial/preliminary turbine layout. The results of the screening exercise were **partially** incorporated in the subsequent proposed layout by the project proponent. I don't know why.

- Concern that the local context, including its remoteness and rural / wilderness qualities have not been considered with regard to an industrial-type wind farm.

**Response:** The visual impact was determined in context of the natural state of the surrounding environment with specific mention of the affected environment as part of the NPAES (and with specific mention of the existing Indalo Protected Environment). The visual impact was deemed to be **high**.

- Concern that 'avoidance' measures have not been considered as a primary form of mitigation.

**Response:** Avoidance measures were partially implemented based on the visual sensitivity assessment (2020-05-21 – *Visual Sensitivity Assessment* - attached) by the project proponent when they produced the final layout. This assessment identified problem turbines and listed them. Recommendations were also made in terms of the preferred turbine alternatives and dimensions (*Preliminary comparative viewshed analyses and visual assessment* (May 2020) (attached)).

- Concern that visual impacts from aviation lighting have not been resolved, nor any indication on the effect of these lights on sensitive receptors in the area.

**Response:** The VIA addresses the potential night-time visual impacts of lighting (impact significance indicated as **high**) and recommends the fitment of needs-based night lights in order to mitigate the impact to **moderate**. The project proponent stated that needs-based night lights would be a non-negotiable requirement for the Engineering, Procurement and Construction (EPC) contractor.

- Concern that the assessment of visual cumulative impacts is limited to the actual proposed wind farms, and not the wider surrounding area.

**Response:** The cumulative visual impact was assessed including all proposed or existing Wind Energy Facilities (WEFs) within a 30km radius, not just the proposed Wind Garden and Fronteer WEFs. This includes the existing Waainek and proposed Albany WEFs as well.

- Concern that the siting of wind turbines has not been informed by any visual sensitivity mapping, nor any acceptable visual threshold values.

**Response:** Avoidance measures were partially implemented based on the visual sensitivity assessment (2020-05-21 – *Visual sensitivity assessment* - attached) by the project proponent when they produced the final layout. This assessment identified problem turbines and listed them. Recommendations were also made in terms of the preferred turbine alternatives and dimensions (*Preliminary comparative viewshed analyses and visual assessment* (May 2020) (attached)).

- Concern that the potential visual impacts on Kwandwe Nature Reserve have not been adequately identified and assessed, given its protected area status.

**Response:** The potential visual impact on Kwandwe Nature Reserve, as a protected area and tourist attraction, is addressed in the VIA report and the impact significance is listed as **high**.

## 2. Purposed of the review

**Response:** Noted.

## 3. Assumptions and limitations

**Response:** Noted.

## 4. Definition of 'Visual'

**Response:** Noted.

## 5. The Role of a VIA

**Response:** Noted.

## 6. Comments on the Findings of the VIA Report

### **Extract from the report:**

The conclusion of the VIA Report states the following:

*"Overall, the significance of the visual impacts associated with the proposed Fronteer WEF (and Wind Garden WEF) is expected to be high (post-mitigation), as a result of the generally undeveloped character of the landscape. The facility would be visible within an area that contains certain sensitive visual receptors who would consider visual exposure to this type of infrastructure to be intrusive. Such visual receptors include people travelling along roads, residents of rural homesteads and settlements, and tourists passing through or holidaying in the region."*

The VIA indicates that the cumulative visual impact of the existing Waainek WEF and the proposed Fronteer, Wind Garden and Albany WEFs is expected to be of high significance.

The VIA further states that although the potential visual impacts may exceed acceptable levels within the context of the receiving environment, (an area with an established tourism industry), the proposed WEF development is not considered to be fatally flawed.

This reasoning seems to be based on the proposal being legally compliant, and that it would only be fatally flawed if the majority of stakeholders and decision-makers consider the impacts to be



unacceptable. Given that a large number of sensitive receptors / viewpoints have not been assessed, nor apparently even consulted, the question of a fatal flaw is open to dispute.

**Response:** It is indeed open to **debate**. Ironically the definition of a fatal flaw, as listed (and referenced) in the VIA report is extracted from the *Guideline for involving visual and aesthetic specialists in EIA processes: Edition 1*. This document was drafted by **B. Oberholzer**.

### 1) Cookhouse Renewable Energy Development Zone (REDZ)

**Response:** The purpose of the REDZ is indicated as:

*“areas where large scale wind and solar PV energy facilities can be developed in terms of SIP 8 and in a manner that limits significant negative impacts on the environment, while yielding the highest possible socio-economic benefits to the country.”*

Based on your statement above it is clear that the Cookhouse REDZ is a contradiction in terms. Why are these areas included in the REDZ if they have very high and high visual sensitivity? The REDZ therefore ultimately does not serve its purpose, and in spite of your inputs into the development of the REDZ, apparently fails to live up to the above description thereof, and does not (by your own admission) delineate the area it purports to be.

Additional to this the VIA states: *“The combined visual impact or cumulative impact of up to four wind energy facilities (i.e. the existing Waainek WEF, and the proposed Wind Garden, Fronteer and Albany WEFs) is expected to increase the area of potential visual impact within the region. The intensity of visual impact (number of turbines visible) to exposed receptors, especially those located within a 5-10km radius of the proposed Wind Garden WEF, is expected to increase when considered in conjunction with the other existing or proposed WEFs. **The fact that these WEFs are located within a REDZ is not likely to mitigate the potential visual impact on affected sensitive visual receptors.**”*

### 2) Site Verification

**Response:** Avoidance measures were partially implemented based on the visual sensitivity assessment (2020-05-21 – *Visual sensitivity assessment* - attached) by the project proponent when they produced the final layout. This assessment identified problem turbines and listed them. Recommendations were also made in terms of the preferred turbine alternatives and dimensions (*Preliminary comparative viewshed analyses and visual assessment* (May 2020) (attached)).

### 3) Visual Sensitivity Mapping

**Response:** As above.

## 7. Additional Comments on the VIA Report

### 7.1. Baseline Description

**Response:** At this stage there are no protocols for visual impact assessment in the NEMA regulations. The general requirements have been met.

### 7.2. Visual Receptors

**Response:** A total of 76 potential sensitive visual receptors were identified and listed within the study area, including 12 with specific objections. It is not possible to consult with all of these, nor is it possible to provide photo simulations for all that are affected. The photo simulations are representative of what the wind turbine would look like from varying distances and not intended to show the wind farm from all directions.

### 7.3. Local Airfields

**Response:** Is this a visual impact concern? The Waainek Wind Farm is almost within 5km of the aerodrome.

#### 7.4. Visual Simulations

**Response:** The photo simulations are representative of what the wind turbine would look like from varying distances and not intended to show the wind farm from all directions. Needs-based night time lighting is recommended as mitigation to night time visual impacts.

#### 7.5. Viewsheds

**Response:** A larger scale visual impact index map for objecting landowners (indicating the visual exposure) is included in the report.

#### 7.6. Connecting Power lines

**Response:** An impact statement and table are included in the report.

#### 7.7. Visual Mitigations

**Response:** I would recommend that I update the Visual Sensitivity Assessment (2020-5-21) with the finale turbine layouts and identify potential problem turbines. This sensitivity assessment should be appended to the existing report. Recommendations should be made regarding the removal/relocation of problem turbines, but the onus should ultimately fall on the project proponent to address these.

#### 7.8. Visual Impact Significance Ratings

**Response:** Overall the visual impacts will be **high**, both before and after mitigation.

The anticipated night-time lighting impact is likely to be of **high** significance and may be mitigated to **moderate**, provided that needs-based aircraft warning lights is installed.

### 8. Visual Sensitivity Mapping

**Response:** Agreed, but in your own words *“These are not intended to be mandatory, but instead provide a useful guide in line with best practice.”* I don’t necessarily agree (or disagree) with all the *“recommended”* thresholds in Table 1, as I don’t have access to the rationale behind them.

I would recommend that I update the Visual Sensitivity Assessment (2020-5-21) with the finale turbine layouts and identify potential problem turbines. This sensitivity assessment should be appended to the existing report. Recommendations should be made regarding the removal/relocation of problem turbines, but the onus should ultimately fall on the project proponent to address these.

### 9. Conclusion and Recommendations

**Extract from the report:** *“The Reviewers are of the opinion that the VIA Report contains too many omissions to warrant an informed recommendation regarding the visual acceptability of the two proposed wind farms.”*

**Response:** As stated in the above, this is the **opinion** of the reviewers. You are entitled to an opinion.

The rest of the conclusion is a summary of issues already addressed. Refer to the relevant section within this document.

**PROPOSED CHOJE WIND FARM,  
EASTERN CAPE PROVINCE**

**VISUAL ASSESSMENT: GUIDELINES FOR WIND TURBINE  
PLACEMENT**

**Produced for:**

**Wind Relic Renewables (Pty) Ltd**

**On behalf of:**



Savannah Environmental (Pty) Ltd  
1st Floor, Block 2, 5 Woodlands Drive Office Park,  
Cnr Woodlands Drive & Western Service Road  
Woodmead, 2191

**Produced by:**



Lourens du Plessis (GPr GISc) t/a LOGIS  
PO Box 384, La Montagne, 0184  
M: 082 922 9019 E: lourens@logis.co.za  
W: logis.co.za

**- May 2020 -**

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- 3. SUMMARY AND CONCLUSION**

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- Table 1:** Number of turbines located within visually sensitive criteria (per wind farm block).  
**Table 2:** Summary of turbine figures located within visually sensitive criteria (per wind farm).

## **1. CRITERIA FOR THE IDENTIFICATION OF VISUALLY SENSITIVE AREAS**

### **Proximity to roads:**

- National, arterial and main roads – 500m buffer
- Secondary roads – 250m buffer

**Rationale:** to avoid encroachment of wind turbine structures to public roads (especially in natural, rural and scenic areas), thereby reducing the potential visual impact on road users and tourists.

### **Steep slopes, prominent hills, ridges and skylines**

Avoid the placement of wind turbines on these topographical units.

#### **Rationale:**

- Elevated terrain (hills, ridges and mountains) are considered to be scenic topographical features, generally more exposed than areas with even or level slopes (e.g. plains).
- The placement of turbines on these elevated topographical units will increase the visual exposure (visibility) and prominence of the structures within the landscape.
- The construction of access roads along steeper and elevated slopes will be visually exposed due to the removal of vegetation cover, and may pose an aggravated visual impact due to the risk of erosion scarring.

### **Proximity to inhabited residences (homesteads)**

Wind turbines should not be placed within a 500m buffer zone from residences.

#### **Rationale:**

- Recommended as a threshold in order reduce general observer proximity to wind turbine structures.
- The avoidance of potential shadow flicker issues, generally anticipated to occur at distances of less than 500m from built structures.

### **Proximity to protected areas and tourist attractions**

Wind turbines should not be placed within a 1km buffer zone from protected areas (nature reserves and lodges) or known tourist attractions.

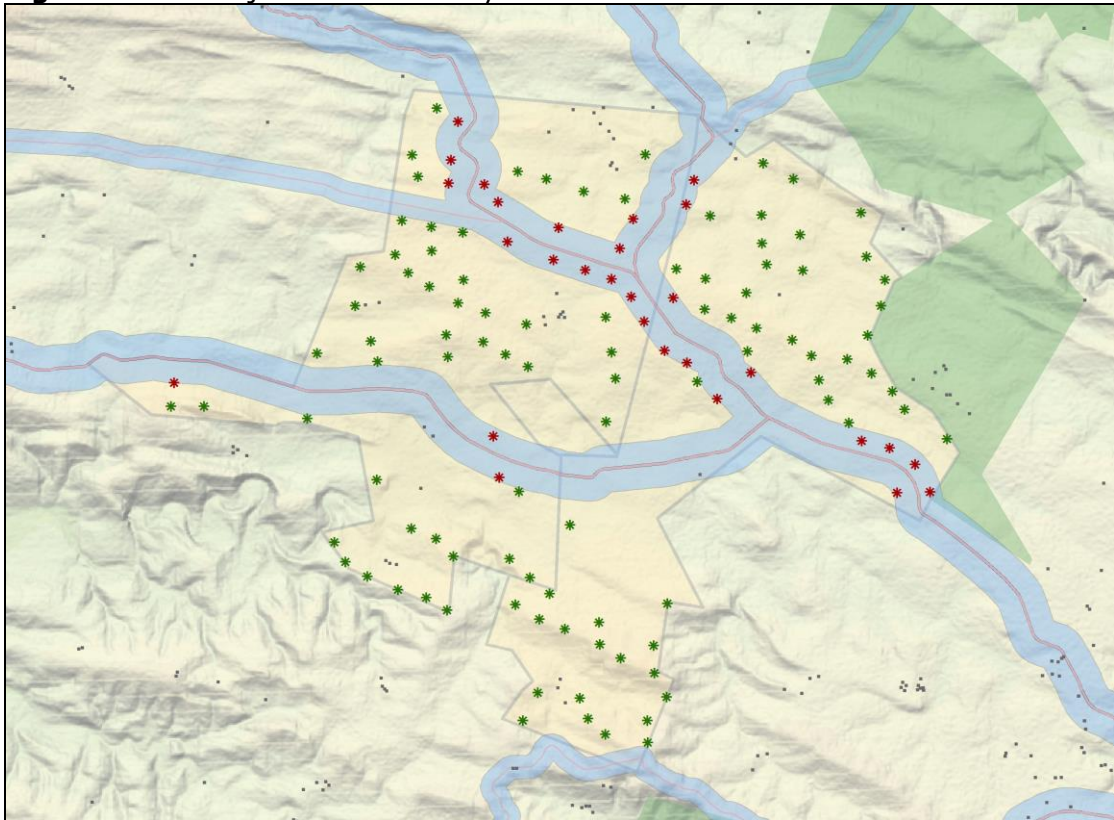
#### **Rationale:**

The potential land use conflict between nature orientated tourism and the potential visual impacts associated with wind turbines may be mitigated to some degree by adhering to a minimum 1km (or other negotiated threshold) exclusion zone.

## 2. APPLICATION OF THRESHOLDS

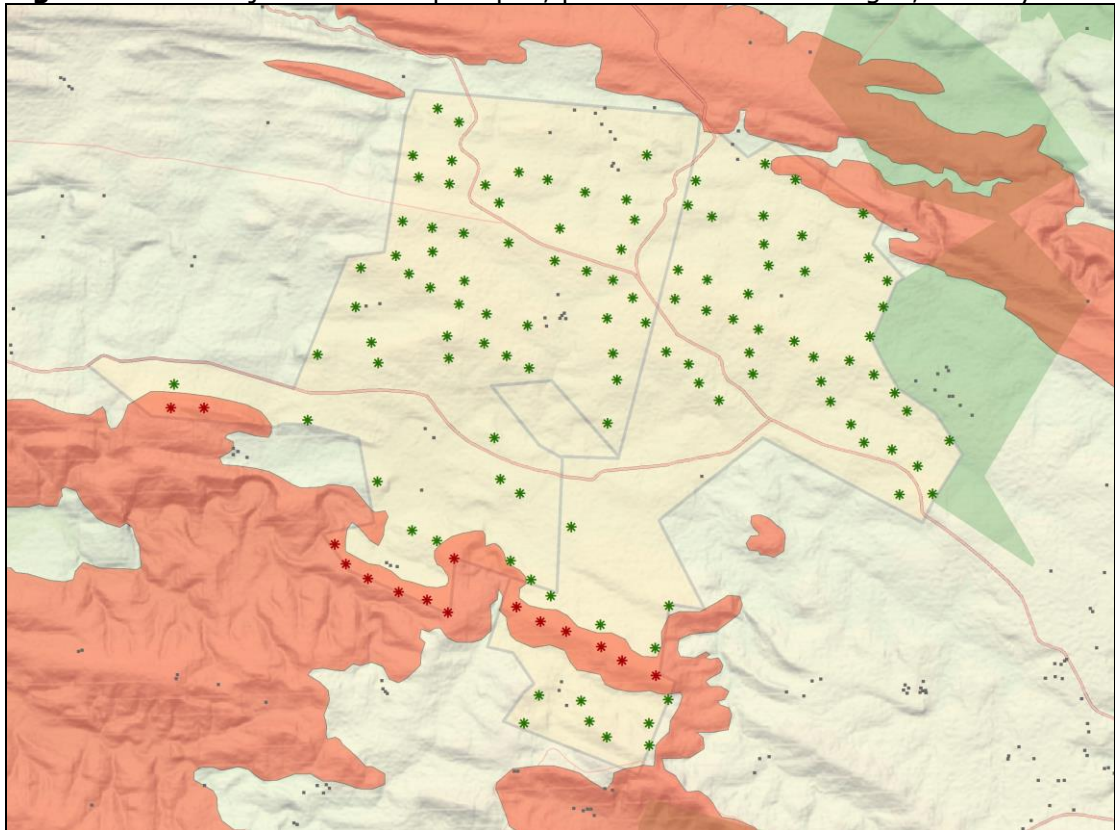
### Choje East Development Envelope (128 turbines)

**Figure 1:** Choje East - Proximity to roads.



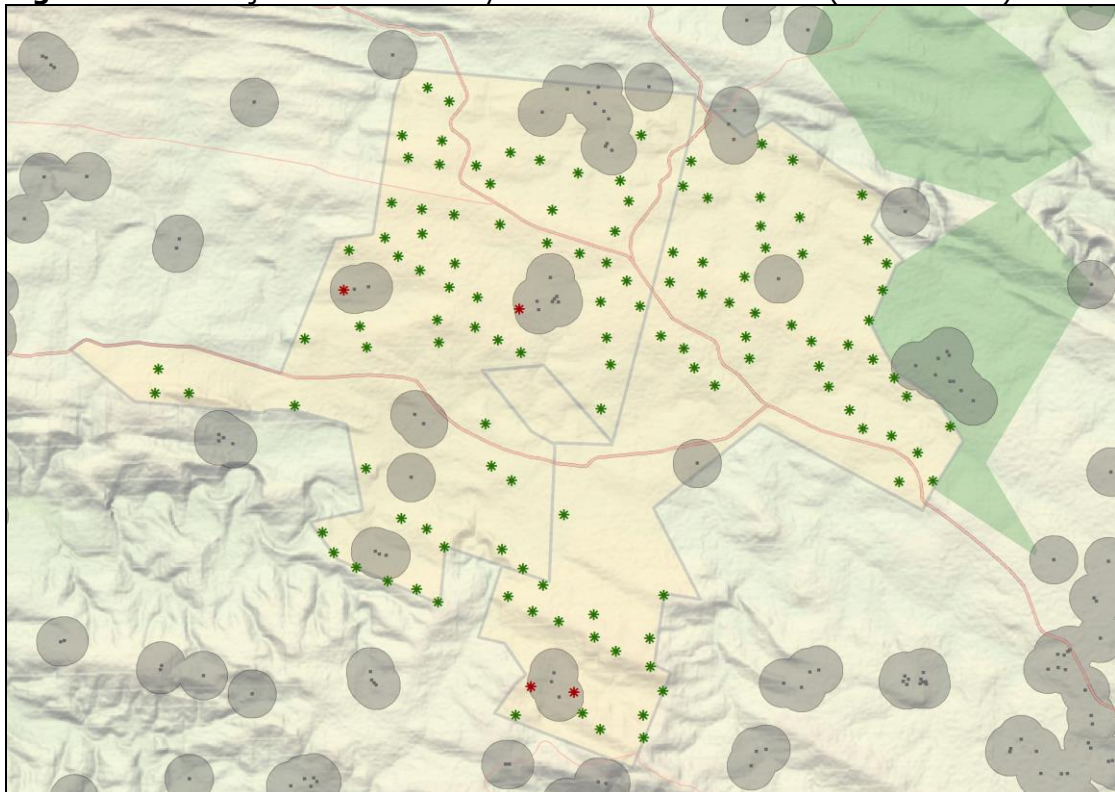
**29** turbine positions (indicated in red) are located within 500m from major roads.

**Figure 2:** Choje East - Steep slopes, prominent hills and ridges, and skylines.



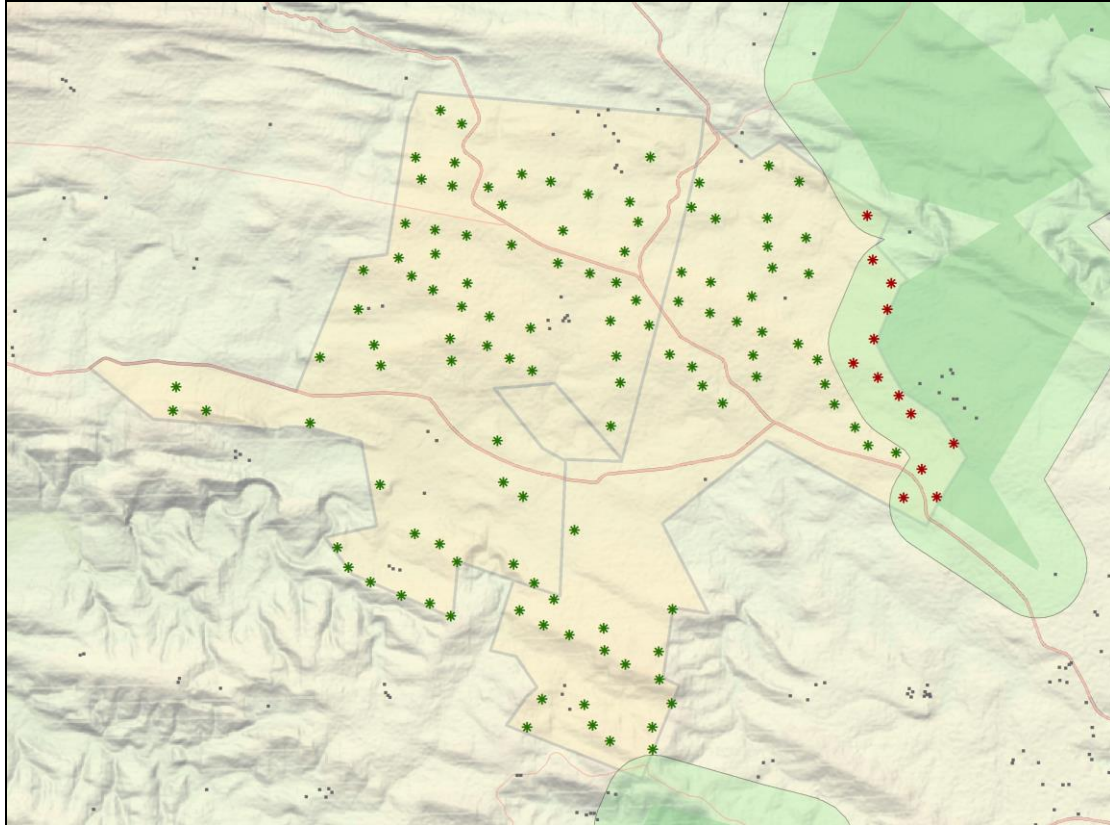
15 turbines are located on exposed topographical units.

**Figure 3:** Choje East - Proximity to inhabited residences (homesteads).



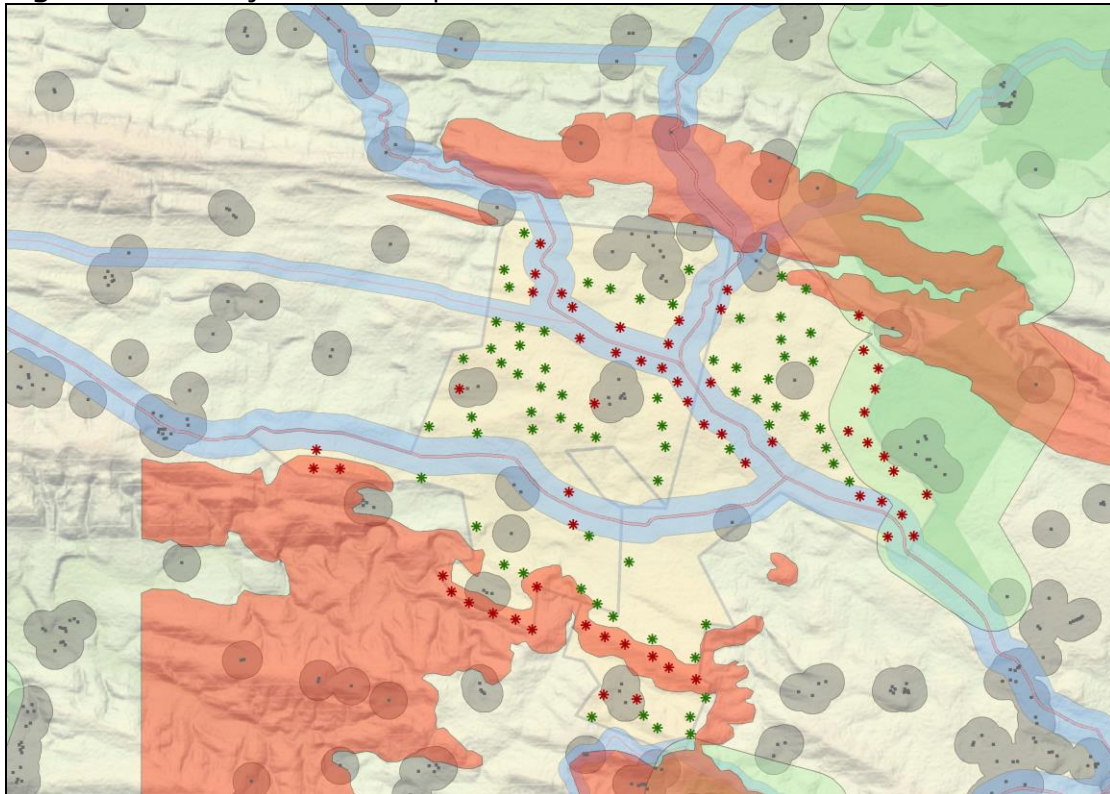
4 turbine positions are located within 500m from homesteads.

**Figure 4:** Choje East - Proximity to protected areas and tourist attractions.



**13** turbine positions are located within 1km from a nature reserve.

**Figure 5:** Choje East - Composite of all criteria.

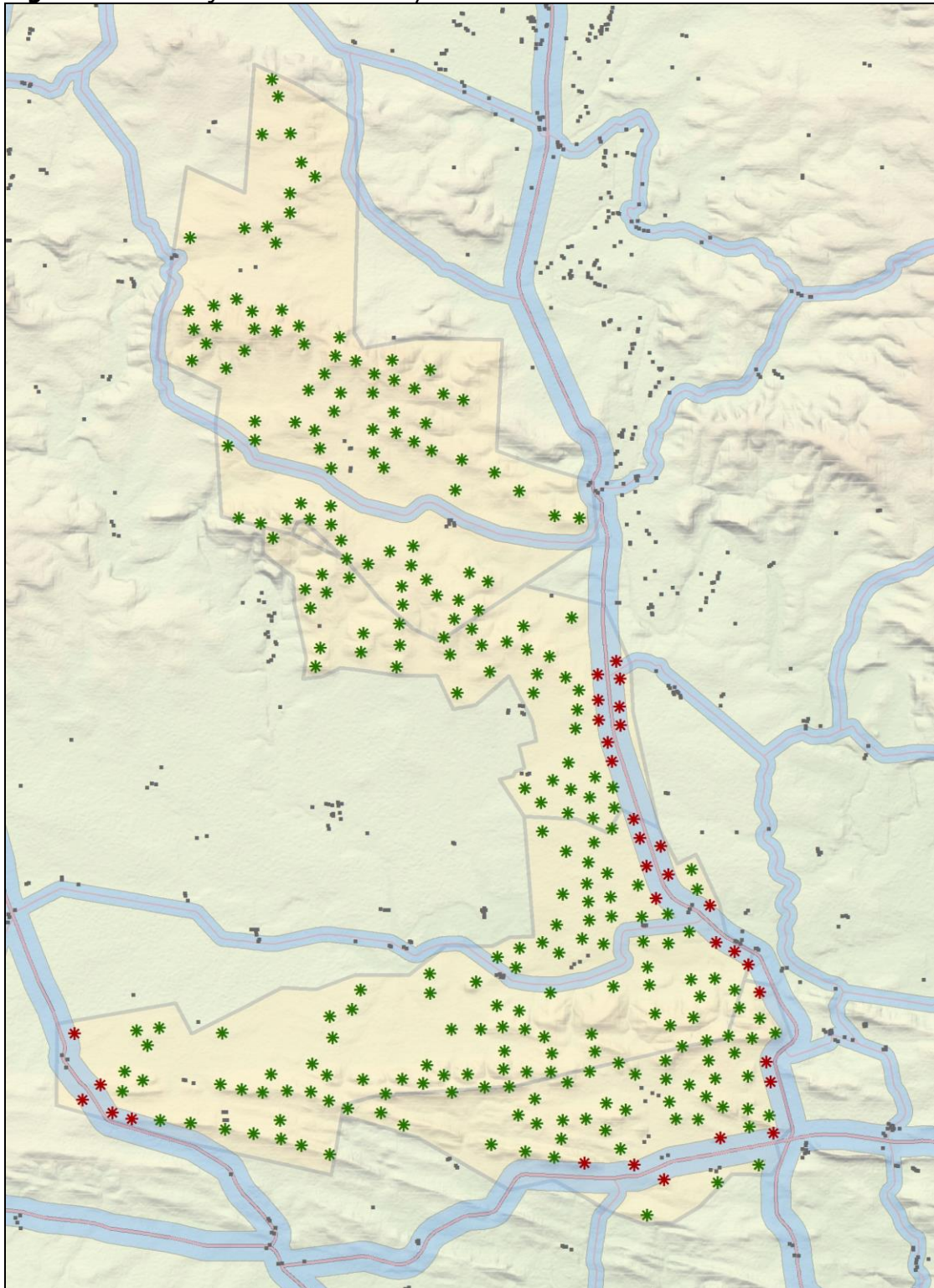


A total number of **58** (out of 128) turbine positions fall within the advised thresholds.



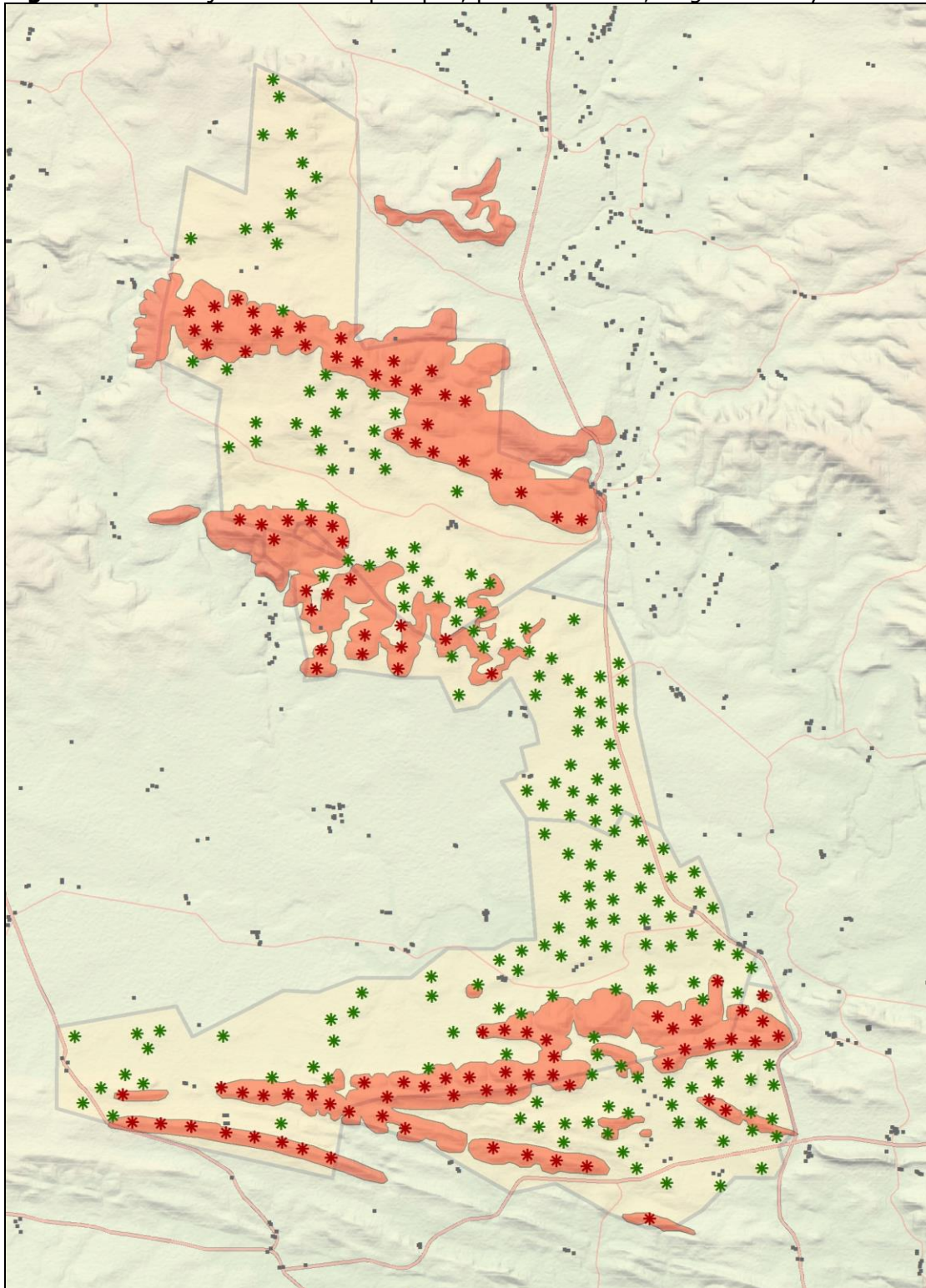
## Choje West Development Envelope (297 turbines)

**Figure 6:** Choje West - Proximity to roads.



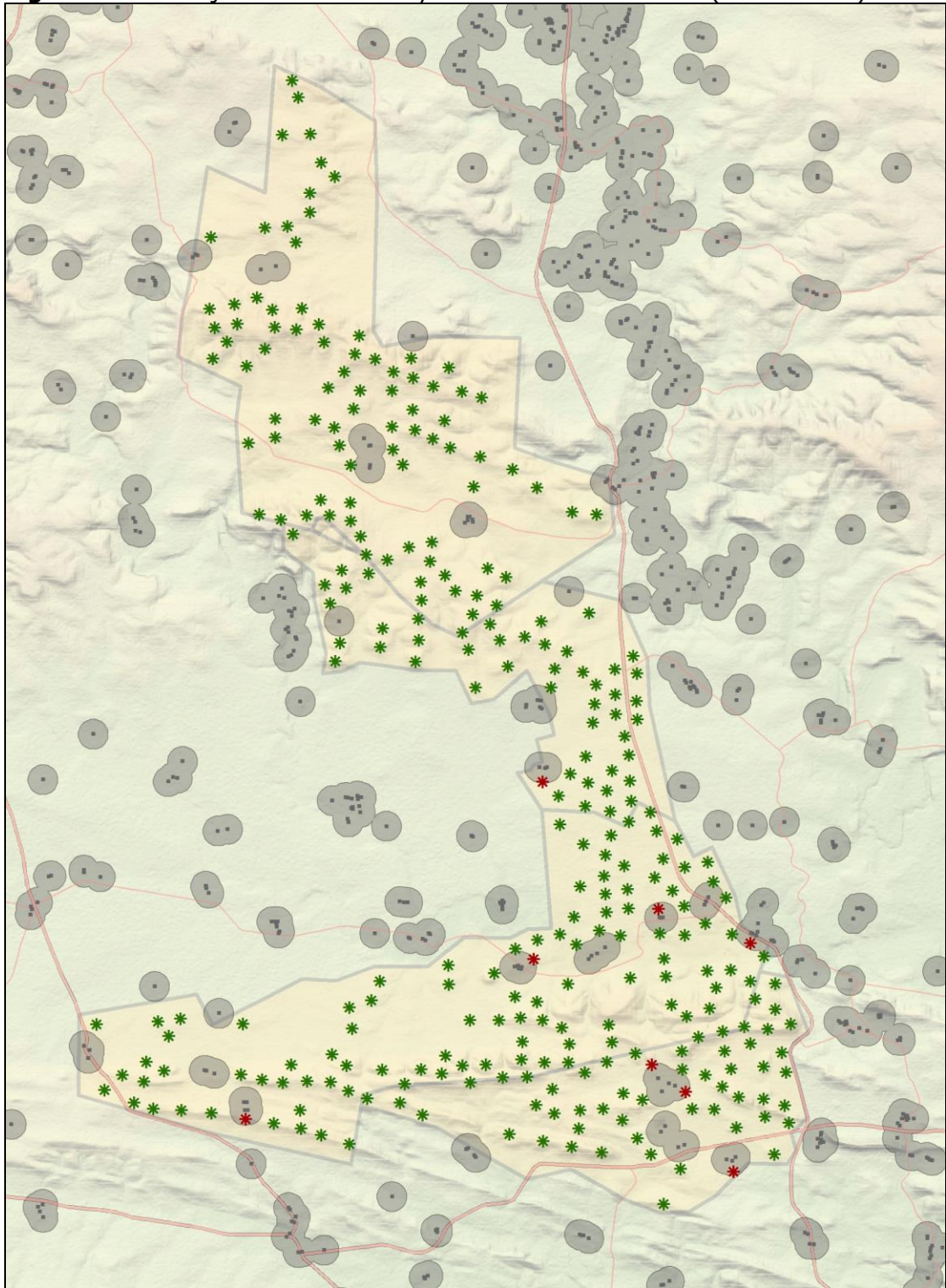
27 turbine positions (indicated in red) are located within 500m from major roads.

**Figure 7:** Choje West - Steep slopes, prominent hills, ridges and skylines.



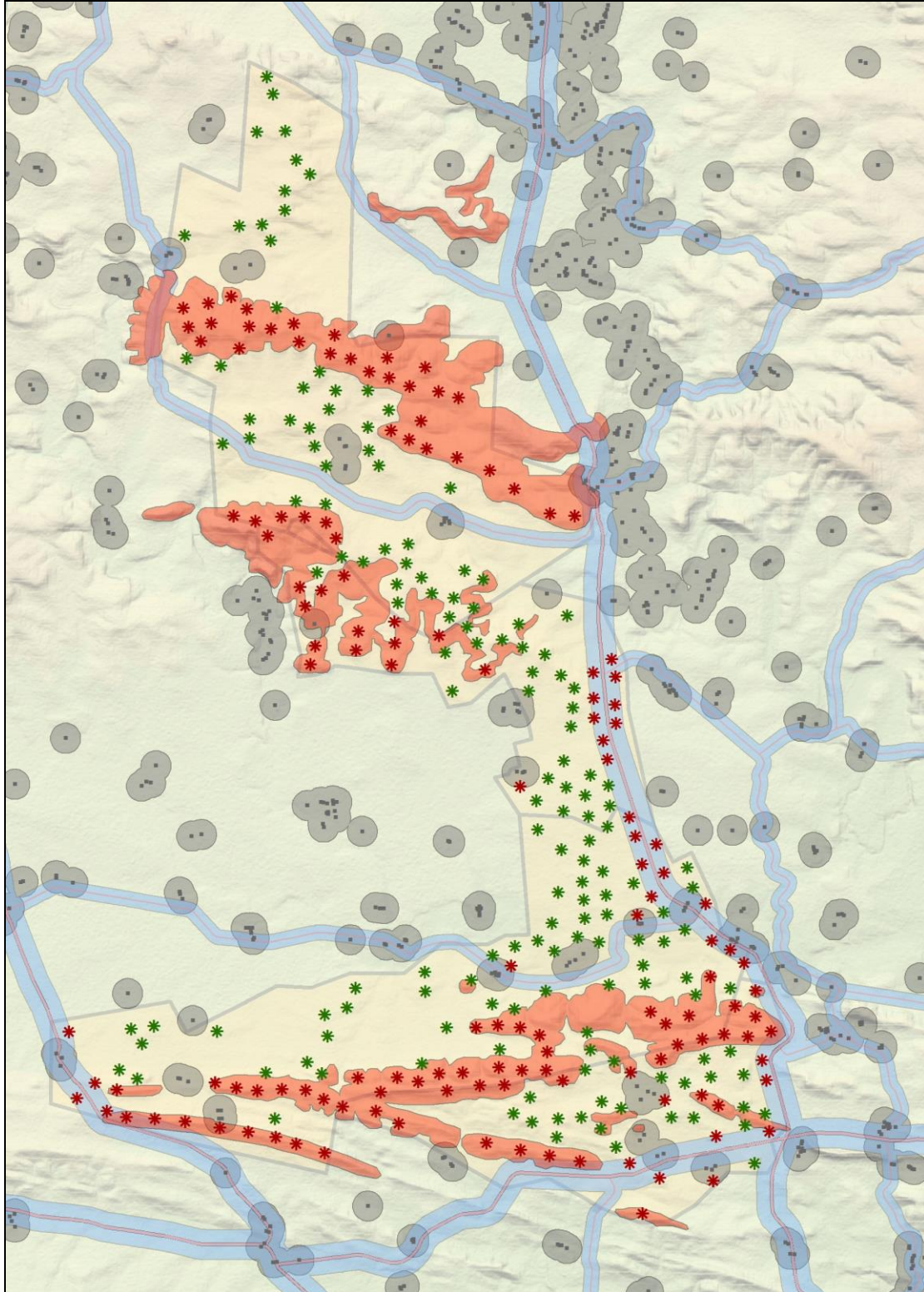
**107** turbines are located on exposed topographical units.

**Figure 8:** Choje West - Proximity to inhabited residences (homesteads).



**8** turbine positions are located within 500m from homesteads.

**Figure 9:** Choje West - Composite of all criteria.



A total number of **142** (out of 297) turbine positions fall within the advised thresholds.

### **3. SUMMARY AND CONCLUSION**

The table below summarises the number of turbines identified per criteria as well as the total number of turbines required to be removed/relocated in order to activate the potential mitigation measures.

**Table 1:** Number of turbines located within visually sensitive criteria (per wind farm block).

Criteria	Choje East	Choje West
Roads (250m/500m buffer)	29	27
Topography (Hills, ridges, etc.)	15	107
Residences (500m buffer)	4	8
PA (1km buffer)	13	0
Total no. of turbines	128	297
Offending turbines	58	142
Remaining turbines	70	155

It should be noted that the criteria implemented above are intended as guidelines to reduce the potential visual impacts. It is not expected to totally mitigate all the visual impacts associated with the wind farms. The removal or relocation of the wind turbine positions located within the given criteria, is however considered to be best practise, and is the most effective way to inform the design of the wind turbine layout.

Additional mitigation measure, not addressed in this report, may include the overall reduction in the number of turbines constructed and limiting the size (dimensions) of the turbines. This will reduce the frequency of visual exposure and the scale of observation of the wind turbine structures within the receiving environment.

**Table 2:** Summary of turbine figures located within visually sensitive criteria (per wind farm).

Count	Choje East 1	Choje East 2	Choje West 1	Choje West 2	Choje West 3	Choje West 4
1	E101	E1	WE100	WE1	WE101	WE102
2	E103	E10	WE11	WE10	WE104	WE115
3	E106	E111	WE12	WE109	WE105	WE123
4	E107	E119	WE120	WE111	WE106	WE129
5	E108	E121	WE125	WE112	WE107	WE13
6	E109	E13	WE131	WE124	WE110	WE141
7	E110	E2	WE137	WE133	WE114	WE15
8	E120	E21	WE151	WE169	WE116	WE158
9	E122	E22	WE162	WE172	WE126	WE159
10	E126	E26	WE166	WE174	WE127	WE16
11	E128	E27	WE171	WE181	WE128	WE168
12	E17	E28	WE173	WE187	WE132	WE179
13	E29	E3	WE175	WE214	WE14	WE185
14	E31	E30	WE176	WE233	WE143	WE192
15	E38	E33	WE177	WE235	WE144	WE193
16	E39	E4	WE194	WE247	WE145	WE196
17	E43	E55	WE195	WE274	WE152	WE20
18	E44	E58	WE208	WE278	WE153	WE22
19	E45	E6	WE215	WE289	WE165	WE258
20	E48	E67	WE216	WE41	WE17	WE259
21	E51	E69	WE224	WE55	WE180	WE261

22	E53	E8	WE225	WE57	WE182	WE265
23	E54	E81	WE24	WE9	WE188	WE271
24	E76	E84	WE277		WE189	WE45
25	E79	E87	WE279		WE191	WE60
26	E85	E89	WE31		WE202	WE64
27	E93	E9	WE34		WE203	WE72
28	E99	E90	WE42		WE204	WE74
29		E95	WE43		WE213	WE97
30		E98	WE5		WE23	
31			WE52		WE239	
32			WE63		WE255	
33			WE73		WE257	
34			WE76		WE26	
35			WE85		WE28	
36			WE87		WE282	
37			WE88		WE296	
38			WE89		WE297	
39					WE3	
40					WE35	
41					WE46	
42					WE51	
43					WE53	
44					WE56	
45					WE58	
46					WE59	
47					WE77	
48					WE81	
49					WE84	
50					WE86	
51					WE94	
52					WE99	

**PROPOSED CHOJE WIND FARM,  
EASTERN CAPE PROVINCE**

**PRELIMINARY COMPARATIVE VIEWSHED ANALYSES  
AND VISUAL ASSESSMENT**

**Produced for:**

**Wind Relic Renewables (Pty) Ltd**

**On behalf of:**



Savannah Environmental (Pty) Ltd  
1st Floor, Block 2, 5 Woodlands Drive Office Park,  
Cnr Woodlands Drive & Western Service Road  
Woodmead, 2191

**Produced by:**



Lourens du Plessis (GPr GISc) t/a LOGIS  
PO Box 384, La Montagne, 0184  
M: 082 922 9019 E: lourens@logis.co.za  
W: logis.co.za

**- May 2020 -**

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- 2. SCOPE OF WORK**
- 3. METHODOLOGY**
- 4. RESULTS**
- 5. CONCLUSION AND RECOMMENDATIONS**

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**Figure 1:** Schematic representation of wind turbine alternatives and dimensions.

## **TABLES**

**Table 1:** Wind turbine alternatives and dimensions.

**Table 2:** Comparative turbine sizes.

**Table 3:** Visual exposure.

## **MAPS**

**Map 1:** Composite comparative viewshed analysis – Eastern Block.

**Map 2:** Composite comparative viewshed analysis – Western Block.



## 1. INTRODUCTION

**Wind Relic Renewables (Pty) Ltd (Wind Relic)** is proposing the establishment of a Wind Energy Facility (WEF) to generate approximately 3000 Megawatts (MW) of renewable energy on a number of properties located between Grahamstown and Somerset East, in the Makana and Blue Crane Route Local Municipalities of the Cacadu District Municipality in the Eastern Cape Province. The project is collectively referred to as the **Choje Wind Farm (WF)** and is split into an eastern section (near Grahamstown) and western section (closer to Somerset East and Cookhouse).

The eastern section or block comprises two proposed WEFs (approximately 540MW) and the western block four proposed WEFs with a combined generating capacity upward of 2500MW.

A WEF generates electricity by means of wind turbines that harness the wind of the area as a renewable source of energy. Wind energy generation, or wind farming as it is commonly referred to, is generally considered to be an environmentally friendly electricity generation option.

In order to optimise the use of the wind resource and the amount of power generated by the facility, the number of wind turbines erected in the area as well as the careful placement of the turbines in relation to the topography must be considered.

Wind Relic intends to construct up to 425 wind turbine generators (WTG) on the properties listed below (*to be confirmed/verified*):

Eastern Block:

- Assagai Boom 171
- Brack Kloof 183 and portion 1
- Doorntjies 172 and portion 3
- Hilton 182 portions 2, 3, 4, 5, 8, 9 and 10
- Smoerfontein 174
- Van Der Merwes Kraal portions 1, 4 and 5
- Burnt Kraal 189 portion 1
- Draai Farm 184 portion 1
- Hounslow 131 and portion 4
- Kruisfontein 252
- Table Hill Farm 187 and portions 1, 2 and 3

Western Block:

- Langverwacht 131
- Leeuwfontein 169 and portions 1 and 2
- Middelburg 162 and portion 1
- Middleton 219
- Muisvlakte 132 portions 9 and 25
- Nieuwe Grond A 129 and portion 1
- Rietfontein A 159 and portions 1 and 3
- Van Aardts Kraal 163 portion 1
- Vontein 126
- Welkom 118 portion 3
- Wilton 409 and portion 2
- Blydschap Annex 270
- Bothas Hoop 358 and portion 1

- Brand Brug 268 and portion 1
- Commadagga 266 and portion 8
- Doornkloof 230 and portions 1, 2 , 3 and 5
- Draai Hoek 221 and portion 3
- Draai Van Klein Visch Rivier 254 and portion 2
- Driefontein 259
- Gras Fonteyn 258and portion 1
- Hartebeest Kuil 220 and portion 1
- Modderfontein 302 portion 3
- Paauwkom 223
- Request 271 and portions 1 and 2
- Sheperds Rest 272 and portions 1 and 2
- Somerdal 224
- Varkens Kuil 269 and portions 1, 2 and 3

Each wind turbine is expected to consist of a concrete foundation, a steel tower, a hub (height above ground level to be determined) and three turbine blades attached to the hub.

The positions (or layout) of the WTGs within the identified properties were informed by a number of criteria including the wind resource (wind speed > 6.5m/s), the topography (slope < 8 degrees) and a number of constraint buffers e.g. proximity to electrical infrastructure and neighbouring properties.

## 2. SCOPE OF WORK

The purpose of this study is to undertake comparative viewshed analyses of the proposed wind turbine alternatives (in terms of their dimensions) in order to determine the visual exposure of each alternative, and to establish if any of the alternatives may be effective in reducing the visual exposure and ultimately mitigating the potential visual impact on sensitive visual receptors<sup>1</sup>.

The project proponent provided a number of wind turbine alternatives with varying hub-heights and rotor diameters. These variations in dimensions culminated in eight individual turbine sizes, and more specifically, eight maximum *blade-tip-heights* for each turbine alternative.

The turbine alternatives and dimensions are shown in the table below.

**Table 1:** Wind turbine alternatives and dimensions.

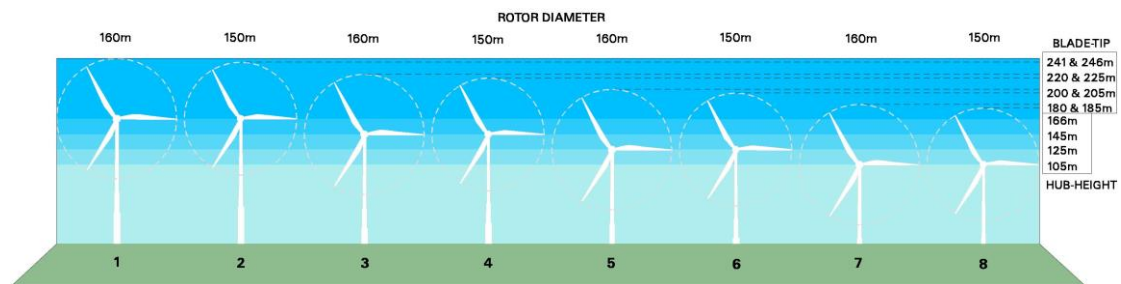
<b>Turbine Alternative</b>	<b>Hub-height</b>	<b>Rotor Diameter</b>	<b>Approx. Blade Length</b>	<b>Blade-tip-height</b>
<b>1</b>	166m	160m	80m	246m
<b>2</b>	166m	150m	75m	241m
<b>3</b>	145m	160m	80m	225m
<b>4</b>	145m	150m	75m	220m
<b>5</b>	125m	160m	80m	205m
<b>6</b>	125m	150m	75m	200m
<b>7</b>	105m	160m	80m	185m
<b>8</b>	105m	150m	75m	180m

<sup>1</sup> Potential sensitive visual receptors include observers residing at homesteads (farm residences and dwellings), visitors to nature reserves and game lodges, and observers travelling along the national, arterial and secondary roads traversing near or over the proposed development sites.

There are four different hub-heights; 166m, 145m, 125m and 105m above ground level and two rotor diameters (either 160m or 150m). The approximate blade length is calculated by dividing the rotor diameter. The blade-tip-height is calculated by adding the blade length to the hub-height.

Based on this the tallest wind turbine may be 246m high (maximum blade-tip-height) while the minimum turbine height may be 180m above ground level. The blade-tip-height was calculated in order to undertake the viewshed analyses from the maximum height per wind turbine alternative, simulating a possible worst-case scenario in terms of visual exposure.

The physical dimensions of the wind turbine alternatives are schematically represented in **Figure 1** below.



**Figure 1:** Schematic representation of wind turbine alternatives and dimensions.

### 3. METHODOLOGY

The visual assessment includes a comparative viewshed analysis in order to determine the visual exposure (visibility) of each of the blade-tip-heights associated with each of the eight wind turbine alternatives.

The wind turbine layouts were provided by the project proponent. For the purpose of this study, and due to the relative distance between the eastern and the western wind farm blocks (exceeding 40km), the study was undertaken in two separate phases, one for each block.

The viewshed analyses focus on a radius of 20km from the proposed wind turbine layouts (i.e. the area of expected visual influence); collectively for the eastern block wind turbines and the western block turbines, i.e. not differentiating between the individual wind farms per block.

The viewshed analyses were undertaken from each wind turbine position, respectively 128 turbines for the eastern block and 297 for the western block, at each of the eight proposed blade-tip-heights. The result of this exercise is eight separate viewsheds (per block), indicating areas from which any one turbine (per blade-tip-height) may be visible. There is no differentiation between the number of turbines that may be visible, i.e. the frequency of visual exposure, as the turbine layout is the same for each analysis.

The eight resultant viewshed analyses are merged and an index indicating the range of possible visual exposure from the maximum to the minimum turbine height is calculated. The combined visual exposure of all the turbine alternatives is indicated on **Map 1** (eastern block) and **Map 2** (western block).

#### 4. RESULTS

The **physical appearance** of the wind turbine alternatives (**Figure 1**) clearly shows a visible reduction in size between the turbines ranging from no. 1 (maximum) and no. 8 (minimum). The reductions in size, in terms of percentages, are shown in **Table 2** below. The maximum turbine size (no. 1) is taken as the benchmark and specified as 100%. Subsequent reductions in the hub-heights and rotor diameters are indicated in the *Comparative Size* column.

**Table 2:** Comparative turbine sizes.

No.	Hub-height	Rotor Diameter	Approx. Blade Length	Blade-tip-height	Comparative Size
1	166m	160m	80m	246m	Max: 100%
2	166m	150m	75m	241m	98% (-2%)
3	145m	160m	80m	225m	91.5% (-8.5%)
4	145m	150m	75m	220m	89.4% (-10.6%)
5	125m	160m	80m	205m	83% (-17%)
6	125m	150m	75m	200m	81% (-19%)
7	105m	160m	80m	185m	75% (-25%)
8	105m	150m	75m	180m	Min: 73% (-27%)

It is clear that the decrease in the physical dimensions of the turbines, especially the reduction in hub-heights, will visibly decrease the appearance of turbines 3 to 8 in relation to turbines 1 and 2. This is due to the approximately 20m difference in each turbine hub-height. The reduction in the rotor diameter on the other hand, changing between 160m and 150m, is expected to have a very limited influence on the appearance of the wind turbine alternatives (approximately 2% per variation).

The combined influence of the reduction in both hub-height and rotor diameter is most pronounced between the maximum turbine size (no. 1) and minimum turbine size (no. 8), where the latter will be up to 27% smaller than the former.

Conventional knowledge may predict that the **visual exposure** of the wind turbine alternatives would follow the trend of the progressive reduction in the physical appearance of the turbines, as discussed above. The viewshed analyses, a method of establishing the total visual exposure of each of the turbine alternatives within a 20km radius of the development footprints, are shown on **Maps 1** and **2**.

As expected, the viewshed analyses confirm the reduction in the area of visual exposure, as the wind turbine dimensions are reduced. The reduction in visual exposure is however, far less drastic than the reduced physical appearance as show in **Figure 1**. Both the eastern block and western block *visible areas* (areas of maximum visual exposure) are displayed in the table below.

**Table 3:** Visual exposure.

No.	Hub-height	Rotor Diameter	Blade-tip-height	Comparative Size	East - Visible Area (km <sup>2</sup> )	West - Visible Area (km <sup>2</sup> )
1	166m	160m	246m	Max: 100%	1,118	2,483
2	166m	150m	241m	98%	1,109 (-1%)	2,475 (-0.3%)
3	145m	160m	225m	91.5%	1,083 (-3%)	2,452 (-1.2%)
4	145m	150m	220m	89.4%	1,074 (-4%)	2,445 (-1.5%)
5	125m	160m	205m	83%	1,046 (-6%)	2,423 (-2.4%)
6	125m	150m	200m	81%	1,037 (-7%)	2,416 (-2.7%)
7	105m	160m	185m	75%	1,006 (-10%)	2,393 (-3.6%)
8	105m	150m	180m	Min: 73%	996 (-11%)	2,385 (-3.9%)

The reductions in visual exposure as displayed on the maps and reflected in the table above, are considerably less than the reduction in the physical appearance of the turbines. This is primarily due to the overall generous dimensions of the turbine structures i.e. even the most constrained alternative is still 180m above ground level, and the placement of turbines on elevated topographical features within the landscape.

#### **Eastern block** (128 turbines)

The difference in visual exposure from turbine alternative 1 (246m blade-tip-height) to alternative 8 (180m) is 122km<sup>2</sup>, or 11% less than the maximum turbine size. When viewed on **Map 1**, the increase in visual exposure per turbine dimensions is displayed as narrow bands located within lower-lying areas predominantly north and south of the wind turbines. This implies that observers lower down in the valleys may see the blade tips of the taller wind turbines but not the tips of the more constrained turbines. These bands are quite thin yet still prominent due to the hilly nature of the topography north and south of the proposed turbine layout.

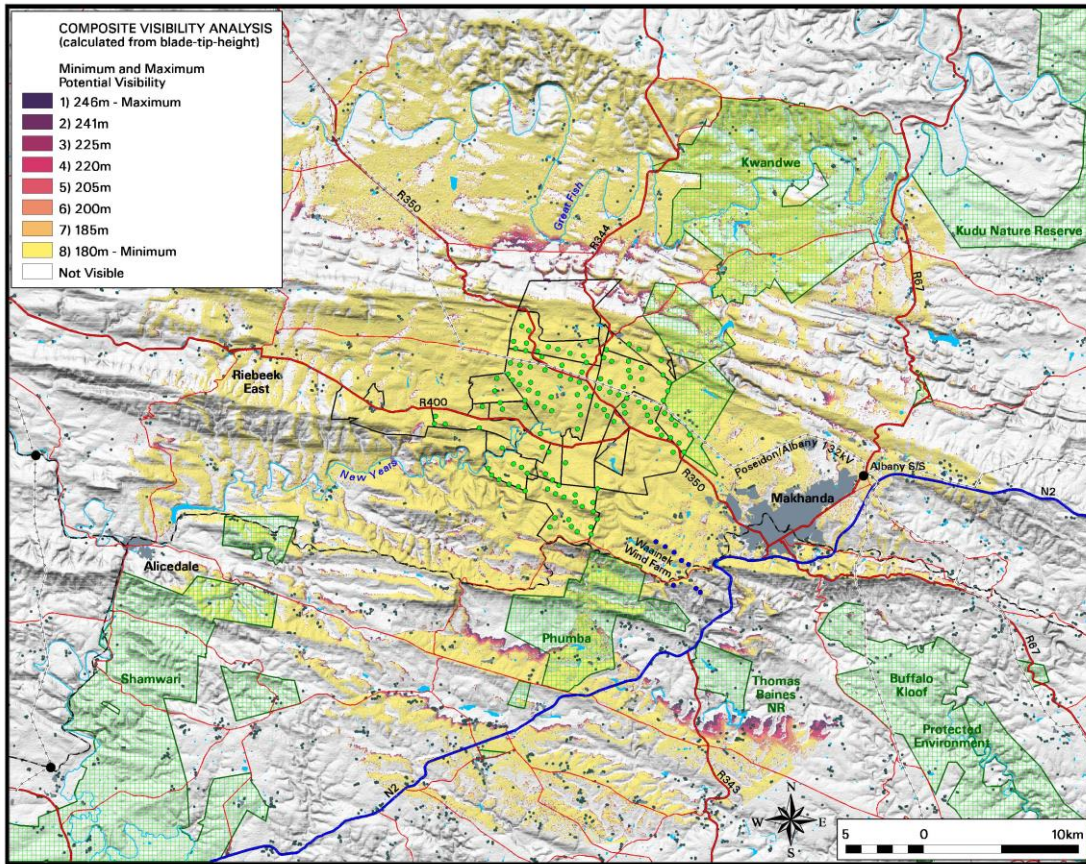
#### **Western block** (297 turbines)

There are considerably more wind turbine positions within the western block layout. The topography (or slope) to the centre of the layout is more even with the northern and southern turbine positions located on hilltops, and more even plains respectively further north and south of these positions.

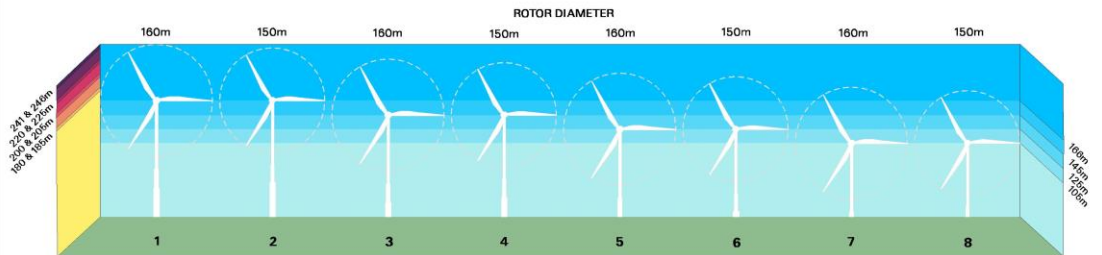
The increased number of wind turbines means that the total area of visual exposure is more expansive than the eastern block turbine layout, a total of 2,483km<sup>2</sup> for the maximum turbine size (246m blade-tip-height). Turbine alternative 8 (180m blade-tip-height) has a mere 3.9% (2,385km<sup>2</sup>) less visual exposure.

Due to the generally flatter topography surrounding the turbine alternatives, the increase in visual exposure is hardly visible on **Map 2** in comparison to the eastern block visual exposure.

### COMPOSITE COMPARATIVE VIEWSHED ANALYSIS



### WIND TURBINE ALTERNATIVES AND DIMENSIONS

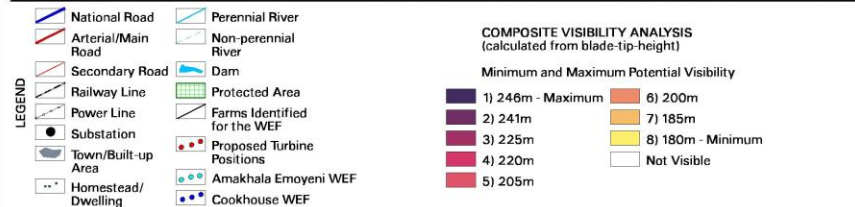


BLADE-TIP HEIGHT & POTENTIAL VISUAL EXPOSURE (see map above)

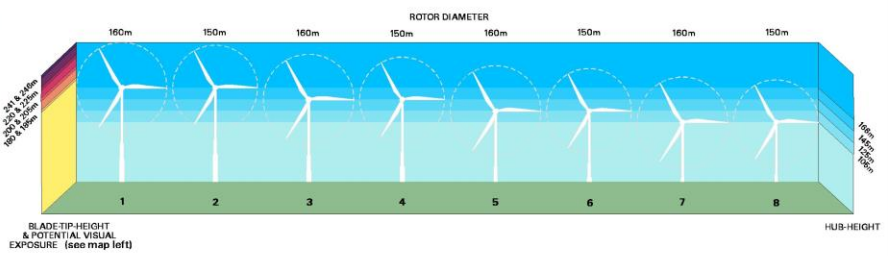
No.	Hub-height	Rotor Diameter	Approx. Blade Length	Blade-tip-height	Comparative Size	Visible Area (km <sup>2</sup> )
1	166m	160m	80m	246m	Max: 100%	1,118
2	166m	150m	75m	241m	98% (-2%)	1,109 (-1%)
3	145m	160m	80m	225m	91.5% (-8.5%)	1,083 (-3%)
4	145m	150m	75m	220m	89.4% (-10.6%)	1,074 (-4%)
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6	125m	150m	75m	200m	81% (-19%)	1,037 (-7%)
7	105m	160m	80m	185m	75% (-25%)	1,006 (-10%)
8	105m	150m	75m	180m	Min: 73% (-27%)	996 (-11%)



**Map 1:** Composite comparative viewshed analysis – Eastern Block.



### WIND TURBINE ALTERNATIVES AND DIMENSIONS



No.	Hub-height	Rotor Diameter	Approx. Blade Length	Blade-tip-height	Comparative Size	Visible Area (km <sup>2</sup> )
1	166m	160m	80m	246m	Max: 100%	2,483
2	166m	150m	75m	241m	98% (-2%)	2,475 (-0.3%)
3	145m	160m	80m	225m	91.5% (-8.5%)	2,452 (-1.2%)
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5	125m	160m	80m	205m	83% (-17%)	2,423 (-2.4%)
6	125m	150m	75m	200m	81% (-19%)	2,416 (-2.7%)
7	105m	160m	80m	185m	75% (-25%)	2,393 (-3.6%)
8	105m	150m	75m	180m	Min: 73% (-27%)	2,385 (-3.9%)



Map 2: Composite comparative viewshed analysis – Western Block.

## 5. CONCLUSION AND RECOMMENDATIONS

It is clear from the viewshed analyses that the reduction in the wind turbine dimensions would have a marginal (eastern block) and negligible (western block) effect on the reduction of the overall visual exposure of the wind turbines. This is due to the already generous dimensions of the wind turbines and the location of wind turbines on elevated topographical units (e.g. hills and ridges) within the landscape.

The proposed decrease in the dimensions of the wind turbine structures is therefore not expected to significantly alter the influence of the WEF on *areas of higher viewer incidence* (observers traveling along major secondary roads within the region) or *potential sensitive visual receptors* (residents of homesteads and visitors to nature reserves) within closer proximity to the WEF.

Even though the wind turbines are generally expected to be visible regardless of the reduction in dimensions, there is still merit (from a visual impact perspective) in keeping the turbine size as constrained as possible. Reducing the size of the wind turbines will, at the very least, reduce the scale of the turbine structures in relations to the receiving environment, and if implemented would be considered a best practice mitigation measure.

Additional mitigation measure, not addressed in this report, may include the removal/relocation of turbines positions from elevated terrain units, or the overall reduction in the number of turbines constructed. These measures, together with limiting the size of the turbines, would mitigate the visual exposure, the frequency of exposure and the scale of observation, potentially mitigating the overall visual impact of the WEF.