FINAL BASIC ASSESSMENT REPORT

PROPOSED ALBANY CONNECTION AND ASSOCIATED GRID INFRASTRUCTURE NEAR MAKHANDA, EASTERN CAPE PROVINCE.

DFFE REFERENCE NUMBER: 14/12/16/3/3/1/2639

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PREPARED FOR:

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A subsidiary of

EDF RENEWABLES (PTY) LTD

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FEBRUARY 2023

INFORMATON REQUIRED BY THE COMPETENT AUTHORITY

The Environmental Impact Assessment (EIA) Regulations, promulgated in terms of the National Environmental Management Act (NEMA) (Act no. 107 of 1998, as amended) dated 8th of December 2014, were amended in April 2017. In terms of Appendix 1 (3) of the EIA Regulations (2014, and subsequent 2017 amendments), a Basic Assessment Report (BAR) must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include –

SCOPE OF ASSESSMENT AND CONTENT OF BASIC ASSESSMENT REPORTS	
(a) Details of - (i) The EAP who prepared the report; and (ii) The expertise of the EAP, including a curriculum vitae.	**Chapter 1 and Appendix A**
(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.	**Chapter 2**
(c) A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.	**Chapter 2**
(d) A description of the scope of the proposed activity, including – (i) All listed and specified activities triggered and being applied for; and (ii) A description of the activities to be undertaken, including associated structures and infrastructure.	**Chapter 3**
(e) A description of the policy and legislative context within which the development is proposed including (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 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.	**Chapter 4**
(g) A motivation for the preferred site, activity and technology alternative.	**Chapter 6**
(h) A full description of the process followed to reach the proposed preferred alternative within the site, including – (i) Details of all the alternatives considered; (ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (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; (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) The impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified 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; (vi) The methodology used in identifying and ranking the nature, significance,	**Chapter 6 and Chapter 7**

consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (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 geographical, physical, biological, social, economic, heritage and cultural aspects; (viii) The possible mitigation measures that could be applied and level of residual risk; (ix) The outcome of the site selection matrix; (x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and (xi) A concluding statement indicating the preferred alternatives, including the preferred location of the activity.	
(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.	**Chapter 8**
(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.	**Chapter 8**
(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.	**Chapter 7**
(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.	**Chapter 9**
(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management outcomes for inclusion in the EMPr.	**Chapter 8**
(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 the authorisation.	***None to date***
(o) A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed.	**Chapter 9**
(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	**Chapter 9**
(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post-construction monitoring requirements finalised.	*Not Applicable*
(r) An undertaking under oath or affirmation by the EAP in relation to – (i) The correctness of the information provided in the reports; (ii) The inclusion of comments and inputs from stakeholders and I&APs; (iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) Any information provided by the EAP to interested and affected parties and any	**Appendix B**

responses by the EAP to comments or inputs made by interested and affected parties.	
(s) Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post-decommissioning management of negative environmental impacts.	*None to date*
(t) Any specific information that may be required by the competent authority.	**Appendix G**
(u) Any other matters required in terms of section 24 (4)(a) and (b) of the Act.	*None to date*

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

TABLE OF ACRONYMS AND ABBREVIATIONS

BA	Basic Assessment
BAR	Basic Assessment Report
BESS	Battery Energy Storage System
CLO	Community Liaison Officer
CV	*Curriculum Vitae*
DAFF	Department of Agriculture, Forestry and Fisheries
DFFE	Department of Forestry, Fisheries and the Environment
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DM	District Municipality
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
ECPHRA	Eastern Cape Provincial Heritage Resources Authority
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
ESA	Early Stone Age
FEPA	Freshwater Ecosystem Priority Area
GHG	Greenhouse Gas
HVAC	Heating, Ventilation and Air-Conditioning
IDP	Integrated Development Plan
IPP	Independent Power Producers
IRP	Integrated Resource Plan
ISCW	Institute for Soil, Climate & Water
kV	Kilovolt
LEDPF	Local Economic Development Procurement Framework
LILO	Line-In-Line-Out
LM	Local Municipality
LSA	Later Stone Age
MPRDA	Mineral and Petroleum Resources Development Act
MSA	Middle Stone Age
MV	Medium Voltage
MW	Megawatt
MWh	Megawatt hours
MWp	Megawatt peak
NDC	Nationally Determined Contribution
NEMA	National Environmental Management Act
NEM:BA	National Environmental Management: Biodiversity Act

NEM:AQA	National Environmental Management: Air Quality Act
NEM:WA	National Environmental Management: Waste Act
NERSA	National Energy Regulator of South Africa
NFEPA	National Freshwater Ecosystem Priority Areas
NGI	National Geospatial Information
NHA	National Heritage Act
NPAES	National Protected Areas Expansion Strategy
NSBA	National Spatial Biodiversity Assessment
NWA	National Water Act
OHL	Overhead Line
PPP	Public Participation Process
QDS	Quarter Degree Square
REIPP	Renewable Energy Independent Power Producers
SAHRA	South African Heritage Resource Agency
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDF	Spatial Development Framework
SMME	Small, Medium and Micro Enterprises
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
WEF	Wind Energy Facility
WMA	Water Management Area
WRB	World Reference Base

1. PROJECT TEAM

1.1 CES COMPANY PROFILE (OVERVIEW)

CES has its head office in Makhanda (Grahamstown), where it was founded in 1990, to service a then fledging market in the fields of Environmental Management and Impact Assessment. CES now has offices in Cape Town, Gqeberha/Port Elizabeth, East London, and Johannesburg as well as a wholly owned subsidiary in Maputo, Mozambique (Coastal & Environmental Services LDa., registered as an Environmental Practitioner with the Mozambican authorities).

The Company has grown apace with the increased market demand for environmental and social advisory services in Southern Africa and further afield. Our principal area of expertise lies in assessing the risks and impacts of the development process on the natural, social, and economic environments through, among other instruments, the environmental impact assessment (EIA) process. We believe that by offering these services, we contribute meaningfully towards sustainable development.

We adopt a scientific approach to our studies, underpinned by an informed and holistic view of the environment and a pragmatic approach to sustainable development. This results in deliverables that are robust, defensible, and credible. This is important for both the development and EIA processes, and as a result, the outputs of our studies demonstrate objectivity, sincerity, and professionalism. We believe that a balance between development and environmental protection can be achieved by skilful and careful planning and that our outputs reflect this. Our track record across twenty (20) African countries as well as in the Middle East and Asia is evidence of the value add we bring to the environmental and social advisory services we provide and has contributed to our deep understanding of the environmental and social challenges associated with establishing and operating facilities and infrastructure in emerging markets.

1.2 CES PROJECT TEAM

Please refer to Appendix A for full *Curriculum Vitae* of the project team.

DR ALAN CARTER

EAP and Project Leader

Dr Alan Carter is an Executive and the East London Branch Manager at CES. He has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years. He is a registered professional with the South African Council for Natural Scientific Professionals (SACNASP) and through Environmental Assessment Practitioners Association of South Africa (EAPASA).

MS CAROLINE EVANS

Project Manager and Report Reviewer

Caroline is a Principal Environmental Consultant with eight (8) years' experience, and she is based in the Makhanda (Grahamstown) branch. She holds a BSc with majors in Environmental Science (distinction) and Zoology, as well as a BSc (Hons) in Environmental Science (distinction) both from Rhodes University. Her undergraduate degree included both commerce and natural sciences. Caroline's honours dissertation evaluated the economic impacts of degradation of the xeric subtropical thicket through farming practices, focusing on the rehabilitation potential of the affected areas in terms of carbon tax. She has a broad

academic background including statistics, economics, management, climate change, wetland ecology, GIS, rehabilitation ecology, ecological modelling, and zoology. Caroline has a strong focus on renewable energy and South African policy and legislation related to development.

1.3 EXPERTISE OF THE PROJECT TEAM

Table 1.1 consists of the expertise of the project team and Table 1.2 consists of a few projects which indicate the project team's relevant experience.

Table 1.1: Expertise of the Project Team.

NAME	POSITION IN COMPANY	HIGHEST QUALIFICATION	YEARS' EXPERIENCE
DR ALAN CARTER	Executive	PhD in Plant Science (Rhodes University)	25+
MS CAROLINE EVANS	Principal Environmental Consultant	BSc Honours in Environmental Science (Rhodes University)	8+

Table 1.2: Project Team's Relevant Experience.

	PROJECT NAME	PROJECT DESCRIPTION
1.	**Environmental Impact Assessment for the Umsobomvu Wind Energy Facility in the Eastern and Northern Cape Provinces**	Umsobomvu Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd., intend to construct the Umsobomvu Wind Energy Facility (277 MW) and associated infrastructure (400 kV and 132 kV powerlines, roads, switching stations, etc.) in the Northern and Eastern Cape Provinces of South Africa. CES was appointed to conduct the Scoping and EIA Process to obtain Environmental Authorisation for this project. This process included the management of nine (9) specialist assessments, four (4) of which were conducted using in-house consultants. This project received full Environmental Authorisation (EA) in 2016. Subsequent to obtaining EA, CES was appointed to undertake a Part 2 Amendment of the EA to split the EA into three (3) separate EAs, namely the Umsobomvu WEF, Coleskop WEF and Eskom MTS Infrastructure.
2.	**Environmental Impact Assessment for the Dassiesridge Wind Energy Facility in the Eastern Cape Province**	CES was appointed by Dassiesridge Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Scoping and EIA Process for the proposed Dassiesridge Wind Energy Facility (140 MW) and associated infrastructure (33 kV and 132 kV powerlines), situated near Uitenhage in the Eastern Cape.
3.	**Environmental Impact Assessment for the Bayview Wind Farm in the Eastern Cape Province**	CES was appointed by Bayview Wind Power (Pty) Ltd, a subsidiary of Engie Africa (Pty) Ltd, to undertake the Scoping and EIA Process for the proposed Bayview Wind Farm and associated powerlines, situated near Uitenhage in the Eastern Cape.
4.	**Basic Assessment for the Scarlet Ibis Wind Energy Facility in the Eastern Cape Province**	CES was appointed by Motherwell Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Basic Assessment Process for the proposed Scarlet Ibis Wind Energy Facility and associated powerlines, situated near Uitenhage in the Eastern Cape.
5.	**Environmental Impact Assessment for the Albany Wind Energy Facility in the Eastern Cape Province**	CES was appointed by Albany Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Scoping and EIA Process for the proposed Albany Wind Energy Facility and associated powerlines, situated near Makhanda (Grahamstown) in the Eastern Cape.
6.	**Environmental Impact Assessment for the Waaihoek Wind Energy Facility in**	CES was appointed by Mainstream Renewable Power (Pty) Ltd to undertake the Scoping and EIA Process for the proposed Waaihoek

	PROJECT NAME	PROJECT DESCRIPTION
	the KwaZulu-Natal Province	Energy Facility, situated near Utrecht in KwaZulu-Natal.
7.	**Environmental Impact Assessment for the Boulders Wind Farm in the Western Cape Province**	CES was appointed by Vredenburg Windfarm (Pty) Ltd to undertake the Scoping and EIA Process for the proposed 140 MW Boulders Wind Energy Facility in Saldanha Bay Local Municipality in the Western Cape Province.
8.	**Basic Assessment for the Chaba Battery Energy Storage System in the Eastern Cape Province**	CES has been appointed by Great Kei Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Basic Assessment Process for the proposed Chaba Battery Energy Storage System, south of the Chaba Wind Energy Facility project site on the Great Kei Wind Energy Facility project site, near Komga in the Eastern Cape Province.
9.	**Part 2 Amendment of the Motherwell Wind Energy Facility Environmental Authorisation in the Eastern Cape Province**	CES was appointed by Motherwell Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Part 2 Amendment of the Motherwell Wind Energy Facility EA.
10.	**Part 2 Amendment of the Ukomeleza Wind Energy Facility Environmental Authorisation in the Eastern Cape Province**	CES was appointed by Ukomeleza Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Part 2 Amendment of the Ukomeleza Wind Energy Facility EA.
11.	**Part 2 Amendment of the Dassiesridge Wind Energy Facility Environmental Authorisation in the Eastern Cape Province**	CES was appointed by Dassiesridge Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Part 2 Amendment of the Dassiesridge Wind Energy Facility EA.
12.	**Part 2 Amendment of the Great Kei Wind Energy Facility Environmental Authorisation in the Eastern Cape Province**	CES was appointed by Great Kei Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd, to undertake the Part 2 Amendment of the Great Kei Wind Energy Facility EA.
13.	**Part 2 Amendment of the Haga Haga Wind Farm Environmental Authorisation in the Eastern Cape Province**	CES has been appointed by WKN Windcurrent SA (Pty) Ltd to undertake a Part 2 Amendment of the Haga Haga Wind Energy Facility EA.
14.	**Part 2 Amendment of the Golden Valley Wind Energy Facility Environmental Authorisation in the Eastern Cape Province**	CES was appointed by BioTherm Energy (Pty) Ltd to undertake a Part 2 Amendment of the Golden Valley Wind Energy Facility EA.
15.	**Environmental Impact Assessment for the Grahamstown Wind Energy Facility in the Eastern Cape Province**	CES was appointed by Plan 8 Infinite Energy (Pty) Ltd to undertake the Scoping and EIA Process for the proposed 66 MW Grahamstown Wind Energy Facility near Makhanda (Grahamstown) in the Eastern Cape Province.

2. PROJECT DESCRIPTION

2.1 PROJECT LOCALITY

Albany Wind Power (Pty) Ltd is proposing the development of up to 132 kV Overhead Lines (OHLs) or underground cables and associated grid infrastructure near Makhanda in the Eastern Cape Province. Table 2.1 consists of the affected properties for both of the 132 kV line alternatives.

Table 2.1: 21-Digit Surveyor General (SG) Codes of the affected properties.

PORTION/FARM/ERF NUMBER	21-DIGIT SG CODE
PROPOSED CONNECTION CORRIDOR (BOTH ALTERNATIVES)	
Remaining Extent of Erf 4807	C00200020000480700000
Portion 10 of Farm 240	C00200000000024000010
Portion 12 of Farm 240	C00200000000024000012
Portion 3 of Farm 334	C00200000000033400003
Portion 3 of Farm 233	C00200000000023300003
Portion 4 of Farm 334	C00200000000033400004
Portion 5 of Farm 334	C00200000000033400005
Portion 6 of Farm 334	C00200000000033400006
Portion 11 of Farm 334	C00200000000033400011
Remaining Extent of Portion 2 of Farm 334	C00200000000033400002
Remaining Extent of Farm 599	C00200000000059900000
Portion 1 of Farm 599	C00200000000059900001
Portion 2 of Farm 599	C00200000000059900002
Remaining Extent of Farm 582	C00200000000058200000
Portion 2 of Farm 582	C00200000000058200002
Portion 2 of Farm 601	C00200000000060100002
Remaining Extent of Farm 601	C00200000000060100000
Remaining Extent of Farm 583	C00200000000058300000
Portion 1 of Farm 583	C00200000000058300001
Portion 2 of Farm 583	C00200000000058300002
Remaining Extent of Farm 235	C00200000000023500000
Portion 1 of Farm 235	C00200000000023500001
Remaining Extent of Portion 1 of Farm 234	C00200000000023400001
Remaining Extent of Portion 1 of Farm 223	C00200000000022300001
Remaining Extent of Farm 352	C00200000000035200000
Portion 3 of Farm 601	C00200000000060100003
Remaining Extent of Farm 353	C00200000000035300000
Portion 1 of Farm 352	C00200000000035200001
Portion 3 of Farm 223	C00200000000022300003
Portion 8 of Farm 223	C00200000000022300008
Remaining Extent of Portion 2 of Farm 223	C00200000000022300002
Portion 4 of Farm 223	C00200000000022300004
Portion 5 of Farm 223	C00200000000022300005
Portion 9 of Farm 223	C00200000000022300009
Portion 7 of Farm 223	C00200000000022300007
Portion 3 of Farm 358	C00200000000035800003
Remaining Extent of Portion 1 of Farm 663	C00200000000066300001
Portion 1 of Farm 358	C00200000000035800001
POTENTIAL 132 KV SUBSTATION UPGRADE	
Remaining Extent of Erf 4807	C00200020000480700000
PROPOSED SWITCHING STATION (WEST) AND PROPOSED COLLECTOR SWITCHING STATION CORRIDOR	
Portion 10 of Farm 240	C00200000000024000010

Portion 12 of Farm 240	C00200000000024000012
POTENTIAL IPP SWITCHING STATION	
Portion 3 of Farm 233	C00200000000023300003
PROPOSED COLLECTOR SWITCHING STATION (EAST)	
Remaining Extent of Portion 1 of Farm 663	C00200000000066300001

Figure 2.1 below indicates the affected properties of the proposed Albany OHL/underground corridor and the associated grid infrastructure.

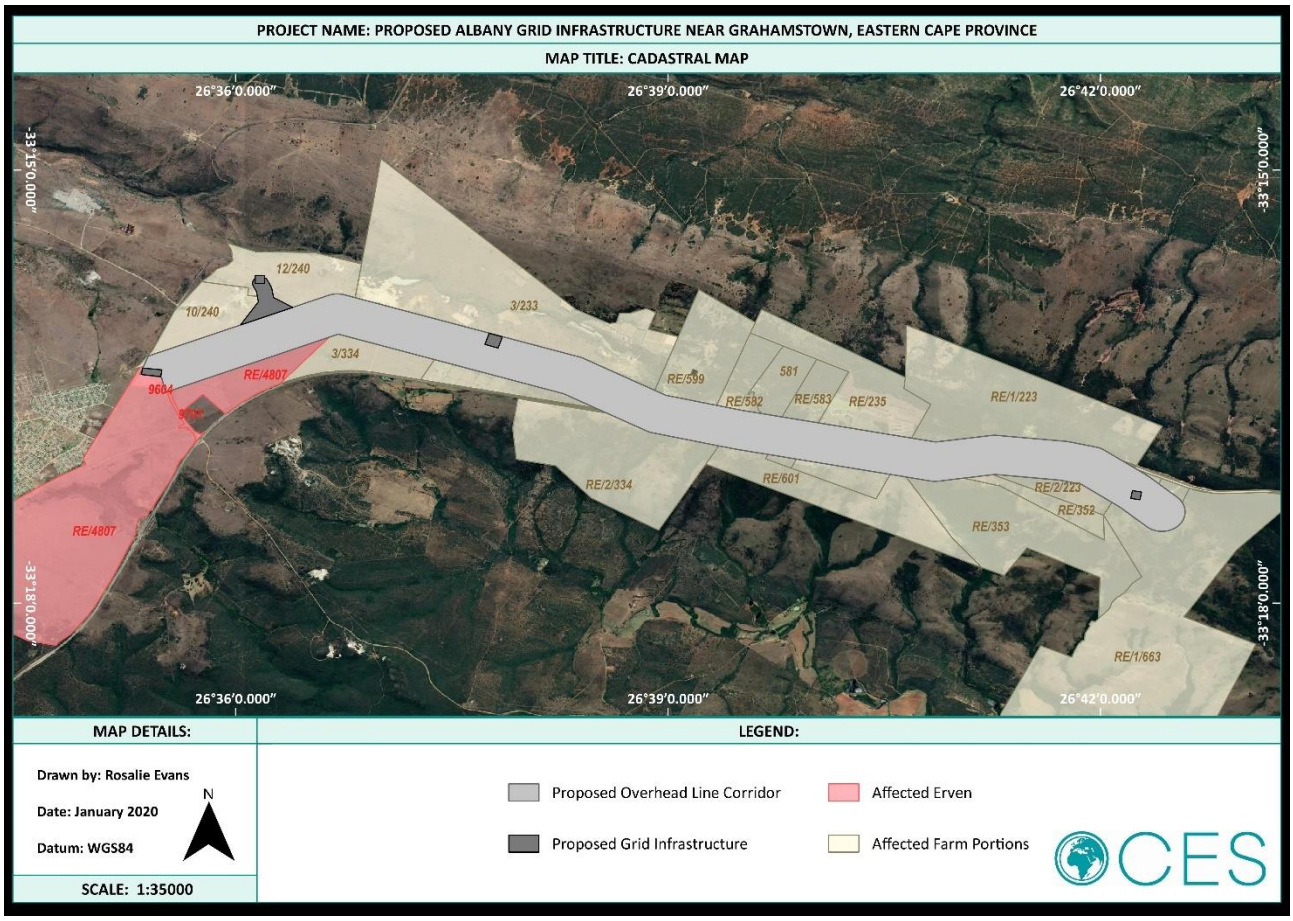


Figure 2.1: Cadastral Map of the Proposed Albany Connection and Associated Grid Infrastructure.

2.2 PROJECT DESCRIPTION

- Option 1 (preferred) – An up to 23 000 m^2 Independent Power Producer (IPP) Substation (MV/132 kV) which will include, Battery Energy Storage System (BESS) and site office area, situated in the middle of the site. The grid connection will be Line-In-Line-Out (LILO) on the Pembroke-Albany 132 kV line.
- Option 2 – Direct connection, via the same corridor, to the potential 132 kV substation, adjacent to the Eskom Albany 132 kV substation, up to 23 000 m^2, which will include a BESS and a site office area situated in the middle of the site.
- Associated Grid Infrastructure for both options:
  - BESS of approximately 1.2 ha with a temporary footprint of an additional 0.3 ha for construction, consisting of:
    - Storage capacity of 180 MWh (4 hours),
    - Lithium-ion batteries,
    - Up to 130 containers (each up to 40 m^2) on a concrete platform. These will house the batteries, management system and auxiliaries,

- Up to 60 transformer stations (up to 35 m^2 each),
- Up to an additional 10 m^2 per container for cooling units,
- Internal medium voltage cabling, between containers and the switching station of up to 33 kV, and
- A 33 kV underground cable to connect the BESS to the electrical grid (less than 1 km in length).

- Two (2) collector substations, each 10 000 m^2, (Collector Substation West and Collector Substation East) will be constructed.
- Each collector will connect to the IPP substation via up to MV/132 kV overhead lines within the grid corridor.
- Grid corridor width is 500 m wide to allow for manoeuvrability for the final line positions within the corridor.
- The corridor from Collector Substation West to the main corridor is 170 m in width with a flanking area to accommodate for the line turn in.

Table 2.2: Development Footprints during the Construction and Operational Phases.

INFRASTRUCTURE COMPONENT	CONSTRUCTION FOOTPRINT	FINAL FOOTPRINT AFTER REHABILITATION
Option 1: IPP Switching Station (BESS and site office)	TOTAL: 23 000 m^2 which equates to **2.3 ha**	TOTAL: 23 000 m^2 which equates to **2.3 ha**
Option 2: Direct connection (BESS and site office)		
BESS	TOTAL: 12 000 m^2 plus 3 000 m^2 temporary area which equates to **1.5 ha**	TOTAL: 12 000 m^2 which equates to **1.2 ha**
Two (2) Collector Switching Stations (west and east)	TOTAL: 10 000 m^2 x 2 = 20 000 m^2 which equates to **2 ha**	TOTAL: 10 000 m^2 x 2 = 20 000 m^2 which equates to **2 ha**
Overhead Line (monopole placement every 250 m along lines ONLY)	TOTAL: 11 000 m/250 m = 44 monopoles 44 x 72 m^2 = 3 168 m^2 which equates to **0.3168 ha**	TOTAL: 11 000 m/250 m = 44 monopoles 44 x 2 m^2 = 88 m^2 which equates to **0.0088 ha**
Collector Switching Station Collector Corridor (West)	TOTAL: 500 m/250 m = 2 monopoles 2 x 72 m^2 = 144 m^2 which equates to **0.0144 ha**	TOTAL: 500 m/250 m = 2 monopoles 2 x 2 m^2 = 4 m^2 which equates to **0.0004 ha**
TOTAL FOOTPRINT:	**6.13 ha** *of clearing needed for the construction phase of the development of the proposed Albany Connection and Associated Grid Infrastructure*	**5.51 ha** *of clearing remaining during the post-construction operational phase (after rehabilitation) of the proposed Albany Connection and Associated Grid Infrastructure*

Table 2.3: Grid Maintenance Servitudes (as per Eskom Requirements).

INFRASTRUCTURE COMPONENT	CORRIDOR REQUIREMENTS
Overhead Lines (total length and width of line servitudes)	TOTAL SERVITUDE: 11 000 m x 31 m = 341 000 m^2 which equates to **34.1 ha overhead line servitude area.**
	TOTAL MAINTENANCE TRACKS (within the servitude): 11 000 m x 4 m = 44 000 m^2 which equates to **4.4 ha maintenance tracks.**
Collector Switching Station Collector Corridor (West)	TOTAL SERVITUDE: 500 m x 31 m = 15 500 m^2 which equates to **1.55 ha overhead line servitude area.**

INFRASTRUCTURE COMPONENT	CORRIDOR REQUIREMENTS
	TOTAL MAINTENANCE TRACKS (within the servitude): 500 m x 4 m = 2 000 m^2 which equates to **0.2 ha maintenance tracks.**

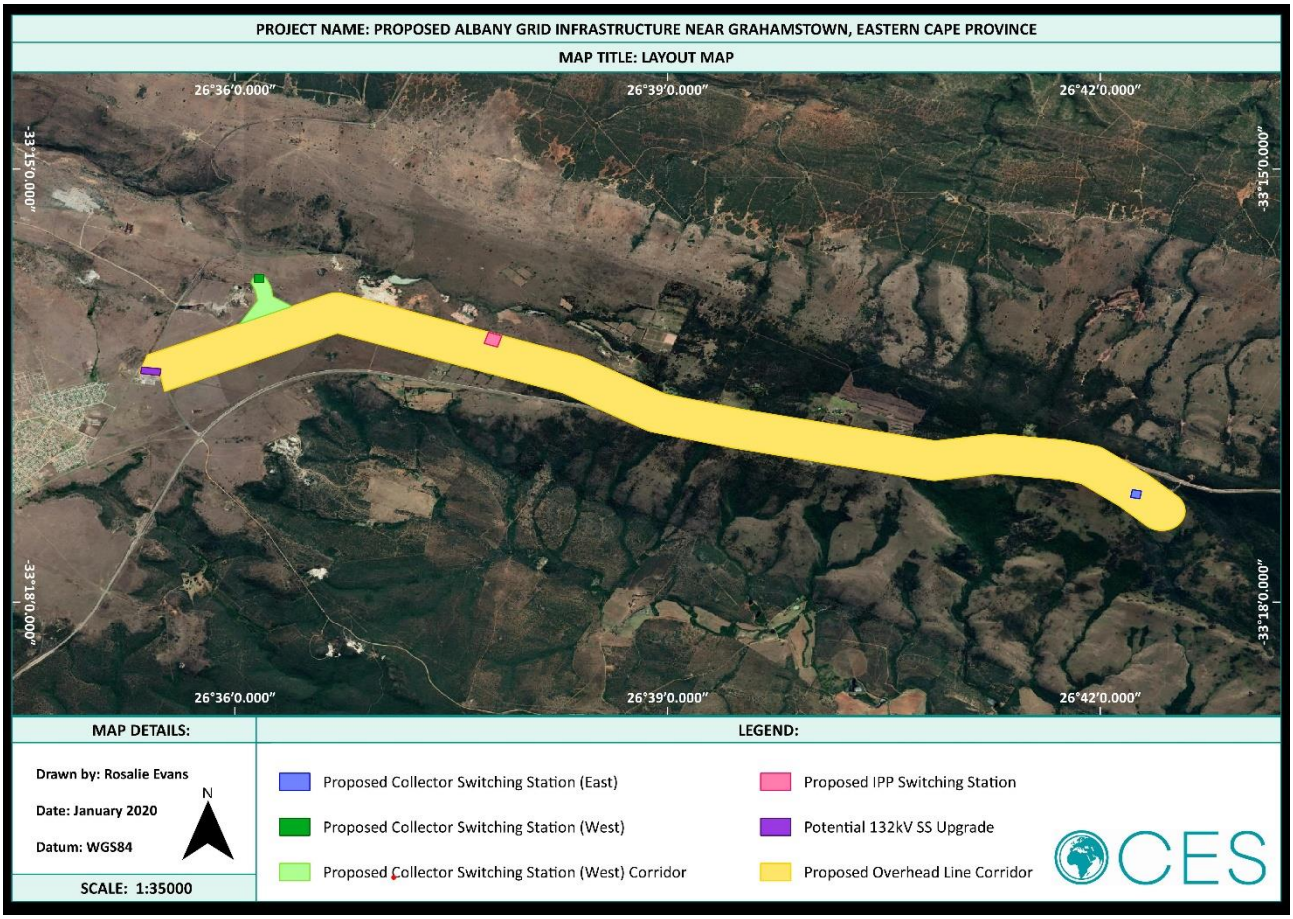


Figure 2.2: Layout Map of the Proposed Albany Connection and Associated Grid Infrastructure.

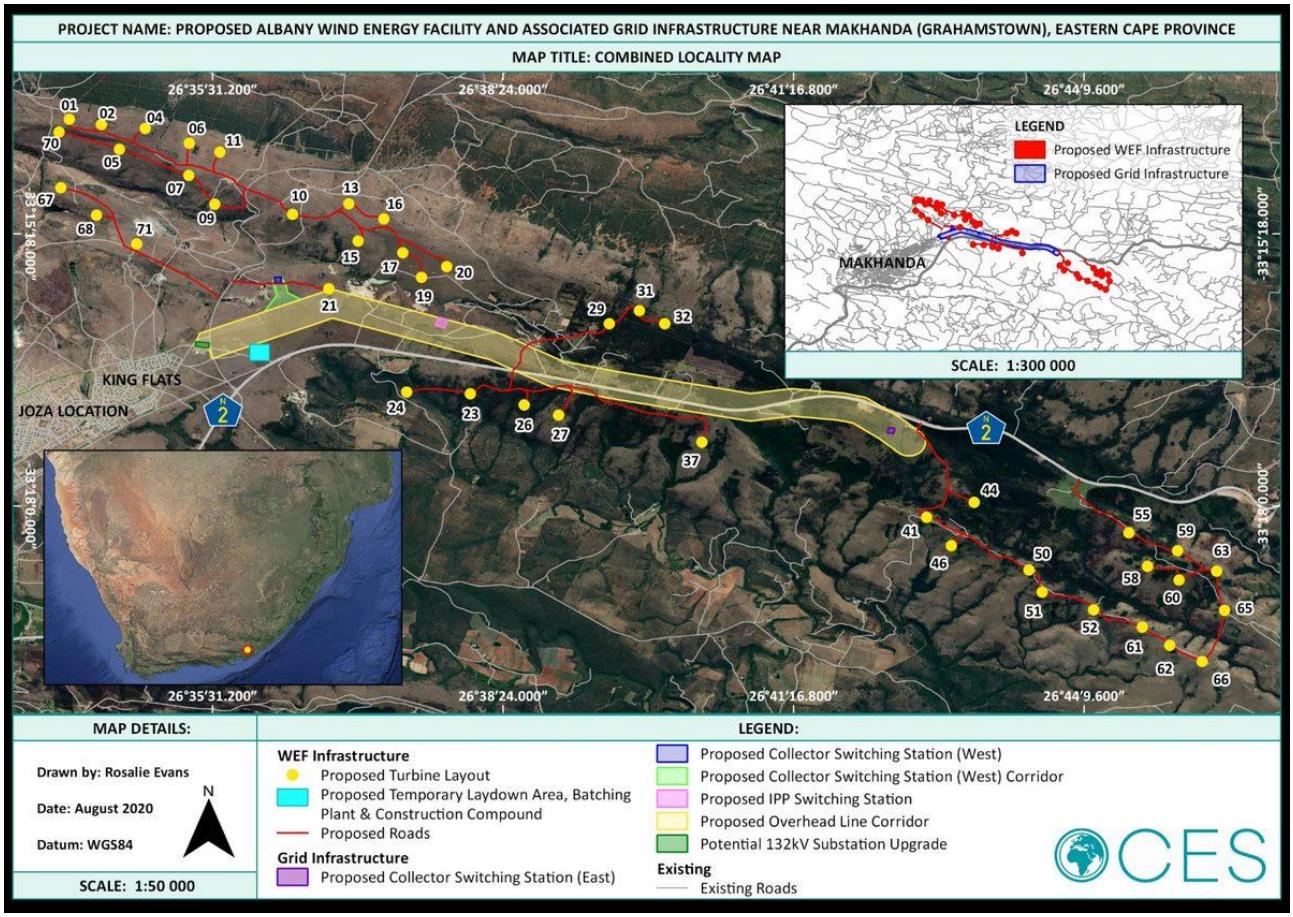


Figure 2.3: Layout Map of the Proposed Albany Connection and Associated Grid Infrastructure in relation to the Albany WEF Infrastructure.

3. RELEVANT LEGISLATION

Table 3.1 below consists of the legislation which is relevant to the proposed Albany Connection and Associated Grid Infrastructure development near Makhanda in the Eastern Cape Province.

Table 3.1: Relevant Legislation, Policies & Guidelines.

TITLE OF LEGISLATION, POLICY OR GUIDELINE	RELEVANCE TO THE PROJECT
Constitution Act (Act No. 108 of 1996)	The Developer is obligated to ensure that the development of the proposed Albany Connection and Associated Grid Infrastructure will not result in pollution and ecological degradation. In addition, the Developer is obligated to ensure that the proposed Albany Connection and Associated Grid Infrastructure is ecologically sustainable and that it demonstrates economic and social development.
National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment Regulations (2014, as amended)	The construction of the proposed Albany Connection and Associated Grid Infrastructure triggers listed activities in terms of Listing Notice 1 and Listing Notice 3 of the NEMA EIA Regulations (2014, as amended). A Basic Assessment (BA) Process is being undertaken and an Environmental Authorisation (EA) is required from the national Department of Forestry, Fisheries and the Environment (DFFE) prior to the commencement of construction.
National Environmental Management: Biodiversity Act (NEM:BA) (Act No. 10 of 2004)	The proposed development of the Albany Connection and Associated Grid Infrastructure will require the clearance of sections of vegetation, specifically Bhisho Thornveld, Grahamstown Grassland Thicket and Suurberg Quartzite Fynbos (SANBI National Vegetation Map, 2018), which will impact on the biodiversity of the area. In addition, small patches of Southern Mistbely Forest (SANBI National Vegetation Map, 2018) occur within the Connection Corridor, however, this vegetation type will be avoided. The proposed Albany Connection and Associated Grid Infrastructure development footprints could contain plant Species of Conservation Concern (SCC). The necessary permissions and/or permits must be obtained prior to the clearance of vegetation.
National Forestry Act (NFA) (Act No. 84 of 1998)	
Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974)	
National Water Act (NWA) (Act No. 36 of 1998, as amended)	Should the proposed Albany Connection and Associated Grid Infrastructure development triggers water use activities in terms of Section 21 of the NWA, authorisation will be required from the Department of Water and Sanitation (DWS) prior to the commencement of the construction phase. Regardless of whether Section 21 water uses are triggered, the DWS remains a stakeholder which will be notified of the proposed Albany Connection and Associated Grid Infrastructure.
Mineral and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002)	The Department of Mineral Resources and Energy (DMRE) should be made aware of the proposed development and any necessary approvals must be obtained from the DMRE prior to the commencement of these activities.
National Heritage Resources Act (NHRA) (Act No. 25 of 1999)	The proposed Albany Connection and Associated Grid Infrastructure development could impact sensitive heritage resources. The Eastern Cape Provincial Heritage Resources Authority (ECPHRA) will be informed of the proposed development and any relevant authorisation and/or permits must be obtained prior to the commencement of the construction phase.
National Environmental Management: Waste Act (NEM:WA) (Act No. 59 of 2008)	The Developer must ensure that all activities associated with the proposed Albany Connection and Associated Grid Infrastructure address waste-related matters in compliance with the requirements of the NEM:WA. The Developer should communicate with the affected municipalities to ensure that waste is disposed of at a suitably registered landfill site.
Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983)	The Department of Agriculture, Forestry and Fisheries (DAFF) should be informed of the proposed Albany Connection and Associated Grid Infrastructure. An invasive species monitoring, control, and eradication plan for land/activities under their control should be developed as part of the environmental plans in accordance with CARA.

TITLE OF LEGISLATION, POLICY OR GUIDELINE	RELEVANCE TO THE PROJECT
Electricity Regulation Act (Act No. 4 of 2006)	The proposed Albany Connection and Associated Grid Infrastructure must be in line with the Electricity Regulation Act.
Occupational Health and Safety Act (OHSA, Act No. 85 of 1993)	The Developer and the appointed Contractor must be mindful of the principles and broad liability and implications associated with the OHSA and mitigate any potential impacts which are identified prior to the construction phase.
National Environmental Management: Air Quality Act (NEM:AQA) (Act No. 39 of 2004)	No major air quality issues are expected due to the proposed Albany Connection and Associated Grid Infrastructure; however, the Developer and the appointed Contractor should be mindful of the potential impact associated with dust generation as a result of vegetation clearance during the construction phase.
National Road Traffic Act (NRTA) (Act No. 93 of 1996)	The Developer and the appointed Contractor must comply with all the requirements in terms of the NRTA during the various phases of the Albany Connection and Associated Grid Infrastructure development.
National Veld and Forest Fire Act (NVFFA) (Act No. 101 of 1998)	The Developer and the appointed Contractor must ensure that appropriate firefighting equipment, protective clothing, and trained personnel (for extinguishing fires) are present onsite during the construction of the Albany Connection and Associated Grid Infrastructure.
Makana Local Municipality	The proposed Albany Connection and Associated Grid Infrastructure must comply with/be in line with all relevant municipal by-laws, the Spatial Development Framework (SDF) and the Integrated Development Plan (IDP). Representatives from the affected municipalities must be informed of the proposed development.
Sarah Baartman District Municipality	

Table 3.2 provides the relevant listed activities, in terms of the NEMA EIA Regulations (2014, as amended), which are likely to be triggered by the activities associated with the proposed Albany Connection and Associated Grid Infrastructure.

The NEMA EIA Regulations (2014, as amended) allow for a BA Process for activities with limited environmental impact (GN R. 983 and 985, 2014) and a more rigorous two (2) tiered approach to activities with potentially greater environmental impact (GN R. 984, 2014). This two-tiered approach includes both a Scoping and EIA Process. The proposed development of the Albany Connection and Associated Grid Infrastructure triggers the **BA Process**, due to the Listing Notice 1 and Listing Notice 3 activities, which will require an EA from the national DFFE.

Table 3.2: Listed Activities triggered by the proposed Albany Connection and Associated Grid Infrastructure.

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1** (GN R. 983)	Describe the portion of the proposed project to which the applicable listed activity relates.
11(i)	***The development of facilities or infrastructure for the transmission and distribution of electricity – (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.***	**The development entails the construction of up to 132 kV OHLs or underground as well as two (2) collector substations, outside of urban areas and outside of industrial complexes.**
12 (ii)(a) and (c)	***The development of (ii) infrastructure or structures with a physical footprint of 100 square metres or more. Where such development occurs (a) within a watercourse and (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.***	**The proposed Albany Connection and Associated Grid Infrastructure will have a combined construction phase development footprint of 6.13 ha and the infrastructure is located within 32 metres of a few watercourses and wetlands.**
19	***The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand,***	**The proposed Albany Connection Corridor traverses a few watercourses. Where possible, the placement of monopoles will**

	shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.	**avoid watercourses, however, material could be deposited into- or removed from the watercourses during construction.**
27	***The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.***	**The proposed Albany Connection and Associated Infrastructure Development requires the clearance of vegetation which exceeds 1 ha (6.13 ha).**
28(ii)	***Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:*** ***(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.***	**The proposed Albany Connection and Associated Infrastructure Development requires the clearance of vegetation which exceeds 1 ha (6.13 ha), on land which is used for agricultural purposes (grazing).**
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3** (GN R. 985)	Describe the portion of the proposed project to which the applicable listed activity relates.
10(a)(i) (ee)(gg)(ll)	***The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres in the –*** ***(a) Eastern Cape*** ***(i) outside urban areas*** ***(ee) critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans,*** ***(gg) areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve,*** ***(ii) areas on the watercourse side of the development setback lines or within 100 metres from the edge of a watercourse where no such setback lines have been determined, and*** ***(ll) within a watercourse.***	**The proposed Albany Connection and Associated Grid Infrastructure will require the combined storage of a dangerous good, such as the storage of materials for the battery storage and the storage of fuel, which will exceed 30 m3. In addition, the proposed site is situated within 100 m of a few watercourses and wetlands, situated within 5 km of a protected area (Beggars Bush State Forest and Ecca Nature Reserve), within areas classified as both Critical Biodiversity Area (CBA) 1 and CBA 2 (ECBCP Terrestrial CBAs, 2019), and a small section of CBA 2 (ECBCP Aquatic CBAs, 2019).**
12(a)(ii)	***The clearance of an area of 300 square metres or more of indigenous vegetation.*** ***(a) Eastern Cape*** ***(ii) Within critical biodiversity areas identified in bioregional plans.***	**The proposed Albany Connection and Associated Grid Infrastructure will require the clearance of approximately 6.13 ha of vegetation within areas classified as both CBA 1 and CBA 2 (ECBCP Terrestrial CBAs, 2019), and a small section of CBA 2 (ECBCP Aquatic CBAs, 2019).**
14(ii)(a) and (c) (a)(i) (ff)(hh)	***The development of –*** ***(ii) infrastructure or structures with a physical footprint of 10 square metres or more.*** ***Where such development occurs –*** ***(a) within a watercourse, and*** ***(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse.*** ***(a) Eastern Cape*** ***(i) Outside urban areas:***	**The proposed Albany Connection and Associated Grid Infrastructure will require the construction of infrastructure with a physical footprint which exceeds 102 within 32 m of watercourses in an area which is within 5 km of a protected area ((Beggars Bush State Forest and Ecca Nature Reserve) and within areas classified as both CBA 1 and CBA 2 (ECBCP Terrestrial CBAs, 2019), and a small section of CBA 2 (ECBCP Aquatic**

	(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; and ***(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve.***	**CBAs, 2019).**
Activity No(s):	Provide the relevant **Scoping and EIR Activity(ies)** as set out in **Listing Notice 2** (GN R. 984)	Describe the portion of the proposed project to which the applicable listed activity relates.
Not Applicable. No Listing Notice 2 (GN R. 984) activities have been identified for the proposed Albany Connection and Associated Grid Infrastructure development.		

It is also imperative to consider the proposed Albany Grid Infrastructure in the context of the proposed Albany WEF. The proposed Albany Grid Infrastructure will not be constructed independently from the WEF and the legislative context around the WEF is therefore important. Please refer the following section 3.1. – 3.17. for all legislation that will be relevant in the broader context.

3.1 The Constitution Act (Act No. 108 of 1996)

This is the supreme law of the land. As a result, all laws, including those pertaining to the proposed development, must conform to the Constitution. The Bill of Rights - Chapter 2 of the Constitution, includes an environmental right (Section 24) according to which, everyone has the right:

(a) To an environment that is not harmful to their health or well-being.
(b) To have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:
    (i) Prevent pollution and ecological degradation.
    (ii) Promote conservation.
    (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

- *The WEF developer has an obligation to ensure that the proposed activity will not result in pollution and ecological degradation.*
- *The WEF developer has an obligation to ensure that the proposed activity is ecologically sustainable, while demonstrating economic and social development.*

3.2 National Environmental Management Act (Act No. 107 of 1998 and Subsequent Amendments)

The National Environmental Management Act (NEMA, Act No. 107 of 1998) provides for basis for environmental governance in South Africa by establishing principles and institutions for decision-making on matters affecting the environment.

A key aspect of the NEMA is that it provides a set of environmental management principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. Section 2 of NEMA contains principles (see Table 3.) relevant to the proposed WEF project, and likely to be utilised in the process of decision making by DFFE.

Table 3.3: NEMA Environmental Management Principles

(2)	Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
(3)	Development must be socially, environmentally and economically sustainable.
(4)(a)	Sustainable development requires the consideration of all relevant factors including the following: i. That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; ii. That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied; iii. That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner.
(4)(e)	Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.
(4)(i)	The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.
(4)(j)	The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.
(4)(p)	The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.
(4)(r)	Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

As these principles are utilised as a guideline by the competent authority in ensuring the protection of the environment, the proposed development should, where possible, be in accordance with these principles. Where this is not possible, deviation from these principles would have to be very strongly motivated.

NEMA introduces the duty of care concept, which is based on the policy of strict liability. This duty of care extends to the prevention, control and rehabilitation of significant pollution and environmental degradation. It also dictates a duty of care to address emergency incidents of pollution. A failure to perform this duty of care may lead to criminal prosecution and may lead to the prosecution of managers or directors of companies for the conduct of the legal persons.

Employees who refuse to perform environmentally hazardous work, or whistle blowers, are protected in terms of NEMA.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

- *The WEF developer must be mindful of the principles, broad liability and implications associated with NEMA and must eliminate or mitigate any potential impacts.*
- *The WEF developer must be mindful of the principles, broad liability and implications of causing damage to the environment.*

3.3 National Environmental Management: Protected Areas Act (Act No. 57 of 2003)

The National Environmental Management: Protected Areas Act (NEMPAA, Act No. 57 of 2003) mainly provides for the following:

- Declaration of nature reserves and determination of the type of reserve declared.
- Cooperative governance in the declaration and management of nature reserves.
- A system of protected areas in order to manage and conserve biodiversity.
- Utilization and participation of local communities in the management of protected areas.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

The Act is relevant as the proposed Albany WEF is proposed within 5km of a Provincial Protected Area (Beggars Bush). Albany WEF is also situated within the vicinity of the Kwandwe and Buffalo Kloof Protected Areas. The potential impact of the WEF has been investigated from a Visual and Socio-Economic perspective.

3.4 National Environment Management: Biodiversity Act (No. 10 of 2004)

The National Environment Management: Biodiversity Act (NEM:BA, Act No. 10 of 2004) provides for the management and conservation of South Africa's biodiversity and the protection of species and ecosystems that warrant national protection.

The objectives of this Act are to:

- Provide, within the framework of the National Environmental Management Act.
- Manage and conserve of biological diversity within the Republic.
- Promote the use of indigenous biological resources in a sustainable manner.

The Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 107 of 1998. In terms of the Biodiversity Act, the developer has a responsibility for:

1. The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (including The Endangered and Threatened Ecosystem Regulations, Government Notice R. 1002 dated 9th December 2011).
2. Application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity.
3. Limit further loss of biodiversity and conserve endangered ecosystems.

The Act's permit system is further regulated in the Act's Threatened or Protected Species Regulations Government Notice R. 152, dated the 23rd of February 2007.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

- *The WEF developer must not cause a threat to any endangered ecosystems and must protect and promote biodiversity;*
- *The WEF developer must assess the impacts of the proposed development on endangered ecosystems;*
- *The WEF developer may not remove or damage any protected species without a permit; and*
- *The WEF developer must ensure that the site is cleared of alien vegetation using appropriate means (AIS Regulations, Government Notice R. 598 of the 1st of April 2014 are applicable)*

3.5 National Environmental Management: Air Quality Act (No. 39 of 2004)

The National Environmental Management: Air Quality Act (NEM:AQA, Act No. 39 of 2004) is the principal legislation regulating air quality in South Africa. The objects of the Act are to:

- Give effect to Section 24(b) of the Constitution in order to enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health and well-being of people, and
- Protect the environment by providing reasonable measures for:
    - Protection and enhancement of the quality of air in the Republic.
    - Prevention of air pollution and ecological degradation.
- Securing ecologically sustainable development while promoting justifiable economic and social development.

The Air Quality Act empowers the Minister to establish a national framework for achieving the objects of this Act. The said national framework will bind all organs of state. The said national framework will inter alia have to establish national standards for municipalities to monitor ambient air quality and point, non-point and mobile emissions.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

Although no major air quality issues are expected, the WEF developer needs to be mindful of the Act as it also relates to potential dust generation during construction, etc.

3.6 National Environmental Management: Waste Management Act (No. 59 of 2008)

The National Environmental Management: Waste Management Act (NEM:WA, Act No. 59 of 2008) gives legal effect to the Government's policies and principles relating to waste management in South Africa, as reflected in the National Waste Management Strategy (NWMS).

The objects of the Act are (amongst others) to protect health, well-being and the environment by providing reasonable measures for:

- Minimising the consumption of natural resources;
- Avoiding and minimising the generation of waste;
- Reducing, re-using, recycling and recovering waste;
- Treating and safely disposing of waste as a last resort;
- Preventing pollution and ecological degradation; and
- Securing ecologically sustainable development while promoting justifiable economic and social development.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

- *The WEF developer must ensure that all activities associated with the project address waste related matters in compliance with the requirements of the Act.*
- *The WEF developer must consult with the local municipalities to ensure that waste is disposed of at a registered landfill site.*

3.7 National Forests Act (No. 84 of 1998)

The objective of this Act is to monitor and manage the sustainable use of forests. In terms of Section 12 (1) (d) of this Act and GN No. 1012 (promulgated under the National Forests Act), no person may, except under licence:

- Cut, disturb, damage or destroy a protected tree.
- Possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

If any protected trees or indigenous forest in terms of this Act occur on site, the WEF developer will require a licence from the Department of Forestry (DAFF) to perform any of the above-listed activities.

3.8 National Heritage Resources Act (No. 25 of 1999)

The protection of archaeological and paleontological resources is the responsibility of a provincial heritage resources authority and all archaeological objects, paleontological material and meteorites are the property of the State. "Any person who discovers archaeological or paleontological objects or material or a meteorite in the course of development must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority".

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

- *SAHRA/ECHRA must be informed of the project and EIA process.*
- *A Heritage Impact Assessment (HIA) must be undertaken by a suitably qualified specialist.*
- *No person may alter or demolish any structure or part of a structure, which is older than 60 years or disturb any archaeological or paleontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority.*
- *No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter or deface archaeological or historically significant sites.*

3.9 Electricity Regulation Act (No. 4 of 2006)

The Electricity Regulation Act (Act No. 4 of 2006) came into effect on the 1st of August 2006 and the objectives of this Act are to:

- Facilitate universal access to electricity.
- Promote the use of diverse energy sources and energy efficiencies.
- Promote competitiveness and customer and end user choice.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

The proposed WEF is in line with the call of the Electricity Regulation Act as it is has the potential to improve energy security of supply through diversification.

3.10 Occupational Health and Safety Act (No. 85 of 1993)

The objective of this Act is to provide for the health and safety of persons at work. In addition, the Act requires that, "as far as reasonably practicable, employers must ensure that their activities do not expose non-employees to health hazards". The importance of the Act lies in its numerous regulations, many of which will be relevant to the proposed Albany WEF. These cover, among other issues, noise and lighting.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

The WEF developer must be mindful of the principles and broad liability and implications contained in the OHSA and mitigate any potential impacts.

3.11 Aviation Act (No. 74 of 1962): 13th Amendment of the Civil Aviation Regulations 1997

Section 14 of obstacle limitations and marking outside aerodrome or heliport (CAR Part 139.01.33) under this Act specifically deals with wind turbine generators (wind farms). According to this section, "A wind turbine generator is a special type of aviation obstruction due to the fact that at least the top third of the generator is continuously variable and offers a peculiar problem in as much marking by night is concerned. The Act emphasizes that, when wind turbine generators are grouped in numbers of three or more, they will be referred to as "wind farms".

Of importance to the proposed Albany WEF (and associated infrastructure) project are the following:

- Wind farm placement: Due to the potential of wind turbine generators to interfere on radio navigation equipment, no wind farm should be built closer than 35 km from an aerodrome. In addition, much care should be taken to consider visual flight rules routes, proximity of known recreational flight activity such as hang gliders, en-route navigational facilities etc.
- Wind farm markings: Wind turbines shall be painted bright white to provide the maximum daytime conspicuousness. The colours grey, blue and darker shades of white should be avoided altogether. If such colours have been used, the wind turbines shall be supplemented with daytime lighting, as required.
- Wind farm lighting: Wind farm (3 or more units) lighting: In determining the required lighting of a wind farm, it is important to identify the layout of the wind farm first. This will allow the proper approach to be taken when identifying which turbines need to be lit. Any special consideration to the site's location in proximity to aerodromes or known corridors, as well as any special terrain considerations, must be identified and addressed at this time.
- Turbine Lighting Assignment: The following guidelines should be followed to determine which turbines, need to be equipped with lighting fixtures. Again, the placement of the lights is contingent upon which type of configuration is being used.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

Due to requirements of the Act to ensure the safety of aircrafts, the WEF developer must engage directly with the Civil Aviation Authority regarding the structural details of the facility.

3.12 National Water Act (No. 36 of 1998)

The National Water Act (NWA, Act No. 36 of 1998) provides for fundamental reform of the law relating to water resources in South Africa.

The purpose of the Act amongst other things is to:

- Ensure that the national water resources are protected, used, developed, conserved, managed and controlled in ways which consider amongst other factors:
    - Promoting equitable access to water;
    - Promoting the efficient, sustainable and beneficial use of water in the public interest;
    - Facilitating social and economic development;
    - Protecting aquatic and associated ecosystems and their biological diversity; and
    - Reducing and preventing pollution and degradation of water resources.

The NWA is concerned with the overall management, equitable allocation and conservation of water resources in South Africa. To this end, it requires registration of water users and licenses to be obtained for water use except for certain limited instances set out in the Act. These instances include domestic use, certain recreational use, where the use occurs in terms of an existing lawful use or where the Department of Water Affairs (DWA) has issued a general authorisation that obviates the need for a permit.

Water use for which a permit is required

For the purposes of this Act, water uses for which a permit is required (amongst other), are defined in Section 21 as follows:

- Taking water from a water resource.
- Storing water.
- Impeding or diverting the flow of water in a watercourse.
- Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.
- Disposing of waste in a manner which may detrimentally impact on a water resource.
- Altering the bed, banks, course or characteristics of a watercourse.

*** PLEASE NOTE THAT GENERAL AUTHORISATIONS (GAS) AND WULAS ARE ONLY AUTHORISED TO BE SUBMITTED TO DWS ONCE A WIND ENERGY FACILITY HAS BEEN GRANTED PREFERRED BIDDER STATUS. SHOULD ALBANY WEF BE GRANTED PREFERRED BIDDER STATUS THEN WULAs WILL BE SUBMITTED FOR CONSIDERATION BY THE DWS.**

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

There may be certain instances where the WEF developer will need to obtain approval in terms of the Water Act.

3.13 Conservation of Agricultural Resources Act (No. 43 of 1983)

The Conservation of Agricultural Resources Act (CARA, Act No. 43 of 1983) is the main statute that deals with agricultural resource conservation.

The objects of the Act are to provide for the conservation of the natural agricultural resources of South Africa by the maintenance of the production potential of land. In order to maintain production potential of land, CARA provides for the following mechanisms; namely:

- Combating and prevention of erosion and weakening and destruction of water sources.
- Protection of vegetation.
- Combating of weeds and invader plants.

In order to give meaning to mechanisms aimed maintaining production potential of land provided for in CARA, Minister of Agriculture published regulations under CARA (CARA Regulations) which prescribes control measures which all land users have to comply, in respect of a number of matters, including the:

- Cultivation of virgin soil.
- Protection of cultivated land.
- Utilisation and protection of the veld.
- Control of weed and invader plants.
- Prevention and control of veld fires and the restoration and reclamation of eroded land.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

An agricultural potential assessment has been conducted to determine how the proposed development is likely to impact on the agricultural production potential of the WEF site.

3.14 Subdivision of Agricultural Land Act (No. 70 of 1970)

The Subdivision of Agricultural Land Act (Act No. 70 of 1970) controls the subdivision of all agricultural land in South Africa and prohibits certain actions relating to agricultural land. In terms of the Act, the owner of agricultural land is required to obtain consent from the Minister of Agriculture in order to subdivide agricultural land.

The purpose of the Act is to prevent uneconomic farming units from being created and degradation of prime agricultural land. The Act also regulates leasing and selling of agricultural land as well as registration of servitudes.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

Approval will be required from the DAFF for any activities on the land zoned for agriculture and any proposed rezoning or sub-divisions of agricultural land.

3.15 Mineral and Petroleum Resources Development Act (No. 28 of 2002)

Mineral and Petroleum Resources Development Act (MPRDA, Act No. 28 of 2002) makes provision for equitable access to and sustainable development of the South Africa's mineral and petroleum resources and to provide for matters connected therewith.

The objects of this Act are (amongst others) to:

- Give effect to the principle of the State's custodianship of the nation's mineral and petroleum resources.
- Promote equitable access to the nation's mineral and petroleum resources to all the people of South Africa.
- Give effect to Section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.

Application for a mining right

As per Section 27 (1) of the Act, the Department of Minerals Resources (DMR) must grant permission for all mining operations. Both the removal of sand and/or stone from a borrow pit or quarry requires an application for a mining permit or a mining right.

There are two (2) categories of permission relevant to borrow pits and hard rock quarries, namely; "Mining Permits" and secondly "Mining Rights." As is reflected in the table below, these categories are linked to the size of the proposed operation and the proposed operational period.

CATEGORY	SIZE	PERIOD OF OPERATION	DMR REQUIREMENT
Mining Permit	< 1.5 ha	< 2 years	EIA: Basic Assessment Environmental Management Programme (EMPr)
Mining Right (Licence)	> 1.5 ha	< 30 years	EIA: Scoping and EIA Environmental Management Programme (EMPr)

In addition, Section 53 of the Act requires that Ministerial approval is attained for "any person who intends to use the surface of any land in any way which may be contrary to any object of this Act or is likely to impede any such object".

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

- *Any activities associated with the WEF requiring extraction of sand or hard rock for construction purposes will require the submission of an application to DMR for either a mining permit or mining licence.*
- *The Albany WEF must apply to the Minister of Mineral Resources for approval to use the land for the purposes of the WEF.*
- *The DMR has aligned its authorisation process with that of the DFFE, and from August 2015, all applications for mining activities require an Environmental Impact Assessment, as per the EIA Regulations.*

3.16 National Road Traffic Act (No. 93 of 1996)

The National Road Traffic Act (NRTA, Act No. 93 of 1996) provides for all road traffic matters and is applied uniformly throughout South Africa. The Act enforces the necessity of registering and licensing motor vehicles. It also stipulates requirements regarding fitness of drivers and vehicles as well as making provision for the transportation of dangerous goods.

RELEVANCE TO THE PROPOSED ALBANY WEF AND ASSOCIATED GRID INFRATRUCTURE

All the requirements stipulated in the NRTA will need to be complied with during the construction and operational phases of the proposed wind farm.

3.17 National Veld and Forest Fire Act (No. 101 of 1998)

The aim of the Act is to "prevent and combat veld, forest and mountain fires" in South Africa. Of particular relevance to the proposed Albany WEF development the following requirements of the Act need to be considered:

RELEVANT SECTION OF THE ACT	RELEVANT TO THE PROPOSED ALBANY WEF:
Section 3: Fire Protection Associations.	The proposed Albany WEF must register as a member of the fire protection association in the area.
Chapter 4 Section 12-14: Veld fire prevention: duty to prepare and maintain firebreaks	The proposed Albany WEF will be required to take all practicable measures to ensure that fire breaks are prepared and maintained according to the specifications contained in Section 12 – 14.
Section 17: Firefighting: readiness	The proposed Albany WEF must have the appropriate equipment, protective clothing and trained personnel for extinguishing fires.

3.18 Other Relevant National Legislation

Other legislation that may be relevant to the proposed Albany WEF and Associated Grid Infrastructure includes:

- The Environment Conservation Act No 73 of 1989 (ECA) Noise Control Regulations, which specifically provide for regulations to be made with regard to the control of noise, vibration and shock, including prevention, acceptable levels, powers of local authorities and related matters.
- The Telecommunication Act (1966) which has certain requirements with regard to potential impacts on signal reception.
- Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974), which lists species of special concern which require permits for removal. Schedules 1 to 4 list protected and endangered plant and animal species.
- Spatial Planning and Land Use Management Act (SPLUMA) (Act 16 of 2013 – came into force on 1 July 2015) aims to provide inclusive, developmental, equitable and efficient spatial planning at the different spheres of the government. This act repeals national laws on the Removal of Restrictions Act, Physical Planning Act, Less Formal Township Planning Act and Development Facilitation Act.

In addition to the above, aside from the environmental authorisation, there are other permits, contracts and licenses that will need to be obtained by the project proponent for the proposed project some of which fall outside the scope of the EIA. However, for the purposes of completeness, these include:

- Local Municipality: Land Rezoning Permit. LUPO Ordinance 15 of 1985.
- National Energy Regulator of South Africa (NERSA): Generation License.
- Eskom: Connection agreement and Power Purchase Agreement (PPA).
- Makhana Local Municipality Spatial Development Framework (SDF), Integrated Development Plan (IDP) and municipal by-laws.
- Sarah Baartman District Municipality SDF and IDP.

4. NEED AND DESIRABILITY

Increasing pressure is being placed on countries internationally to reduce their reliance on fossil fuels, such as oil and coal, which contribute towards Greenhouse Gases (GHG) being emitted into the atmosphere and therefore contribute to climate change. Renewable energy resources, such as wind and solar facilities, are being implemented as alternative sources of energy at both a global and national scale.

South Africa has recognised the need to expand electricity generation capacity within the country. This is based on national policy and informed by ongoing planning undertaken by the Department of Mineral Resources and Energy (DMRE), previously the Department of Energy (DoE), and the National Energy Regulator of South Africa (NERSA). The draft South African Integrated Resource Plan (IRP, 2018) was released for public comment in August 2018, setting out a new direction in energy sector planning. The plan includes a shift away from coal, increased adoption of renewables and gas, and an end to the expansion of nuclear power. The South African Government has not yet communicated a timeline for the final adoption of the plan. The previous two (2) proposed IRP updates (in 2013 and 2016) were not adopted by Cabinet.

The revised plan, if/when adopted, would mark a major shift in energy policy. The policy aims to decommission a total of 35 GW (of 42 GW currently operating) of coal generation capacity from Eskom by 2050, starting with 12 GW by 2030, 16 GW by 2040 and a further 7 GW by 2050. The draft IRP (2018) also proposes a significant increase in renewables-based generation from wind and solar as well as gas-based generation capacity by 2030 and beyond, with no further new nuclear capacity being procured. Implementing the IRP update (2018) could bring South Africa close to meeting the upper range of its 2030 Nationally Determined Contribution (NDC) target. The implementation of the IRP (2018) would constitute significant progress in the transformation of the South African energy sector. To be in line with the Paris Agreement goals for mitigation, South Africa would still need to adopt more ambitious actions by 2050, such as expanding renewable energy capacity beyond 2030, fully phasing out coal by mid-century, and substantially limiting unabated natural gas use.

Eskom currently has a net output of approximately 47 201 MWp, and it produces 85% of South Africa's electricity, which is equivalent to 40% of Africa's electricity. Renewable energy contributes to 5% of South Africa's electricity. This is mainly due to the targets set in the IRP (2010-2030) which aimed to change the electricity landscape from high coal (91.7%) to medium coal (48%) using electricity produced by the Independent Power Producers (IPP), with the utility company, Eskom, as the single buyer of the electricity.

The Renewable Energy Independent Power Producers (REIPPP) programme procured over 6.3 GW by 2017 and of this, 3.8 GW was already feeding into the grid. A further 2.4 GW was procured in 2018, which included twenty-seven (27) projects signed by the minister. The REIPPP attracted $14.4 billion investment by December 2017. The concept is based on the public-private partnership model to increase new generation capacity. It also encourages industrialisation as it requires that at least 40% of the technologies involved should have local content. This results in job creation for the local communities, where manufacturing takes place.

The proposed Albany Connection and Associated Grid Infrastructure is required to supplement the development of the proposed Albany Wind Energy Facility (WEF), as indicated in Figure 4.1. Therefore, the project need and desirability also relates to the need and desirability of renewable energy on a local, district, provincial, national and international level.

In order to ensure that the proposed infrastructure's need and desirability is explained in the context of the proposed Albany WEF this chapter has been extracted and included into this report, from the EIA

(DFFE Ref: 14/12/16/3/3/2/2088) as Chapter 4.1, after which Chapters 4.2 – 4.5 outline the need in a stand alone context.

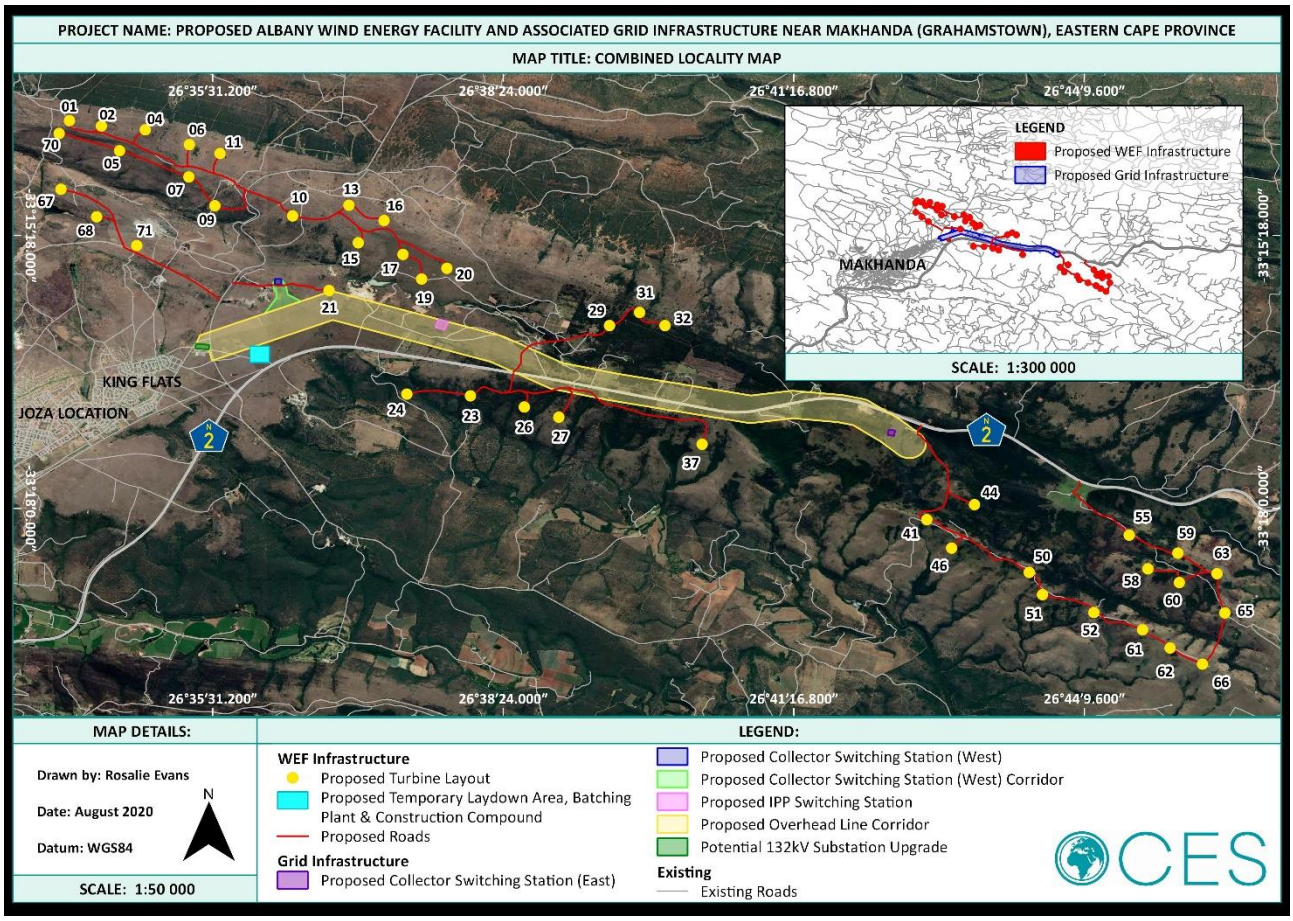


Figure 4.1: Combined Locality Map of the Proposed Albany Connection and Associated Grid Infrastructure in relation to the Proposed Albany WEF.

4.1 NEED AND DESIRABILITY IN THE CONTEXT OF THE PROPOSED ALBANY WEF

4.1.1. ELECTRICITY SUPPLY IN SOUTH AFRICA

South Africa's current electricity generation and supply system is unreliable. The Eastern Cape Province is reliant on the import of power from other provinces, and hence constrained by the availability and stability of electricity supply.

Currently, Eskom has a net output of 47,201MW, and it produces 85% of South Africa's electricity, which is an equivalent of 40% of Africa's electricity. Renewable energy accounts for 5% of South Africa's electricity. This is mainly due to the targets set in the IRP2010-2030 that aimed to change the electricity landscape from high coal (91.7%) to medium coal (48%) using electricity produced by the Independent Power Producers, with the utility company, Eskom, as the single buyer of the electricity.

The REIPPP programme procured over 6.3GW by 2017 and of this, 3.8GW was already feeding into the grid. A further 2.4GW was procured in 2018, which included 27 projects signed by the minister. The REIPPP attracted $14.4 billion investment by December 2017. The concept is based on the public-private partnership model to increase new generation capacity. It also encourages industrialisation as it requires that at least 40% of the technologies involved should have local content. This results in job creation for the local communities where manufacturing takes place.

4.1.2. SOCIAL AND ECONOMIC DEVELOPMENT

Albany Wind Power intends to promote local economic growth and development through direct and indirect employment, as well as the identification and implementation of social development schemes during the project's operational phase.

The need and desirability of the proposed Albany WEF project can be demonstrated in the following main areas:

- Move to green energy due to growing concerns associated with climate change and the on-going exploitation of non-renewable resources;
- Security of electricity supply, where over the last few years, South Africa has been adversely impacted by interruptions in the supply of electricity; and
- Stimulation of the green economy where there is a high potential for new business opportunities and job creation.
- The above main drivers, for renewable energy projects, are supported by the following International, National and Provincial (Eastern Cape Province) policy documents.

4.1.3. INTERNATIONAL (WEF)

4.1.3.1. THE 1992 UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

The UNFCCC is a framework convention which was adopted at the 1992 Rio Earth Summit. South Africa signed the UNFCCC in 1993 and ratified it in August 1997. The stated purpose of the UNFCCC is to, "achieve… stabilisation of greenhouse gas concentrations in the atmosphere at concentrations at a level that would prevent dangerous anthropogenic interference with the climate system", and to thereby prevent human-induced climate change by reducing the production of greenhouse gases defined as, "those gaseous constituents of the atmosphere both natural and anthropogenic, that absorb and re-emit infrared radiation".

RELEVANCE TO THE PROPOSED ALBANY WEF

The UNFCCC is relevant in that the proposed Albany WEF project will contribute to a reduction in the production of greenhouse gases by providing an alternative to fossil fuel-derived electricity. South Africa has committed to reducing emissions to demonstrate its commitment to meeting international obligations.

4.1.3.2. THE KYOTO PROTOCOL (2002)

The Kyoto Protocol is a protocol to the UNFCCC which was initially adopted for use on the 11th of December 1997 in Kyoto, Japan, and which entered into force on the 16th of February 2005 (UNFCCC, 2009). The Kyoto Protocol is the chief instrument for tackling climate change. The major feature of the Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions. This amounts to an average of 5% against 1990 levels over the five-year period 2008-2011. The major distinction between the Protocol and the Convention is that, "while the Convention encouraged industrialised countries to stabilize GHG emissions, the Protocol commits them to do so".

RELEVANCE TO THE PROPOSED ALBANY WEF

The Kyoto Protocol is relevant in that the proposed Albany WEF project will contribute to a reduction in the production of greenhouse gases by providing an alternative to fossil fuel-derived electricity and will assist South Africa to begin demonstrating its commitment to meeting international obligations in terms of reducing its emissions.

4.1.4. NATIONAL

4.1.4.1. NATIONAL DEVELOPMENT PLAN (2011)

The National Development Plan (NDP) (also referred to as Vision 2030) is a detailed plan produced by the National Planning Commission in 2011 that is aimed at reducing and eliminating poverty in South Africa by 2030. The NDP represents a new approach by Government to promote sustainable and inclusive development in South Africa, promoting a decent standard of living for all, and includes twelve (12) key focus areas, those relevant to the current proposed WEF being:

- An economy that will create more jobs;
- Improving infrastructure; and
- Transition to a low carbon economy.

SECTOR	TARGET
Electrical infrastructure	➢ South Africa needs an additional 29,000 MW of electricity by 2030. About 10,900 MW of existing capacity will be retired, implying new build of about 40,000 MW. ➢ About 20,000 MW of this capacity should come from renewable sources.
Transition to a low carbon economy	➢ Achieve the peak, plateau and decline greenhouse gas emissions trajectory by 2025. ➢ About 20,000 MW of renewable energy capacity should be constructed by 2030.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF will contribute towards additional energy capacity in South Africa and will contribute towards a reduction in greenhouse gas emissions.

4.1.4.2. NATIONAL CLIMATE CHANGE RESPONSE WHITE PAPER (2012)

The White Paper indicates that Government regards climate change as one of the greatest threats to sustainable development in South Africa and commits the country to making a fair contribution to the global effort to achieve the stabilisation of greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system.

The White Paper also identifies various strategies in order to achieve its climate change response objectives, including:

- The prioritisation of mitigation interventions that significantly contribute to an eventual decline emission trajectory from 2036 onwards, in particular, interventions within the energy, transport and industrial sectors; and
- The prioritisation of mitigation interventions that have potential positive job creation, poverty alleviation and/or general economic impacts. In particular, interventions that stimulate new industrial activities and those that improve the efficiency and competitive advantage of existing business and industry.

The White Paper provides numerous specific actions for various Key Mitigation Sectors including renewable energy. The following selected strategies (amongst others) must be implemented by South Africa in order to achieve its climate change response objectives:

- The prioritisation of mitigation interventions that significantly contribute to a peak, plateau and decline emission trajectory where greenhouse gas emissions peak in 2020 to 2025 at 34% and 42% respectively below a business as usual baseline, plateau to 2035 and begin declining in absolute terms from 2036 onwards, in particular, interventions within the energy, transport and industrial sectors; and
- The prioritisation of mitigation interventions that have potential positive job creation, poverty alleviation and/or general economic impacts. In particular, interventions that stimulate new industrial activities and those that improve the efficiency and competitive advantage of existing business and industry.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF project will provide an alternative to fossil fuel-derived electricity and will contribute to

climate change mitigation.

4.1.4.3 WHITE PAPER ON RENEWABLE ENERGY POLICY (2003)

The White Paper on the Renewable Energy Policy (2003) commits the South African Government support for the development, demonstration and implementation of renewable energy sources for both small- and large-scale applications. It sets out the policy principles, goals and objectives to achieve, "An energy economy in which modern renewable energy increases its share of energy consumed and provides affordable access to energy throughout South Africa, thus contributing to sustainable development and environmental conservation".

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF is consistent with the White Paper and the objectives therein to develop an economy in which renewable energy has a significant market share and provides affordable access to energy throughout South Africa, thus contributing to sustainable development and environmental conservation.

4.1.4.4. INTEGRATED ENERGY PLAN FOR THE REPUBLIC OF SOUTH AFRICA (2003)

The former Department of Minerals and Energy (DME) commissioned the Integrated Energy Plan (IEP) in response to the requirements of the National Energy Policy in order to provide a framework by which specific energy policies, development decisions and energy supply trade-offs could be made on a project-by-project basis. The framework is intended to create a balance between energy demand and resource availability so as to provide low cost electricity for social and economic development, while taking into account health, safety and environmental parameters.

In addition to the above, the IEP recognised the following: -

- South Africa is likely to be reliant on coal for at least the next 20 years as the predominant source of energy;
- New electricity generation will remain predominantly coal based but with the potential for hydro, natural gas, renewables and nuclear capacity;
- Need to diversify energy supply through increased use of natural gas and new and renewable energies;
- The promotion of the use of energy efficiency management and technologies;
- The need to ensure environmental considerations in energy supply, transformation and end use;
- The promotion of universal access to clean and affordable energy, with the emphasis on household energy supply being coordinated with provincial and local integrated development programme;
- The need to introduce policy, legislation and regulations for the promotion of renewable energy and energy efficiency measures and mandatory provision of energy data; and
- The need to undertake integrated energy planning on an on-going basis.

RELEVANCE TO THE PROPOSED ALBANY WEF

The Albany WEF is in line with the IEP with regards to diversification of energy supply and the promotion of universal access to clean energy.

4.1.4.5. INTEGRATED RESOURCE PLAN FOR ELECTRICITY 2010-2030 (REVISION 3, 2019)

The Integrated Resource Plan (IRP, 2019) for South Africa was initiated by the DoE and lays the foundation for the country's energy mix up to 2030, and seeks to find an appropriate balance between the expectations of different stakeholders considering a number of key constraints and risks, including:

- Reducing carbon emissions;
- New technology uncertainties such as costs, operability and lead time to build;
- Water usage;
- Localisation and job creation;
- Southern African regional development and integration; and
- Security of supply.

The Integrated Resource Plan is an electricity infrastructure development plan based on the least-cost electricity supply and demand balance, taking into account security of supply and the environment through the minimisation of negative emission and water use. It is important because it is South Africa's plan for the procurement of generation capacity up to 2030. The last such plan was the Integrated Resource Plan 2010 (IRP 2010) promulgated in March 2011, and such plans are intended to be updated every two years.

Since the promulgation of IRP 2010, a total of 18 000 MW of new generation capacity has been committed comprising 9,564 MW of coal power at Medupi and Kusile, 1,332 MW of water pumped storage at Ingula, 6,422 MW of renewable energy by independent power producers (IPPs), and 1,005 MW of Open Cycle Gas Turbine (OCGT) peaking plants currently using diesel at Avon and Dedisa.

6,000 MW of new solar PV capacity and 14,400 MW of new wind power capacity will be commissioned by 2030 under IRP 2019. The current annual build limits on solar PV and wind have been retained pending a report on the just transition strategy. There will be no new concentrated solar power commissioned under IRP 2019 up to 2030 beyond the 300 MW already committed to being commissioned in 2019.

The following image outlines the steps taken between the last IRP Revision (2011) and the latest IRP Revision (2019). As per the CSIR summary (Online: https://researchspace.csir.co.za/)

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF is in line with the draft IRP 2019 with respect to the energy mix and movement to a low carbon economy up to 2030 and beyond.

4.1.4.6. RENEWABLE ENERGY INDEPENDENT POWER PRODUCER PROCUREMENT PROGRAMME (REIPPPP)

South Africa has a high level of renewable energy potential and presently has in place a target of 17 800 MW of renewable energy. The REIPPP Programme has been designed so as to contribute towards the national target and towards socio-economic and environmentally sustainable growth, and to start and stimulate the renewable industry in South Africa.

In terms of the REIPPPP, bidders will be required to bid on tariff and the identified socio-economic development objectives of the DoE. The tariff will be payable by the Buyer (currently ESKOM) pursuant to the Power Purchase Agreement (PPA) to be entered into between the Buyer and the Project Company of a Preferred Bidder.

RELEVANCE TO THE PROPOSED ALBANY WEF

In terms of REIPPPP, bids would be awarded for renewable energy supply to ESKOM through up to 5 bidding phases. The 1st, 2nd, 3rd and 4th round bidding processes have been completed where projects are currently reaching financial close in order to implement the projects. REIPPPP is entering the 5th bidding window.

4.1.4.7. LONG TERM MITIGATION SCENARIOS (2007)

The aim of the Long-Term Mitigation Scenarios (LTMS) was to set the pathway for South Africa's long-term climate policy and will eventually inform a legislative, regulatory and fiscal package that will give effect to the policy package at a mandatory level. The overall goal is to "develop a plan of action which is economically risk-averse and internationally aligned to the world effort on climate change."

The strategy assesses various response scenarios but concludes that the only sustainable option ("the preferred option") for South Africa is the "Required by Science" scenario where the emissions reduction targets should target a band of between -30% to -40% emission reductions from 2003 levels by 2050 which includes increasing renewable energy in the energy mix by 50% by 2050.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF will contribute towards an overall reduction in emissions and aligns with the world stance

on efforts towards the mitigation of climate change.

4.1.4.8. INDUSTRIAL POLICY ACTION PLAN 2011/12 – 2013/14

The South African Industrial Policy Action Plan (IPAP 2) 2011/12 – 2013/14 represents a further step in the evolution of this work and serves as an integral component of government's New Growth Path and notes that there are significant opportunities to develop new 'green' and energy-efficient industries and related services; and indicates that in 2007/2008, the global market value of the 'Low-Carbon Green Sector' was estimated at £3 trillion (or nearly US$5 trillion), a figure that is expected to rise significantly in the light of climate-change imperatives, energy and water security imperatives.

Based on economic, social and ecological criteria, IPAP identified a number of sub-sectors and an initial round of concrete measures were proposed for development of the renewable energy sector with the following key action programmes:

- Solar and Wind Energy - Stimulate demand to create significant investment in renewable energy supply and the manufacturing of local content for this supply.
- Green Industries special focus: The South African Renewables Initiative (SARi) - SARi is an intra-governmental initiative set to catalyse industrial and economic benefits from an ambitious program of renewables development; including financing and associated institutional arrangements that would not impose an unacceptable burden on South Africa's economy, public finances or citizens.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF will contribute towards an overall reduction in emissions and it aligns with the world stance on efforts towards the mitigation of climate change.

4.1.4.9. STRATEGIC INFRASTRUCTURE PROJECTS (2012)

The National Infrastructure Plan that was adopted in 2012 together with the New Growth Path, which sets a goal of five million new jobs by 2020, identifies structural problems in the economy and points to opportunities in specific sectors and markets or "jobs drivers" resulted in the establishment of the Presidential Infrastructure Coordinating Committee (PICC) which in turn resulted in the development of 18 Strategic Infrastructure Projects (SIPS).

SIPS relevant to renewable energy include:

SIP 8: Green energy in support of the South African economy

- Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010).

SIP 9: Electricity generation to support socio-economic development

- Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances.

RELEVANCE TO THE PROPOSED ALBANY WEF

The Albany WEF will contribute to SIP project role out.

4.1.5. PROVINCIAL

4.1.5.1. EASTERN CAPE PROVINCIAL DEVELOPMENT PLAN (2014)

The Eastern Cape Provincial Development Plan 2014 (Eastern Cape Vision 2030) is a strategic policy which has been designed to identify strategic goals for implementation in the province. There are five goals, one of which will be expanded in detail as it relates to the growth of the economy, from a renewable energy

and ecotourism perspective. The Sarah Baartman (was Cacadu) District is earmarked for the development of both renewable energy (specifically wind) and ecotourism (private, national and provincial). This makes the region particularly difficult to navigate in terms of need and desirability.

As per the EC PDP the following goals encompass the 2030 vision.

1. Goal 1: A growing, inclusive and equitable economy – "The Eastern Cape has a growing, inclusive and equitable economy, which is larger and more efficient, and optimally exploits the competitive advantages of the province, increases employment, and reduces inequalities of income and wealth. This vision will be realised addressing the key constraints to unlocking economic potential: production costs, economic development support, infrastructure, workforce issues, and land and water challenges."
   The focus will be on seven high-potential sectors:
   i. Agriculture
   ii. Mining and energy
   iii. Construction related to large infrastructure, new property developments and the upgrading of human settlements.
   iv. Manufacturing
   v. Tourism, including eco-tourism, heritage, conferences and sports.
   vi. The social economy, including public works and asset-based community development.
   vii. Knowledge-based services, including R&D, professional services and business services
   The economic goal will be achieved through five strategic objectives:
   i. Improved economic infrastructure that promotes new economic activity
   ii. Stronger industry and enterprise support
   iii. An accelerated and completed land-reform process
   iv. Rapid development of high-potential economic sectors
   v. Rapid economic development of rural areas and all regions.
2. Goal 2: An educated, empowered and innovative citizenry
3. Goal 3: A healthy population
4. Goal 4: Vibrant, equitably enabled communities
5. Goal 5: Capable, conscientious and accountable institutions

The following strategic objectives form part of the EC PDP 2030 Vision. These strategic objectives have been copied verbatim from the PDP. All those which are relevant to the proposed development area have been highlighted and discussed. Those which are not relevant are not expanded on.

1. Strategic objective 1.1: Improved economic infrastructure that promotes new economic activity

Strategic action 1.1.1: Develop stronger provincial infrastructure planning capacities

Infrastructure planning is a complex process, involving large long-term investments, projected benefits that are difficult to quantify, and a combination of engineering and economic thinking. While the theory of allocating available capital among alternative infrastructure projects is straightforward (select projects with the highest socioeconomic return on investment using a standardised methodology), the practice is much more difficult. The province needs to build infrastructure planning capacity to ensure the following:

- *New infrastructure investments are aligned with the provincial development agenda.*
- *New investments optimise potential economic benefits, encouraging new private-sector investment, increasing local content supply and creating local jobs.*
- *New investments are responsive to changing economic circumstances.*
- *Investments contribute to equitable development – all regions of the province must benefit from the infrastructure programme (see strategic objective 5 for more on this point).*
- *Infrastructure planning and delivery by state-owned entities and others around water, energy, logistics and ICT need to be integrated because different types of infrastructure are usually required jointly.*

- *More capacitated infrastructure planning is required to present convincing arguments to potential investors and to enable effective lobbying.*

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF is in line with the Sarah Baartman renewable energy goals. It also comprises new infrastructure investment for the Eastern Cape province as a whole. In addition to this, the REIPPPP process includes stringent socioeconomic goals for which the WEF developer will be responsible if the proposed project is successful. In terms of equitable investment across the province, the proposed renewable energy development will benefit the provincial energy supply by supplying up to 297 MW of electricity to the Eskom Grid.

Strategic action 1.1.2: Work with the Presidential Infrastructure Coordinating Committee to plan and implement improved infrastructure

The Presidential Infrastructure Coordinating Committee has done considerable work on the National Infrastructure Plan. A summary of this plan in the province is presented in Annexure E.

We support much of what the Presidential Infrastructure Coordinating Committee is planning for the province. Large elements of the plan in the Eastern Cape are unfunded and preliminary; therefore the province will work with the Presidential Infrastructure Coordinating Committee to ensure that the National Infrastructure Plan responds fully to development priorities.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF is in line with the National Infrastructure Plan which aims to improve energy supply across the whole of South Africa. One of the regions earmarked for wind development is the Sarah Baartman district of the Eastern Cape province.

Strategic action 1.1.3: Improve maintenance of existing infrastructure

Infrastructure in the province is generally poorly maintained, reducing the value of infrastructure assets. Responsible public bodies should correct this by making the necessary budgetary adjustments. Increased maintenance activity would also contribute to increased employment, as infrastructure maintenance is employment-intensive.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF would contribute towards both road and electrical/substation maintenance of existing infrastructure surrounding the WEF site.

Strategic action 1.1.4: A major new provincial irrigation programme

This strategic action would not be impeded by the proposed WEF.

Strategic action 1.1.5: Investment in strategic freight and passenger corridors

This strategic action would not be impeded by the proposed WEF.

Strategic action 1.1.6: Position the province as a key investment hub in the energy sector and ensure reliable energy supply to high-potential sectors.

The province is positioning itself as an investment hub in the energy sector (wind farms, imported liquefied natural gas, shale-gas and nuclear energy). This will provide opportunities to develop the capital goods sector and heavy industries. This new investment could become a major catalyst for provincial economic development, particularly if the benefits and costs are well managed. Regional and local benefits accruing from new investment in the energy sector could include:

- *Cheaper energy (fuel and electricity), leading to cheaper food and transport, and more competitive labour markets.*
- *Employment in the construction, operation and maintenance of new energy facilities.*
- *Employment in the supply of manufactured components for the new energy facilities.*

- *Downstream linkages (for example, in the petro-chemicals industry based on shale gas).*
- *New rental collection systems to capture a portion of the surplus from these new investments.*

The province will need to position itself very carefully to ensure that these regional and local benefits are maximised, and costs (including externalities) are minimised.

Approved wind energy projects already account for 63 percent of the average provincial energy demand (1 700 megawatts [MW]). There are serious institutional hindrances to wind-farm developments (a reported 35 permits are required), particularly in the former homelands where there are land-tenure issues. Pre-authorisation arrangements in "renewable energy zones" (to be located in Cacadu and Chris Hani districts) will allow this industry to expand to its full potential (500MW).

In addition, municipalities need to improve their maintenance and upgrading of electricity distribution, and review their mark-ups on electricity prices. This work should be spearheaded by the Department of Economic Development, Environmental Affairs and Tourism.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF is in line with the Eastern Cape Vision 2030 Provincial Development Plan, specifically Strategic Action 1.1.6, as it entails the development of a wind farm which could potentially contribute up to 297 MW of electricity to the Eskom Grid. As stated in the PDP the DEDEAT must carefully review each strategic position of WEFs are proposed to ensure that they align with the provincial plan. The Sarah Baartman (was Cadadu) District is important from both an ecotourism and renewable energy perspective. Based on the proposed Albany Biodiversity Corridor Network which has been put forward by Indalo PE, ECPTA and SANParks, the proposed Albany WEF does not impede on this corridor network.

Strategic action 1.1.7: Universal and affordable broadband access
This strategic action would not be impeded by the proposed WEF.

2. Strategic objective 1.2: Rapid economic development of rural areas and all regions

Strategic action 1.2.1: All regions to develop and implement regional development strategies
Different development approaches are required for different regions of the province. As previously noted, the former Bantustans, where the majority of the province's people live, have extremely low levels of economic production and high poverty rates.

Each region has significant economic potential. For example:

- *The Nelson Mandela Bay/Cacadu region has energy potential (fracking, nuclear, wind), knowledge services, industrial manufacturing (Coega, smelters, petro-chemicals), agribusiness, tourism/property developments. It has potential as a primary trading hub, with Jeffreys Bay as a growth node.*
- *The Buffalo City Municipality/Amathole region has potential as a secondary export hub in agribusiness, knowledge services, light manufacturing, tourism and property/small-town development. Gcuwa and Alice are growth nodes.*
- *OR Tambo is expected to grow to become the province's third economic centre, with King Sabata Dalindyebo Municipality working towards metro status, based on ICT/knowledge services, logistics, agribusiness, tourism and property/small-town development. Port St Johns is a growth node.*
- *Chris Hani could become an agricultural region, with Sakhisizwe, Engcobo and Emalahleni as agriculture growth nodes.*
- *Alfred Nzo and Joe Gqabi regions could follow the provincial growth path, with stronger local state capacities contributing to increased economic opportunities. Sterkspruit, Burgersdorp and Mbizana are growth nodes.*

RELEVANCE TO THE PROPOSED ALBANY WEF

The Albany WEF is proposed in the Sarah Baartman (was Cacadu) District Municipality. This aligns with the plan proposed in strategic objective 1.2.1. Tourism is also listed as having significant economic potential in the district. Suitable areas, which do impede on future growth of both industries must be earmarked as suitable. The proposed Albany WEF site does not occur within the Albany Biodiversity Corridor Network which is proposed to link the Great Fish River Reserve (ECPTA) with the Addo Elephant National Park (SANParks) via the Indalo PE PGRs. The PDP is clear that both streams of economic development are vital for the economic growth of the Eastern Cape Province.

Strategic action 1.2.2: Increase rural economic production, particularly in the former Bantustans
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.2.3: Use infrastructure investment to promote more equitable regional Development
New infrastructure investment is crucial for shaping regional development. Each of the eight regions has at least one mega-project in the pipeline:

- *Nelson Mandela Bay: Port Elizabeth Waterfront; manganese channel; transhipment hub*
- *Cacadu: Nuclear plant; wind farms*
- *Buffalo City Municipality: East London sleeper site; airport to N2 road*
- *Amathole: Wild Coast Meander; irrigation schemes (Kat River and so on)*
- *OR Tambo: Mzimvubu project; N2 highway; Wild Coast Meander*
- *Alfred Nzo: N2 highway*
- *Chris Hani: Irrigation schemes (rehabilitation, extension and new projects)*
- *Joe Gqabi: Boskraai Dam/Orange River mega-project*

RELEVANCE TO THE PROPOSED ALBANY WEF

The Albany WEF is proposed in the Sarah Baartman (was Cacadu) District Municipality. This aligns with the plan proposed in strategic objective 1.2.2. The proposed Albany WEF would be considered a new wind farm infrastructure development within the district.

3. Strategic objective 1.3: Stronger industry and enterprise support

Strategic action 1.3.1: Create partnerships to drive economic development
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.2: Improve use of public resources for industry and enterprise support
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.3: Increase public resources for industry and enterprise support
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.4: Support micro, small, medium and large-scale enterprises
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.5: Ensure supply of skills to growth sectors
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.6: Support R&D and innovation initiatives
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.7: Develop new policy instruments
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.3.8: Improve capacity for economic policy analysis
This strategic action would not be impeded by the proposed WEF.

4. Strategic objective 1.4: Accelerate and complete the land-reform process

Strategic action 1.4.1: Design, implement and complete a new land redistribution plan
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.4.2: Address communal land tenure reform
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.4.3: Finalise restitution process
This strategic action would not be impeded by the proposed WEF.

5. Strategic objective 1.5: Rapid development of high-potential economic sectors
The PDP's diagnostic process identified seven economic sectors with strong development potential. The table below summarises the suggested high-level sector strategies:

SECTOR	SUGGESTED STRATEGIES
Agriculture	*Address land ownership and water issues to enable rapid capital accumulation (multi-scale and complete value chains). Focus on irrigation opportunities and value addition.*
Mining and Energy	*Optimise benefits from Karoo shale-gas, including feedstock for provincial petrochemicals, and position the Province as an energy hub*
Construction	*Ensure present infrastructure pipeline is properly planned, resourced and implemented; create enabling conditions for property development and build skills base.*
Manufacturing	*Exploit coastal competitive advantages and realise potential of industrial development zones/special economic zones; create multi-agency partnerships to drive industrial expansion and diversification*
Tourism	*Use competitive advantages to grow volume and value of eco-tourism, heritage and sports tourism; improve access infrastructure and build stronger local tourism networks*
Social Economy	*Transform public works (EPWP/CWP) into a major platform for sustainable enterprise development (asset-based community development)*
Knowledge-based Services	*Increase quantity and quality of skills formation; form multi-agency partnerships around strategic R&D and deepen ICT access and usage*

Strategic action 1.5.1: Grow and develop the agriculture sector
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.5.2: Grow and develop the mining sector
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.5.3: Grow and develop the construction industry
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.5.4: Grow and develop manufacturing industry
Nine identified manufacturing industries have potential for expansion. These should be examined in light of the Industrial Policy Action Plan with a view to multi-agency partnership formation. The nine industries are:

- *Maritime – connected to the province's three ports (ship repairs)*
- *Pharmaceutical – Aspen in Port Elizabeth employs 2 500 people*
- *Green/renewables – based on the existing pipeline of new wind-farms*

- *Agro-processing – based on increasing primary production*
- *Materials – products for the future through innovative R&D projects*
- *Light manufacturing – based on specialised clothing and footwear enterprises*
- *Automotive – increase manufacturing depth (first- and second-tier)*
- *Petro-chemicals – based on Karoo shale-gas and offshore resources*
- *Capital goods – based on investment plans of state-owned enterprises and heavy industry at Coega.*

Possible interventions include:

- *Improving regional competitiveness (logistics, skills, energy, R&D).*
- *Reviewing the Provincial Industrial Development Strategy (2009).*
- *Retaining and expanding the automotive industry, ensuring the auto cluster arrangement works effectively.*
- *Ensuring proper support for the growth of existing industrial development zones; expanding these zones to include other industrial areas in the metros; designing and implementing new agroindustrial special economic zones; and piloting a new rural industries programme.*
- *Reviving old labour-intensive industries, such as clothing and footwear.*
- *Promoting new-wave industries (green and maritime).*
- *Strengthening industrial cluster/multi-agency partnership initiatives.*
- *Ensuring the province's industrial development is environmentally sustainable and building industrial recycling enterprises (for example, platinum recycling).*

RELEVANCE TO THE PROPOSED ALBANY WEF

The Albany WEF is proposed in the Sarah Baartman (was Cacadu) District Municipality. This aligns with the plan proposed in strategic objective 1.5.4. for growth in the provincial manufacturing industry. The proposed Albany WEF would be considered a new wind farm infrastructure development within the district.

Strategic action 1.5.5: Grow and develop the tourism industry

The tourism industry has high potential for growth, based on eco-tourism, heritage tourism, conferencing and sports tourism. The provincial tourism economy grew rapidly after 1994 until the global recession in 2009. Tourism investment accounts for about 10 percent of annual fixed investment and most of this is in the two metros. It is estimated that 70 percent of provincial tourism economy is in the coastal zone. Six of the Eastern Cape's eight districts/metros have coastal access. Top attractions for international tourists are game reserves (58 percent), beaches (52 percent), tree-top canopy tours in Tsitsikamma (16 percent) and the Nelson Mandela Museum in Mthatha (10 percent). International tourism spending is 40 percent greater than domestic tourism spending.

Strategic interventions include:

- *Ensuring stronger support for heritage (including newly discovered archaeology sites of early humans) and sports tourism.*
- *Expediting the Eastern Cape Parks and Tourism Agency's commercialisation of provincial nature reserves.*
- *Unlocking Wild Coast tourism potential (the Wild Coast Meander) and addressing tenure issues for new investment in tourism facilities.*
- *Protecting the Wild Coast (and other sensitive areas) from environmental degradation.*
- *Improving tourist access (Port Elizabeth international airport).*
- *Focusing on the development of domestic tourism, particularly budget beach holidays (near Port Elizabeth and East London).*
- *Upgrading inner-city environments, beachfronts and associated tourism attractions in Port Elizabeth and East London, and throughout the province, including the Wild Coast.*
  Investigating the development of marina and waterfront developments at Port Elizabeth, East London and Port St Johns.

- *Electronic marketing of the province's unique combination: nature, beaches and state subsidisation of high-potential tourism geographic clusters (marketing).*

RELEVANCE TO THE PROPOSED ALBANY WEF

The ECPTA is proposing an amalgamation of provincial reserves in associated within Indalo PE and SANParks. One of the proposed biodiversity corridors is known as the Albany Biodiversity Corridor Network. Tourism is a value and necessary part of the Eastern Cape economic contribution. The Albany WEF would not impede the connection of the proposed reserves, it would be situated adjacent to this corridor. Based on the "Wilderness Value" assigned to the land on which the proposed WEF is situated it is considered to have a LOW value. It is assumed that this land is therefore not aligned to being part of this expansion project due to existing industrial infrastructure such as Eskom infrastructure, mines and telecommunication towers. In terms of biodiversity value, and based on the Ecological Report (Appendix D) the conservation value is of low to moderate significance due to existing landuses and the presence of alien vegetation.

Strategic action 1.5.6: Grow and develop the social economy
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.5.7: Grow and develop knowledge-based services
This strategic action would not be impeded by the proposed WEF.

Strategic action 1.5.8: Grow and develop the ocean economy
This strategic action would not be impeded by the proposed WEF.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF is in line with the Eastern Cape Vision 2030 Provincial Development Plan, potential conflicts can be managed at a local spatial level.

4.1.5.2. EASTERN CAPE CLIMATE CHANGE STRATEGY (2011)

According to the Eastern Cape Climate Change Response Strategy, wind energy was the fastest growing energy technology sector, which accounted for more than 50% of worldwide clean energy investment, in 2009 as well as almost half of the installed clean energy capacity worldwide. The South African Wind Energy Association called for 25% of the overall electricity generation mix by 2025 to be derived from renewable energy, with 80% of this target potentially coming from wind power.

The Eastern Cape Climate Change Response Strategy developed a set of pragmatic Greenhouse Gas (GHG) mitigation programmes. These consisted of the following mitigation categories:

- Mainstreaming GHG mitigation in provincial and local government and in industry
    - Mainstreaming GHG mitigation in decision-making at all levels of government within the Eastern Cape Province;
    - Promoting GHG mitigation in provincial and local government operations; and
    - Promoting GHG reporting in industry.
- Promotion of renewable energy in the Eastern Cape
    - Create an enabling environment for investment in, implementation and use of clean energy in the Eastern Cape.
- Mitigation and opportunities for rural livelihoods
    - Facilitate integrated lead projects that promote sustainable livelihoods and local economic development while achieving (tradable) emission reductions.
- Mitigation in solid waste and wastewater treatment
    - Reduction in organic waste to landfill, renewable energy from waste, and methane use or destruction.
- Greenhouse gas mitigation in transport

- Facilitate shift to low GHG modes of transport and transport systems.

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF supports the Eastern Cape Climate Change Response Strategy as it is in line with the mitigation measures that have been developed in an effort to reduce GHG emissions.

4.1.5.3. EASTERN CAPE SUSTAINABLE ENERGY STRATEGY (2012)

The Eastern Cape Sustainable Energy Strategy identifies six (6) goals which will assist in achieving the Province's vision, "The Eastern Cape provides the most enabling environment for sustainable energy investment and implementation in the country", and these goals include:

- Goal 1: Job creation and skills development
- Goal 2: Alleviate energy poverty
- Goal 3: Alleviate CO2 emissions and environmental pollution
- Goal 4: Improve industrial competitiveness
- Goal 5: Promote renewable energy production in the Province
- Goal 6: Promote the development of a renewable energy manufacturing industry and technology development

In addition, Section 6.2.2: Future Supply Options for the Eastern Cape of the Eastern Cape Sustainable Energy Strategy states that *"60 wind farms with a combined capacity of about 4 253 MW have applied to Eskom for connection quotations in the Province (as at March 2012); this is the most promising short- and medium-term source of locally generated energy for the Eastern Cape."*

RELEVANCE TO THE PROPOSED ALBANY WEF

The proposed Albany WEF could potentially contribute, directly and/or indirectly, to all six (6) sustainable energy goals as stipulated in the Eastern Cape Sustainable Energy Strategy.

4.1.6. SITE SELECTION: WIND CAPABILITY

In order to determine the wind resource potential of a proposed WEF site, it is necessary to erect a wind measurement mast to gather wind speed data and correlate these measurements with other meteorological data. A measurement campaign of at least 12 months in duration is necessary to ensure verifiable data is obtained. This data has advised on the economics of the project and finalise the positions of the wind turbines. The masts are marked as per the requirements of the Civil Aviation Authority (CAA).

The following image (Figure 4.1) indicates the wind capability figures for the Albany WEF site as per the CSIR data. The South African Wind Atlas (CSIR *et al,* 2014) indicates that the area has an average wind speed of between 7.5 and 10 m/s as illustrated by the mesoscale map below. These high wind speeds have been confirmed by Albany Wind Power who erected two wind measurement masts on site, an 85 m mast and a 120 m mast. The 85 m mast collecting data from September 2012 until November 2013, and the 120 m mast has been collecting data since the 8th of August 2015 to date.

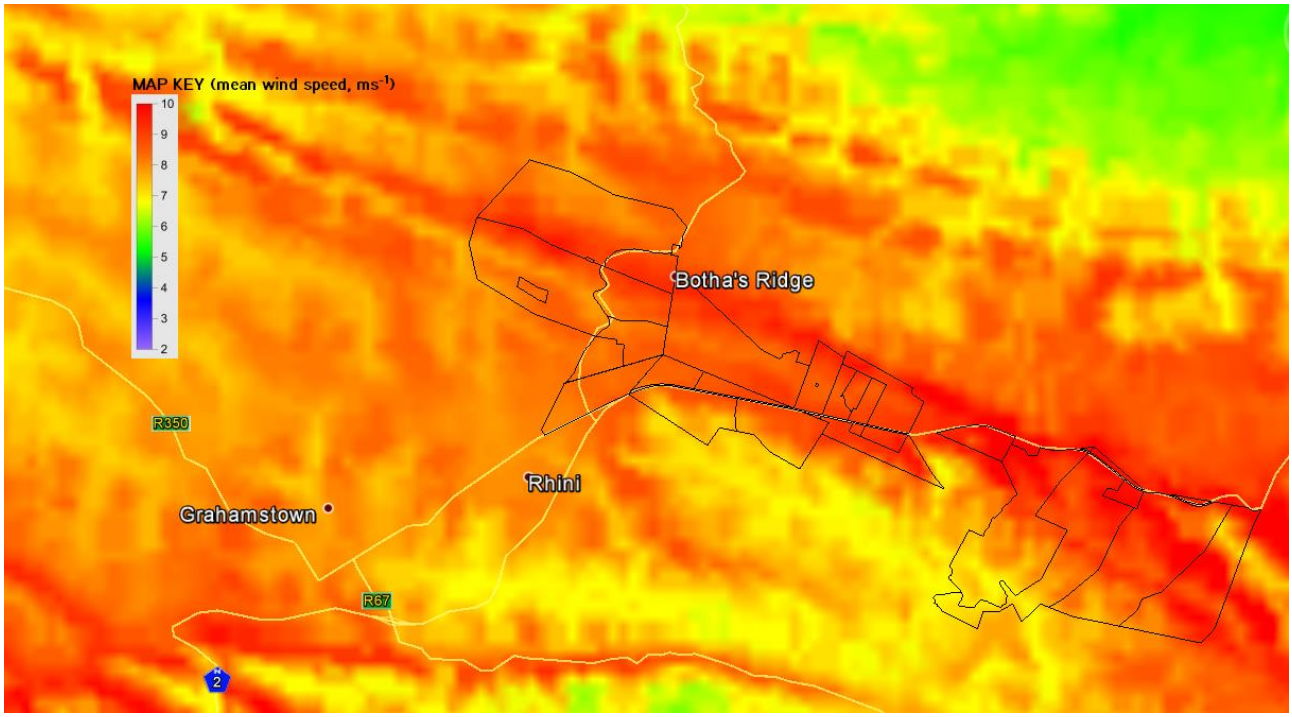


Figure 4.1: Wind Capability Statistics (mean wind speed, ms-1, CSIR).

4.1.7. ALBANY WEF DISTANCE FROM REDZS

On the 17th of February 2016, the Cabinet of the Republic of South Africa (Cabinet) approved the gazetting of Renewable Energy Development Zones (REDZs).

REDZs refer to geographical areas where wind and solar PV development can occur in concentrated zones, which will lead to:

- a reduction of negative environmental consequences;
- alignment of authorisation and approval processes;
- attractive incentives; and
- focused expansion of the South African electricity grid.

Cabinet further stated that the REDZs will, among others, accelerate infrastructure development and contribute in creating a "predictable regulatory framework that reduces bureaucracy related to the cost of compliance".

The DFFE's media statement issued in respect of the approved gazetting of the REDZs provided that 8 REDZs and 5 Power Corridors have been identified. The REDZs are located in Overberg (Western Cape), Komsberg (Western Cape), Cookhouse (Eastern Cape), Stormberg (Eastern Cape), Kimberley (Free State/Northern Cape), Vryburg (North West), Upington (Northern Cape) and Springbok (Northern Cape).

The 5 Power Corridors are planned as follows: The central corridor runs for the first time from the south of the country to the north. Two corridors run along the east and west coasts, while the fourth and fifth include interconnections with Botswana, Namibia and Zimbabwe to accommodate current and forecasted imports and exports of electricity. Eskom estimates that the thousands of kilometres of transmission lines and infrastructure needed to create these corridors of power will take eight years to construct and cost approximately R213bn.

The REDZs and Power Corridors support 2 of the 18 Strategic Integrated Projects (SIPs), which were

identified in the Infrastructure Development Plan which is aimed at promoting catalytic infrastructure development to stimulate economic growth and job creation.

The proposed Albany WEF falls within a small section of REDZ 3 (Cookhouse) on the western side of the proposed WEF. Approximately 20% of the site falls within this REDZ.

4.1.8. OTHER LOCAL FUTURE PROJECT: ALBANY WEF IN RELATION TO THE PROPOSED ALBANY BIODIVERSITY CORRIDOR NETWORK

The proposed Albany WEF is situated outside of the Albany Biodiversity Corridor Network, as developer by Indalo PE, ECPTA and SANParks (see Figure 4.2. below). In addition to the fact that the proposed WEF is situated outside of the proposed linking strategy, the WEF is situated on land classified, by the amalgamation, as LOW from a "Wilderness Value" perspective. This is likely due to the fact that the majority of the proposed Albany WEF site is transformed land, with existing industrial infrastructure such as the Eskom Albany Substation, Eskom Albany Distribution line, numerous telecommunication towers and mining.

Based on the Eastern Cape Provincial Development plan both tourism and renewable energy are key economic sectors in the Eastern Cape province, particularly within the Sarah Baartman (was Cacadu) District Municipality

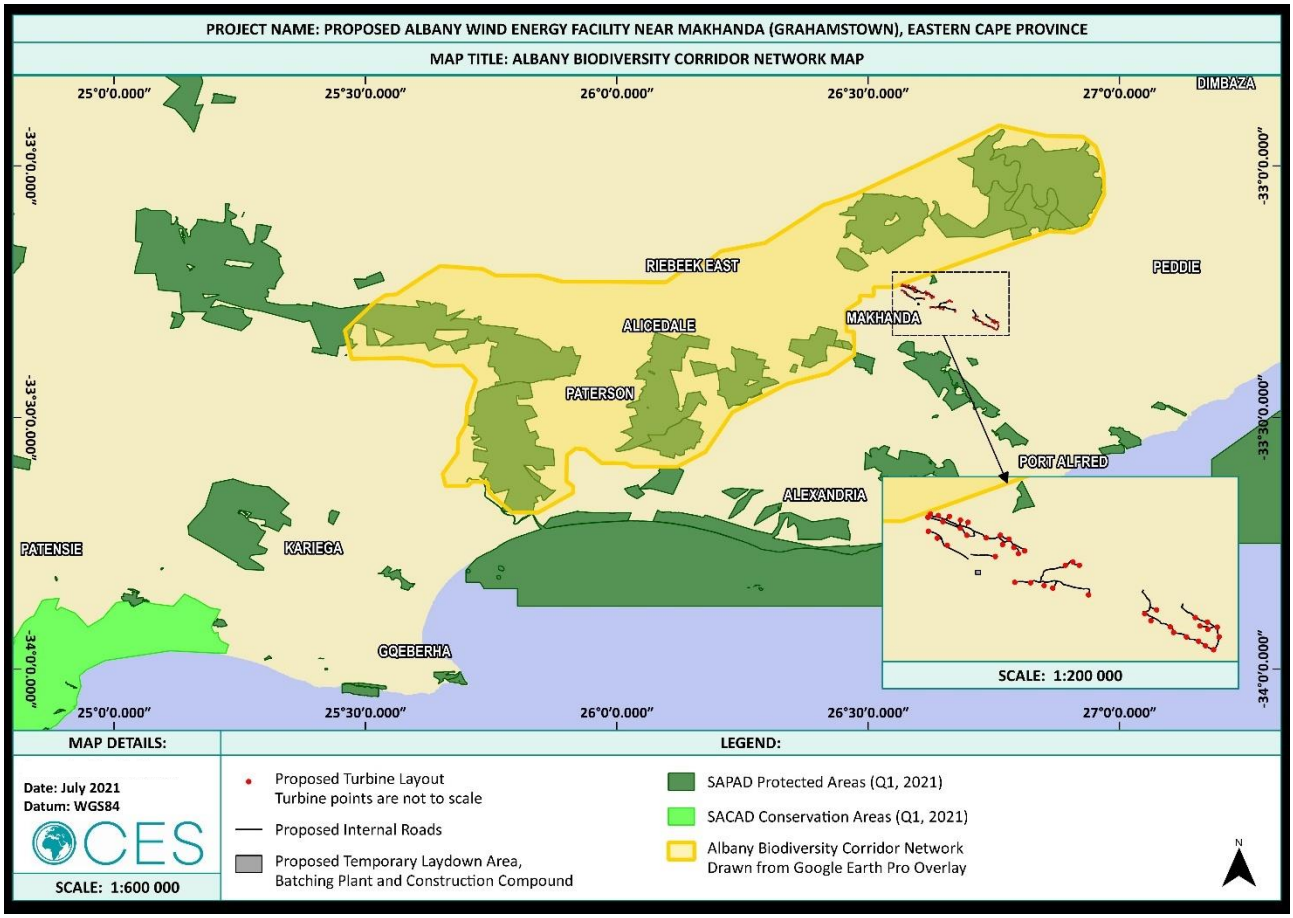


Figure 4.2: Albany WEF in Proximity to Proposed "Albany Biodiversity Corridor Network", SAPAD Protected Areas and SACAD Conservation Areas

4.2 LOCAL AND DISTRICT LEVEL

The proposed Albany overhead line and associated grid infrastructure, as well as the proposed Albany WEF, aim to promote local economic growth and development through the creation of direct and indirect employment opportunities as well as to supply the national grid with electricity.

4.1.1 Makana Local Municipality Integrated Development Plan (IDP) 2019-2020

According to Census 2011 statistics, 23.9% of the Makana Local Municipality were employed and 45.5% were unemployed at the time of the data collection. The remainder of the population fell under "not applicable" due to their age, disability, etc. In comparison to the Sarah Baartman District Municipality, these statistics are high as 27.1% of the population within the District Municipality were employed with 38.7% being unemployed. However, average monthly household income in the Makana Local Municipality is significantly higher than the averages for the Eastern Cape Province and the District Municipality.

> *"**2.9 Consolidated high-level critical service delivery challenges***
> *b) Electricity:*
> *Makana is currently the service provider for the distribution of electricity only in the old Makhanda (CPA) municipal area, while the new urban settlements, Makhanda East, Riebeeck East, rural farm areas are serviced by Eskom except Alicedale by both Municipality and Eskom. This makes delivery of services and credit control difficult for Makana to manage. This matter should be addressed as a matter of urgency. There is no Electricity Master Plan in place and a service provider has been appointed to develop the electricity master plan.*
>
> *The maintenance plan is in place but not fully adhered to, due to staff and financial shortages. Budgetary constraints hinder the effective operation and maintenance as the infrastructure is ageing and needs to be constantly upgraded and maintained.*
>
> *There are 5 wards (3, 10, 11, 13 and 14) comprising the majority of households with no access to electricity. There has however been an overall reduction in the number of persons without access to electricity.*
>
> *The Municipality is looking at innovative alternative energy sourcing methods and there is a draft policy which sets out the criteria which will enable the evaluation of renewable energy generation infrastructure to be developed in a manner that will limit the potential negative impacts thereof. Municipality has appointed service provider Innowind at Waainek to create an alternative power wind farm and the southern portion of the municipality has been identified as having potential for the development of wind energy generation infrastructure.*
>
> *Windfarms as part of an alternative energy solution a:*
> - *Distribution Agreement (DA) for the Waainek Windfarm Project (Alternative Energy) was signed and construction was completed. The project is earmarked to have R400 million economic spinoffs over 20 years;*
> - *R30 million was received for the refurbishment of ageing electricity infrastructure, mainly substations; and*
> - *R2, 2 million was spent for 13/14 for Thomas Baines Power line as an alternative power supply."*

4.1.2 Sarah Baartman District Municipality Integrated Development Plan (IDP), 2017-22

The proposed Albany Connection and Associated Grid Infrastructure is in the line with the Sarah Baartman District Municipality IDP as it will contribute to the creation of employment opportunities, which is a key

issue in the District due to high unemployment rates, 20.3% of the population, and the fact that approximately 57% of the population live below an acceptable income threshold. This has adverse knock-on effects such as the increase in crime. The section below consists of some of the relevant paragraphs which have been extracted from the Sarah Baartman District Municipality IDP.

> *"Notwithstanding this backdrop, the District has economic potential to create employment and livelihoods. The District has strong tourism attractions and economic development opportunities, such as game reserves and agriculture. The investment in alternative energy such as wind turbines, nuclear power plant, and hydro-electrical power plant are potential projects which will stimulate spin-offs for economic growth. The Municipality has identified the establishment of a development agency as a strategy in enhancing economic growth in Sarah Baartman District."*

> *"The importance of wind energy generation in the district has been confirmed by the announcement by the Department of Energy in terms of successful wind farm developments, as eight of the thirteen approved wind farm developments are to be developed in the district, with an additional two wind farms to be developed in Nelson Mandela Bay Municipality. The two largest energy generating wind farms, i.e. Amakhala Emoyeni (phase 1) (137.9MW) and Cookhouse Wind Farm (135MW) [have been] developed in the district. The Blue Crane Route region has been identified by the National Department of Environmental Affairs as one of three potential wind generation 'preferred locations' in the country."*

> *"**(e) Improving connectivity and utility infrastructure***
> *Transport, water and energy infrastructure are major challenges in an arid low-density rural area such as SBDM. The costs of such infrastructure are particularly high in such areas given distance and the area enjoys relatively low priority for infrastructure given its small population. It is therefore necessary to be innovative and focused in ensuring that sufficient infrastructure is in place to support development. Key areas here include:*
> - *Developing rural broadband and mobile phone connectivity is a key rural development strategy globally.*
> - *Improving rural transport infrastructure particularly roads.*
> - *Identifying and delivering catalytic infrastructure that opens up new economic opportunities."*

> *"Renewable energy is poised to be one of the major areas of investment both within the country and internationally in the years ahead. The renewable energy sector is an area of great emerging opportunity for the Eastern Cape. It is a very dynamic sector currently, as the implications of extensive government commitment to renewable energy become apparent. New developments nationally are taking place very frequently and there are also many significant projects happening in the region. The anticipated massive growth in this sector provides major opportunities for growth in job creation in the province because of the potential of the area to host major renewable energy generation infrastructure as well as the potential to be a major manufacturer of such infrastructure leveraging off the automotive sector."*

4.3 PROVINCIAL LEVEL

4.2.1 Eastern Cape Vision 2030 Provincial Development Plan, 2014

The proposed Albany Connection and Associated Grid Infrastructure is in line with the Eastern Cape Vision 2030 Provincial Development Plan as it will contribute to the electricity transmission and distribution networks which will accommodate the generation capacity and strengthen the grid capacity.

The Eastern Cape Vision 2030 Provincial Development Plan states the following as a development focal point:

> *"New investments in the electricity transmission and distribution networks are required to accommodate new generation capacity and strengthen grid capacity. This will improve network performance, network flexibility and the quality of supply for both economic and social activities."*

4.4 NATIONAL LEVEL

4.3.1 National Development Plan (NDP): Vision 2030, 2012

The National Development Plan (NDP) Vision for 2030 (November 2011) aims to eliminate poverty and reduce unemployment by 2030. The section below consists of some of the relevant paragraphs which have been extracted from the NDP Vision for 2030, specifically relating to electricity infrastructure, the creation of employment opportunities in the energy sector and renewable energy.

> *"Electricity*
> *22. Move to less carbon-intensive electricity production through procuring up to 20 000 MW of renewable energy, increased hydro-imports from the region and increased demand-side measures, including solar water heating.*
> *23. Move Eskom's system operator, planning, power procurement, power purchasing and power contracting functions to the independent system and market operator and accelerated procurement of independent power producers.*
> *24. Ring-fence the electricity distribution businesses of the 12 largest municipalities, resolve maintenance and refurbishment backlogs and develop a financing plan, alongside investment in human capital.*
> *25. Revise national electrification plan and ensure 90 percent coverage by 2020 and 95 percent coverage by 2030 (with balance met through off-grid technologies)."*

> *"Transition to a low-carbon economy*
> *Targets*
> - *Achieve the peak, plateau and decline trajectory for greenhouse gas emissions, with the peak being reached around 2025.*
> - *By 2030, an economy-wide carbon price should be entrenched.*
> - *Zero emission building standards by 2030.*
> - *The installation of 5 million solar water heaters by 2030.*
> - *About 20 000 MW of renewable energy should be contracted by 2030."*

> *"The energy sector: empowering South Africa*
> *Vision*
> *By 2030, South Africa will have an energy sector that promotes:*
> - *Economic growth and development through adequate investment in energy infrastructure and the provision of quality energy services that are competitively priced, reliable and efficient. Local production of energy technology will support job creation.*
> - *Social equity through expanded access to energy services, with affordable tariffs and well targeted and sustainable subsidies for needy households.*

- *Environmental sustainability through efforts to reduce pollution and mitigate the effects of climate change."*

"Electricity distribution
A reliable electricity supply depends on a sufficient number of functioning power stations and a reliable grid network to transport electricity to users."

"To enable improved demand-side management and future energy savings, the next 20 years will see smarter management of electricity grids through innovative control systems and smart-meters. More distributed generation systems are likely, both to meet local demand and to feed back into the grid."

4.3.2 National Climate Change Response White Paper, 2012

Climate change has been identified as one (1) of the greatest threats to sustainable development in South Africa. The National Climate Change Response White Paper obligates the country to make a fair contribution to the global effort to achieve the stabilisation of GHG concentrations in the atmosphere. The proposed Albany Connection and Associated Grid Infrastructure, required to supplement the proposed Albany WEF development, complies with the National Climate Change Response White Paper as it will provide an alternative source of electricity, to fossil fuel-derived electricity, which will contribute to climate change mitigation.

> *"Policy decisions on new infrastructure investments must consider climate change impacts to avoid the lock-in of emissions-intensive technologies into the future. However, in the short-term, due to the stock and stage in the economic lifecycle of existing infrastructure and plant, the most promising mitigation options are primarily energy efficiency and demand side management, coupled with increasing investment in a renewable energy programme in the electricity sector."* – National Climate Change Response White Paper (2012)

4.3.3 GHG National Inventory Report, South Africa, 2000-2015

The proposed Albany Connection and Associated Grid Infrastructure, associated with the proposed Albany WEF, will contribute to a reduction in the dependency on coal-based power.

> *"Electricity generation is the largest key GHG emission source in South Africa, mainly because it mainly uses sub-bituminous coal which is abundantly available in the country. Data on fuel consumption for public electricity generation was obtained directly from the national power producer for the period 2000 to 2015. Eskom supplies more than 90% of South Africa's electricity needs (DoE, 2018). It generates, transmits and distributes electricity to various sectors, such as the industrial, commercial, agricultural and residential sectors."* – GHG National Inventory Report, South Africa (2000 – 2015)

4.5 INTERNATIONAL LEVEL

4.4.1 United Nations Framework Convention on Climate Change (UNFCCC), 1992 as amended

The UNFCCC is a framework convention which was adopted at the 1992 Rio Earth Summit. South Africa signed the UNFCCC in 1993 and indorsed it in August 1997. The objective of the UNFCCC is to:

> *"The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level*

should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." – UNFCCC (1992 and subsequent amendments)

"Commitment 1 – All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: (c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors." – UNFCCC (1992 and subsequent amendments)

"Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial..." – UNFCCC (1992 and subsequent amendments)

The proposed Albany Connection and Associated Grid Infrastructure, required for the proposed Albany WEF, is in line with the UNFCCC as the developments will contribute to the reduction in the production of GHG by providing an alternative energy source to fossil fuel-derived electricity in South Africa.

4.4.2 The Kyoto Protocol, 2002

The Kyoto Protocol, which was adopted in Kyoto (Japan) in 1997 and enforced in 2005, is an international agreement which is linked to the UNFCCC. The Protocol contains internationally binding emission reduction targets, as an instrument to reduce climate change. *"Under the Protocol, countries' actual emissions have to be monitored and precise records have to be kept of the trades carried out."* The proposed Albany Connection and Associated Grid Infrastructure, required for the proposed Albany WEF, is in line with the Kyoto Protocol as the developments will provide an alternative energy source to fossil fuels.

4.6 CONCLUDING REMARKS

When considering the overall need for the development of the Albany Grid Infrastructure in relation to the Albany WEF, it is important to consider the potential costs of the proposed WEF too. While the above policy (at a national, provincial and local level) support renewable energy, local industry may be affected by its presence. This is particularly relevant to the tourism industry in the area.

Indalo, Private Game Reserve Association, is a collection of private game reserves based in the Eastern Cape, South Africa. Originally formed as a forum to address conservation and social issues, Indalo has recently evolved into the Indalo Protected Environment (https://www.indaloreserves.com/). Indalo's policy on renewable energy is as follows: "Indalo is pro renewable energy but wind farms in the wrong places present a clear danger to our natural environment and eco-tourism. We support windfarms in non-ecologically sensitive areas." Based on the contents of the biophysical specialist reports the site is not considered ecologically sensitive, however, it is still vital to consider the socio-economic impacts of the proposed WEF on the surrounding game farms which form part of the Eastern Cape's tourism industry from both an eco-tourism and hunting perspective.

The proposed Albany WEF and this associated infrastructure is situated outside of the proposed expansion corridor network which is being development in a joint venture between ECPTA, Indalo PE and SANParks. The portion of land on which the Albany WEF is situated is not desirable from a protected environment perspective due to existing conflicting landuses such as mining, electrical infrastructure, agriculture and various other infrastructure such as telecommunication towers. From an ecological perspective the land on which the Albany WEF is proposed is neither pristine nor of high conservation value (please refer to the Ecological Impact Assessment).

The Albany WEF project developer has also indicated that local socio-economic benefits will be realised with the development of the WEF, specifically in line with the socio-economic development goals under the REIPPPP, which will include:

- The realisation of the local needs and requirements within the area;
- Job creation within an area;
- The creation of a second income for the affected landowners;
- An increase in the standard of living; and
- An overall economic and social upliftment within the area.

The construction and operation of the Albany WEF, and associated infrastructure, will contribute to local developmental objectives of poverty eradication and other social and socio-economic benefits that are integral to the REIPPPP process. The development of wind farms attracts significant direct foreign financial investment into South Africa and local communities. REIPPP local content requirements can lead to the creation of local industry and both skilled and un-skilled jobs in the RE industrial sector. Further positive social and socio-economic benefits will be realised by the landowners which will host turbines, in the form of rental income which in turn will have multiplier effects on the local economy due to local spend. In addition, farming activities can continue alongside the wind turbines, while rental income may also be used to enhance farming activities.

Therefore, considering the above it has been imperative for the BAR to consider this project not only from a standalone assessment but also in the context of the proposed WEF and the associated policy (national, provincial and local level) perspective, and a bio-physical and socio-economic perspective. The aim of this process has been to ensure a balance between these three spheres and the key chapters of this report (Chapter 6, 7, 8 and 9) draw on both the positive and negative consequences of the proposed development.

From a cumulative perspective the WEF, and its associated infrastructure, would both negatively and positively contribute towards existing and proposed WEF impacts within a 30km radius of the proposed Albany WEF. The primarily negative cumulative impact would be from a visual perspective, specifically related to the tourism industry within the area. The primary positive cumulative impact would be a higher renewable energy output from this area and the use of land which is already degraded.

5. PUBLIC PARTICIPATION PROCESS

5.1 PUBLIC PARTICIPATION

The Public Participation Plan includes the following:

- A site notice board has been placed at the entrance to the site.
- All registered stakeholders and Interested and/or Affected Parties (I&APs), which were registered during the Scoping and EIA Process for the Albany Wind Energy Facility (WEF), an associated project which was undertaken on the same land parcels, will form part of the stakeholder and I&AP database for this Basic Assessment Process. This stakeholder database was updated in 2022 during the appeals process. Any additional stakeholders and/or I&APs, that register during this public review period, will also be added to the database.
- Any additional I&APs who register during this Basic Assessment Process will be added to the Stakeholder and I&AP Database.
- All registered stakeholders and I&APs will be notified of the availability of the Draft BAR and associated reports for public review via email and SMS (where applicable) notification. The public will be notified via a provincial newspaper advertisement (The Herald). The advert will be published on the onset of the public review period. This advertisement will outline the availability of the Draft BAR for public review and will invite I&APs to view the documentation.
- The Draft BAR (and associated documents) will be made available on the CES website (www.cesnet.co.za/public_documents). A copy of the Draft BAR will also be made available at the Makhanda (Grahamstown) public library.
- The email and SMS notifications, and the advertisement, notifying the public and registered Stakeholders and I&APs of the release of the Draft BAR, will include the link to the location of the documents on the CES website.
- The Draft BAR will be available for public review and comment for a thirty (30) day period, specifically the 14th of October until the 17th of November 2022.
- All comments received and responses to the comments, as well as proof/copies of the correspondence, will be recorded in the Comments and Responses Report, which will form part of the Final BAR.

Table 5.1: Registered Stakeholder and I&AP Database.

ALBANY WIND ENERGY FACILITY: STAKEHOLDERS		
Stakeholder	Contact Person	Email Address
Department of Forestry, Fisheries and the Environment (DFFE)	[redacted]	
DFFE: Biodiversity & Conservation		
Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) (Eastern Cape)		
Department of Water & Sanitation (DWS) (Eastern Cape)		
Department of Mineral Resources (DMR) (Eastern Cape)		
Department of Agriculture Forestry & Fisheries (DAFF)		
Department of Energy (DoE)		
Eskom		
Eskom: Renewable Energy		
Eastern Cape Parks and Tourism Agency (ECPTA)	[redacted]	
Eastern Cape Development Corporation (ECDC)		
Sarah Baartman District Municipality: Municipal Manager		
Makana Local Municipality: Acting Municipal Manager		
Makana Local Municipality: Mayor		
Makana Local Municipality: Technical & Infrastructural Services		
Makana Local Municipality: Land-use		
Makana Local Municipality: Environmental		
Makana LM Ward 1 Councillor		
Makana LM Ward 2 Councillor		
Makana LM Ward 3 Councillor		
Makana LM Ward 4 Councillor		
Makana LM Ward 5 Councillor		
Makana LM Ward 6 Councillor		
Makana LM Ward 7 Councillor		
Makana LM Ward 8 Councillor		
Makana LM Ward 9 Councillor		
Makana LM Ward 10 Councillor		
Makana LM Ward 11 Councillor		
Makana LM Ward 12 Councillor		

Makana LM Ward 13 Councillor	
Makana LM Ward 14 Councillor	
Makana LM Ward 15 Councillor	
Makana LM Ward 16 Councillor	
Makana LM Ward 17 Councillor	
Makana LM Ward 18 Councillor	
Makana LM Ward 19 Councillor	
Makana LM Ward 20 Councillor	
Makana LM Ward 21 Councillor	
Makana LM Ward 22 Councillor	
Makana LM Ward 23 Councillor	
Makana LM Ward 24 Councillor	
Makana LM Ward 25 Councillor	
Makana LM Ward 26 Councillor	
Makana LM Ward 27 Councillor	
SALGA Eastern Cape	
Eastern Cape Provincial Heritage Resources Authority (ECPHRA)	
South African Heritage Resources Agency (SAHRA)	
Telkom	
Sentech	
Vodacom	
MTN	
Cell C	

Civil Aviation Authority (CAA)	
Air Traffic and Navigation Services (ATNS)	
Roads (SANRAL/Public Works)	
BirdLife South Africa	
BirdLife South Africa: Birds and Renewable Energy Manager	
BirdLife South Africa: Policy & Advocacy Manager	
Endangered Wildlife Trust: CEO	
Endangered Wildlife Trust: Head of Conservation Science	
Endangered Wildlife Trust: African Crane Conservation Programme Manager	
Endangered Wildlife Trust: African Crane Conservation Programme Field Officer	
Endangered Wildlife Trust: Wildlife & Energy Programme	
WESSA EC Regional Representatives	
Wildlife Ranching RSA	
East Cape Game Management Association	
INDALO	
SANParks	
SANParks	
SANParks	

SANParks	[redacted]	

ALBANY WIND ENERGY FACILITY: REGISTERED I&APs

I&AP	Affiliation	Email Address
[redacted]	Grahamstown Residents' Association	[redacted]
	Private	
	Wessons	
	Private	
	MBB Consulting Engineers	
	MBB Consulting Engineers	
	Kwande Private Game Reserve	
	Kwande Private Game Reserve	
	Private	
	Private	
	Private	
	Amakhala Game Reserve	
	AquaCulture Innovations	
	Amatola Industries CC	
	Amatola Industries CC	
	Private	
	Leads 2 Business	
	Scherman Colloty & Associates	
[redacted]	Strutfast	[redacted]
	Integrated Wind Power (Pty) Ltd.	
	MEH Sulter & Son Inc.	
	G7 Renewable Energies (Pty) Ltd	
	G7 Renewable Energies (Pty) Ltd	
	Global Data	
	Glenmelville Safaris	
	Game 4 Africa	
	Lanka Safaris	
	Arcus Consulting	
	Rhodes Journalism Student	
	Private	
	Bucklands Private Game Reserve	
	Emerald Sky Safaris	
	Andre van der Spuy Environmental Consultants	
	Kwande Private Game Reserve	
	Kwande Private Game Reserve	
	Trumpeters Drift	
	Ecca Pass Safaris	
	Fort Governors Estate	

		No details supplied	
		Huntshoek	
		Elshaddai Game Lodge	
		Lysso Safaris	
		Majeje Safaris	
		Settlers Safaris	
		Lakeside	
		The Hills Game Estate	
		Makana Business Chamber	
		Infinite Plan 8	
		Guinea-Fowl B&B / Erma Court Self-Catering Apartment	
		Private	
		Pumba Private Game Reserve	
		Richard Summers Inc.	
		Buffalo Kloof Private Game Reserve	
		Coleridge Farm	
		Private	
		RINA Consulting - Renewable Energy	
		Rhodes Restoration Research Group	
		Private	

		Institute for Water Research	
		Amakhala Game Reserve	
		Pumba Private Game Reserve	
		WKN Windcurrent	
		ABO Wind	

5.2 ACTIVITY ON LAND OWNED BY A PERSON OTHER THAN THE APPLICANT

In accordance with Section 39 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), which states that *"If the proponent* [Applicant] *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."* EDF Renewables (Pty) Ltd, on behalf of their subsidiary Albany Wind Power (Pty) Ltd, has engaged with the landowners regarding the proposed activities on the proposed properties.

5.3 OBJECTIVES OF THE PPP

In accordance with Section 40 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), the purpose of public participation is to provide all potential or registered I&APs, including the Competent Authority, with the opportunity to access the relevant documents and information which could reasonably or potentially influence any decision with regards to the proposed Albany Connection and Associated Grid Infrastructure Application for EA. The process aims to –

- Disclose activities planned by the Applicant and steps in the BA Process by the environmental team;
- Identify concerns and grievances raised by the I&APs;
- Respond to all the I&APs grievances and enquiries;
- Identify local expertise, needs and knowledge from the I&APs;
- Identify additional or new stakeholders and people affected by, or interested in, the proposed project;
- Gather perceptions and comments on the specialist studies;
- Ensure that all issues raised by I&APs have been adequately addressed and/or assessed; and
- Share the findings of the BA Process, such as significant impacts, mitigation measures, management actions, and monitoring programmes.

The PPP must include consultation with the following key members –

- The Competent Authority: National DFFE;
- All state departments which have laws relating to the proposed activity or the proposed location of the activity;
- The affected landowners and surrounding landowners;
- All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity; and
- The registered and potential I&APs.

5.4 LEGISLATIVE REQUIREMENTS

In accordance with Section 41 (2) of Chapter 6, the person conducting the PPP must provide notice using the following methods –

a) Placing a notice board/(s) at a visible location, which is accessible to the public, on the boundary of the affected properties and within proximity to the affected properties [please see Section 5.6 for photographs and coordinates of the onsite signage]. The notice board/(s) must –

- Be at least 60 cm x 42 cm in size;
- Specify whether a Basic Assessment Process or Scoping and EIA Process is triggered by the proposed activity;
- Indicate the nature and location of the activity to which the application relates;
- Explain where further information can be obtained; and

- Stipulate the manner in which and the person to whom correspondence relating to the application or proposed application may be made.

b) Providing written notice to [please see proof included as Appendix F] –

- The owner and/or occupiers of the proposed site as well as the owner(s) and/or occupiers of the alternative sites;
- The owners and/or occupiers of the land adjacent to the site as well as the owners and/or occupiers of the land adjacent to the alternative sites;
- The municipal ward councillor of the affected property and the alternative sites (if different to the preferred alternative) as well as any organisation of ratepayers that represent the community in the affected area;
- The municipality which has jurisdiction in the area;
- All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity; and
- Any other parties as required by the Competent Authority.

c) Placing an advertisement in one (1) local newspaper and/or any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations [please see Section 5.6 for proof of advertisement];

d) ~~If necessary, placing an advertisement in one (1) provincial newspaper or national newspaper if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken~~; and

e) Using reasonable alternative methods, as agreed to by the Competent Authority, in those instances where a person is interested but not able to participate in the process due to illiteracy, disability or any other disadvantage.

5.5 INTERESTED AND/OR AFFECTED PARTIES (I&APS)

According to Sections 42 to 44 of Chapter 6, the Applicant (or the EAP on behalf of the Applicant) must ensure the opening and maintenance of a register of I&APs and submit such register to the Competent Authority, which register must contain the names, contact details and address of (1) all persons who have submitted comments during the PPP on the proposed Albany Connection and Associated Grid Infrastructure, (2) all individuals who have requested to register/registered on the project I&AP Database, and (3) all organs of state which have jurisdiction in respect of the activity to which the application relates. *** Please see Table 5.1 which includes all registered Stakeholders and I&APs which requested to be registered or were registered in accordance with the legislative requirements during the Albany WEF Scoping and EIA Process.** Therefore, please note that individuals who registered on the original Albany WEF I&AP Database were automatically registered on the proposed Albany Connection and Associated Grid Infrastructure Stakeholder and I&AP Database due to the proximity of the developments to each other and linkages between the developments.

The Draft BAR and associated reports will be made available for **Public Review** for a period of thirty (30) days. The Draft BAR and associated reports will be made available on the CES website at http://www.cesnet.co.za/public-documents and a hard copy will be made available at the Makhanda (Grahamstown) public library.

Please refer to **Section 5.6** on the following page, as well as **Appendix F** (Proof of PPP) and **Appendix G** (Comments and Response Report) for proof of PPP and copies of all comments received to date – as well as the responses to these comments.

5.6 PROOF OF PUBLIC PARTICIPATION

5.6.1 Proof of Site Notice Board Placement

Two (2) site notices were placed at visible locations along the Connection Corridor route, as indicated in Plate 5.1 below. These were placed at (a) 33° 16.653'S, 26° 38.510'E and (b) 33° 16.754'S, 26° 35.668'E [degrees and decimal minutes].

(a)

(b)

Plate 5.1: Proof of Site Notice Placement.

5.6.2 Proof of Advertisement

Please See the proof of Advert which was placed in the Herald on the 14th of October 2022.

LEGAL NOTICES LEGAL NOTICES LEGAL NOTICES

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

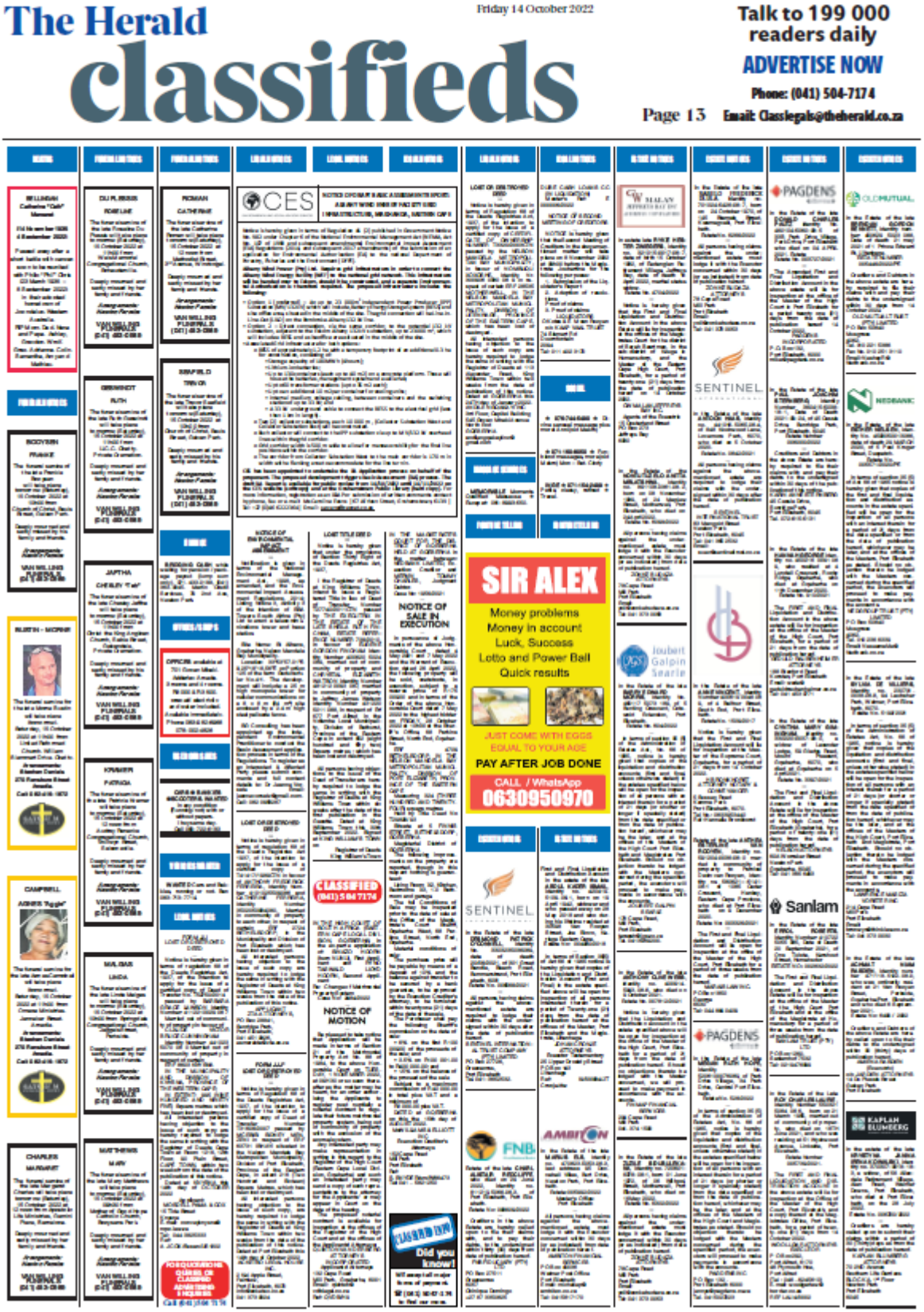
NOTICE OF DRAFT BASIC ASSESSMENT REPORT: ALBANY WIND ENERGY FACILITY GRID INFRASTRUCTURE, MAKHANDA, EASTERN CAPE

Notice is hereby given in terms of Regulation 41 (2) published in Government Notice No. 982 under Chapter 6 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014, and subsequent 2017 amendments) of the submission of an application for Environmental Authorisation (EA) to the national Department of Forestry, Fisheries and the Environment (DFFE).

Albany Wind Power (Pty) Ltd. Requires grid infrastructure in order to connect the Albany Wind Energy Facility (WEF) to the national grid network. This infrastructure will be handed over to Eskom, should it be constructed, and a separate Environmental Authorisation is therefore required. The proposed infrastructure includes the following:

- Option 1 (preferred) – An up to 23 000m² Independent Power Producer (IPP) Substation (MV/132 kV) which will include, Battery Energy Storage System (BESS) and site office area, situated in the middle of the site. The grid connection will be Line-In-Line-Out (LILO) on the Pembroke-Albany 132 kV line.
- Option 2 – Direct connection, via the same corridor, to the potential 132 kV substation, adjacent to the Eskom Albany 132 kV substation, up to 23 000 m², which will include a BESS and a site office area situated in the middle of the site.
- Associated Grid Infrastructure for both options:
  - o BESS of approximately 1.2 ha with a temporary footprint of an additional 0.3 ha for construction, consisting of:
    - Storage capacity of 180 MWh (4 hours);
    - Lithium-ion batteries;
    - Up to 130 containers (each up to 40 m2) on a concrete platform. These will house the batteries, management system and auxiliaries;
    - Up to 60 transformer stations (up to 35 m2 each);
    - Up to an additional 10 m2 per container for cooling units;
    - Internal medium voltage cabling, between containers and the switching station of up to 33 kV; and
    - A 33 kV underground cable to connect the BESS to the electrical grid (less than 1 km in length).
  - o Two (2) collector substations, each 10 000 m , (Collector Substation West and Collector Substation East) will be constructed.
  - o Each collector will connect to the IPP substation via up to MV/132 kV overhead lines within the grid corridor.
  - o Grid corridor width is 500 m wide to allow for manoeuvrability for the final line positions within the corridor.
  - o The corridor from Collector Substation West to the main corridor is 170 m in width with a flanking area to accommodate for the line turn in.

CES has been appointed to undertake the EA Application process on behalf of the proponent. The proposed development triggers Basic Assessment (BA) process. The draft BA Report is available for public review from 14/10/2022 until 14/11/2022 on the CES website (softcopy) and at the Grahamstown Public Library (hard copy). For more information, registration as an I&AP or submission of written comments contact by phone, fax or e-mail: Ms Caroline Evans | 67 African Street, Grahamstown, 6139 | Tel: +27 (0)46 622 2364| E-mail: c.evans@cesnet.co.za



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Page 13

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5.6.3 Proof of Stakeholder and I&AP Notifications

Please see Appendix F: Proof of PPP, which includes copies of the notifications which were sent to registered Stakeholders and I&APs.

5.6.4 Copies of Written Comments Received

Please see Appendix F: Proof of PPP, which includes copies of the written comments on the Albany Connection and Associated Grid Infrastructure Draft BAR which were received during the 30-day public review period.

5.6.5 Comments and Response Report

Please see Appendix G: Comments and Response Report which includes all the comments which were received during the 30-day public review period on the Albany Connection and Associated Grid Infrastructure Draft BAR as well as the EAP and/or Applicant responses to these comments.

6. ALTERNATIVES

6.1 REASONABLE AND FEASIBLE ALTERNATIVES

One (1) of the requirements of a BA Process is to investigate alternatives associated with a proposed project. Alternatives should include consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. In all cases, the no-go alternative must be included in the assessment process as the baseline against which the impacts of the other alternatives are assessed. The determination of whether the site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

"Alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- The property on which or location where it is proposed to undertake the activity;
- The type of activity to be undertaken;
- The design or layout of the activity;
- The technology to be used in the activity;
- The operational aspects of the activity; and/or
- The option of not implementing the activity (no-go alternative).

6.2 FUNDAMENTAL, INCREMENTAL AND NO-GO ALTERNATIVES

6.2.1 Fundamental Alternatives

Fundamental alternatives are developments which are completely different to the proposed project description and usually include the following:

- Alternative property or location where it is proposed to undertake the activity;
- Alternative type of activity to be undertaken; and
- Alternative technology to be used in the activity.

6.2.2 Incremental Alternatives

Incremental alternatives relate to modifications or variations to the design of a project that provide different options to reduce or minimise environmental impacts. Incremental alternatives which can be considered, include:

- Alternative design or layout of the activity; and
- Alternative operational aspects of the activity.

6.2.3 No-Go Alternative

It is mandatory to consider the "no-go" option during the BA Process. The "no-go" alternative refers to the current status quo and the risks and impacts associated with it. Some existing activities may carry risks and may be undesirable (e.g. an existing contaminated site earmarked for a development). The no-go is the continuation of the existing land use, i.e. to maintain the status quo. The no-go alternative has been assessed as part of the Albany Connection and Associated Grid Infrastructure BA Process.

6.3 ANALYSIS OF ALTERNATIVES

Table 6.1 includes the assessment of the alternatives which have been considered, including the advantages and disadvantages and provides further comments on the selected alternatives.

Table 6.1. Alternatives which were Considered during the Albany Connection and Associated Grid Infrastructure Planning Stages.

Alternative Level	Alternatives	Advantages	Disadvantages	Further Consideration/ Assessment?	Comment
PROPERTY OR LOCATION This refers to the fundamental location options, and the environmental risks and impacts associated with such options.	**Alternative location 1:** Alternative 1 (Preferred alternative). An up to 23 000 m^2 IPP Substation (MV/132 kV) which will include, BESS and site office area, situated in the middle of the site. The grid connections will be a LILO on the Pembroke-Albany 132 kV line.	→ Alternative 1 is suitably located to supplement the development of the Albany WEF and associated infrastructure. → The existing Albany/Pembroke 132 kV line passes through the site allowing for a LILO connection onsite. → The National Screening Tool Report (August 2021) identified a number of very high and high sensitivities within the location of Alternative 1, however the large area covered by the OHL/underground corridor has been assessed (by the EAP and required specialists) to determine the most suitable route for the OHL/underground (linear development) which will only require vegetation clearance for the placement of pylons and vegetation "trimming" for the maintenance tracks along the linear routing.	→ The National Screening Tool Report (August 2021) identifies the following environmental sensitivities within Location Alternative 1: • Very High Sensitivity – Aquatic Biodiversity Theme, Archaeological and Cultural Heritage Theme, Palaeontology Theme, and Terrestrial Biodiversity Theme. • High Sensitivity – Agriculture Theme, Animal Species Theme, and Civil Aviation Theme. • Medium Sensitivity – Plant Species Theme.	**YES**	The LILO Connection (Alternative 1) is currently the preferred connection alternative. However, both alternatives are routed along the same corridor which has been assessed in this BAR and by the specialists.
	Alternative location 2: Alternative 2 Direct connection, via	→ Alternative 2 is suitably located to supplement the development of the Albany WEF and associated	→ The National Screening Tool Report (August 2021) identifies the following environmental sensitivities within Location	**YES**	

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
	the same corridor (as Alternative 1), to the potential 132 kV substation, adjacent to the Eskom Albany 132 kV substation, up to 23 000 m^2, which will include a BESS and a site office area situated in the middle of the site.	infrastructure. → The existing Eskom Albany substation is located on the project site therefore allowing for a direct connection to the substation. → The National Screening Tool Report (August 2021) identified a number of very high and high sensitivities within the location of Alternative 2, however the large area covered by the OHL/underground corridor has been assessed (by the EAP and required specialists) to determine the most suitable route for the OHL/underground (linear development) which will only require vegetation clearance for the placement of pylons and vegetation "trimming" for the maintenance tracks along the linear routing.	Alternative 2: • Very High Sensitivity – Aquatic Biodiversity Theme, Archaeological and Cultural Heritage Theme, Palaeontology Theme, and Terrestrial Biodiversity Theme. • High Sensitivity – Agriculture Theme, Animal Species Theme, and Civil Aviation Theme. • Medium Sensitivity – Plant Species Theme.		
TYPE OF TECHNOLOGY This refers to the fundamental technology options and the environmental risks and impacts	**Alternative OHL technology 1:** Alternative 1 Construction of up to 132 kV OHLs.	→ The construction of up to 132 kV capacity OHLs is sufficient to evacuate the planned energy output of the site.	*See disadvantages in terms of the environmental and social setting in the alternative location section.*	**YES**	A single 132 kV line as well as two 33 kV lines are both suitable alternatives to evacuate the planned energy output of the Albany WEF. There is currently no preferred alternative.
	Alternative OHL technology 2:	→ The construction of 33 kV capacity OHLs is sufficient	*See disadvantages in terms of the environmental and social setting in the*	**YES**	

Alternative Level	Alternatives	Advantages	Disadvantages	Further Consideration/ Assessment?	Comment
associated with such options.	Alternative 2 Construction of 33 kV OHLs.	to evacuate the planned energy output of the site.	*alternative location section.*		
TYPE OF TECHNOLOGY This refers to the fundamental technology options and the environmental risks and impacts associated with such options.	**Alternative Connection technology 1:** Alternative 1 Construction of OHLs.	→ Suitable connection alternative for the Albany WEF. → Reduced terrestrial biodiversity impact. → Potentially lower aquatic biodiversity impact. → Reduced potential impact on archaeological and palaeontological resources.	→ Potential increase in avifaunal impact and/or risk. → Potential increase in visual impact.	**YES**	Both overhead and underground connections have been considered. There is currently no preferred alternative.
	Alternative Connection technology 2: Alternative 2 Construction of underground lines.	→ Suitable connection alternative for the Albany WEF. → Lower risk to avifaunal species. → Reduced impact on the visual and landscape characteristics.	→ Potential increase in terrestrial biodiversity impact. → Potential increase in aquatic biodiversity impact. → Potential increase in archaeological and palaeontological impacts.	**YES**	
TYPE OF TECHNOLOGY This refers to the fundamental technology options and the environmental risks and impacts associated with such options.	**Alternative BESS technology 1:** Alternative 1 (Preferred alternative) Li-ion (lithium ion) Battery Technology.	→ High level of energy efficiency. → Relatively high energy density. → Fast response to unpredictable variations in demand and generation. → Low maintenance. → Relatively long lifecycle (approximately 10 to 15 years' service life). → Ability to offset grid	→ Fire risk due to thermal runaway. → High cost due to limited abundance in lithium. → Risk of annual degradation. → Battery protection is required. → Power and energy capacity directly coupled (expensive to scale).	**YES**	The BESS technology alternatives which have been considered include Li-ion, Vanadium Redox Flow and Zinc-Hybrid battery technologies. Li-ion technology is the preferred alternative and the only technology which has been assessed further in this BA Process. The Li-ion technology is currently the most widely used and assessed

Alternative Level	Alternatives	Advantages	Disadvantages	Further Consideration/ Assessment?	Comment
		fluctuations. → Currently the most widely used BESS technology.			battery storage technology available.
	Alternative BESS technology 2: Alternative 2 Vanadium Redox Flow Battery Technology.	→ Fast response to unpredictable variations in demand and generation. → Long life cycle (approximately 20 years' service life). → Almost unlimited energy capacity. → No capacity degradation over time. → Electrolyte is inherently safe and non-flammable. → Independently tuneable power rating and energy capacity.	→ Scarce and expensive components (vanadium pentoxide). → Lower level of energy efficiency. → Lower energy density than solid state batteries (such as li-ion). → Require the storage of electrolyte chemicals in tanks for which a Major Hazards Risk Assessment may be required due to storage of hazardous goods. → Requires a larger development footprint (unless the containers are stacked). → Currently not market competitive.	**NO**	
	Alternative BESS technology 3: Alternative 3 Zinc-hybrid Ion Battery Technology.	→ Relatively low cost. → mong the latest advanced chemistries.	→ Currently an emerging technology with limited deployment and a lack of available technical information. → Currently not market competitive.	**NO**	
OPERATIONAL ASPECTS This relates mostly to alternative ways in which the development or activity can operate in order to reduce environmental	**Alternative operational activities:** Careful implementation of the EMPr (with updates to the working document) to inform the operational aspects of the Albany Connection and Grid Infrastructure.	→ The operational aspects of the Albany Connection and Associated Grid Infrastructure will be informed by the EMPr, which will be updated to include the recommendations, mitigation measures and conditions of the BA Process (including	→ Unanticipated environmental and/or social impacts could still occur during the operation of the Albany Connection and Associated Grid Infrastructure which will require the EMPr to be updated with additional recommendations and mitigation measures, as frequently as required, during both the construction and the operation of the Albany Connection and	**YES**	The EMPr will inform the operational activities of the Albany Connection and Associated Grid Infrastructure and should be updated with additional recommendations and/or mitigation measures when required. The implementation of the recommendations and mitigation measures in the

Alternative Level	Alternatives	Advantages	Disadvantages	Further Consideration/ Assessment?	Comment
risks or impacts		Stakeholder and I&AP input), the specialists' impact assessments, the Environmental Authorisation, and any micro-siting recommendations. → The implementation of- and the success of the implementation of these measures should be monitored by the appointed Environmental Control Officer (ECO).	Associated Grid Infrastructure.		EMPr will significantly reduce the environmental and social risks associated with the Albany Connection and Associated Grid Infrastructure. The appointed ECO should monitor the Contractor's compliance with the recommendations as set out in the EMPr.
<u>TYPE OF ACTIVITY</u> This refers to the fundamental activity options within the proposed location.	**Alternative activity 1:** Alternative 1 (Preferred alternative) The development of the proposed Albany Connection and Associated Grid Infrastructure, including OHL Alternative 1, within the proposed location.	→ The preferred activity alternative, within the preferred location alternative, is suitably located to supplement the development of the Albany WEF. → The construction and operation of the Albany Connection and Associated Grid Infrastructure will create employment opportunities.	→ Potential environmental and social impacts due to the construction and operation of the Albany Connection and Associated Grid Infrastructure.	**YES**	Both the preferred activity, the construction of the Albany Connection and Associated Grid Infrastructure (Alternative 1), and the No-Go Option (Alternative 2) have been assessed during this BA Process.
	Alternative activity 2: Alternative 2 The "no-go" option, which entails no development within the proposed location.	→ The site will remain largely undeveloped/in a natural state. → Most of the potential adverse environmental and social impacts associated with the proposed Albany Connection and Associated	→ The benefits associated with the proposed Albany Connection and Associated Grid Infrastructure, such as connecting the Albany WEF to the national grid, will be lost. → The benefits associated with the proposed Albany Connection and	**YES**	

Alternative Level	Alternatives	Advantages	Disadvantages	Further Consideration/ Assessment?	Comment
		Grid Infrastructure are unlikely to occur in the absence of the development.	Associated Grid Infrastructure, such as the creation of employment opportunities during the construction and operational phases, will be lost.		

6.4 RISKS MATRIX ASSOCIATED WITH THE BESS

The preferred, and only assessed, alternative battery technology for the proposed Albany Connection and Associated Grid Infrastructure is Li-ion (lithium ion) Battery Technology. This type of battery technology has been selected as the only option due to its high level of energy efficiency, relatively high energy density, fast response to unpredictable variations in demand and generation, low maintenance, relatively long lifecycle (approximately 10 to 15 years' service life), ability to offset grid fluctuations.

There are several risks associated with the Li-ion battery technology, however the following table outlines the "mitigatability" of each risk, based on practical and applicable technology solutions.

Table 6.2. Risks and Design Mitigation Measures associated with the BESS.

	RISK & DESCRIPTION	DESIGN MITIGATION
1.	**Temperature Fluctuations**: Temperature fluctuations in the Albany OHL and Associated Grid Infrastructure area (minimum temperatures of under 6˚C and maximum temperatures of over 30˚C) mean that the batteries may be at risk of being damaged due to instability of temperatures. Resultant impacts could include fire, or permanent structural damage to the batteries.	The design of the Li-ion system includes: • Insulated containers; • High powered HVAC (Heating, Ventilation and Air-Conditioning) System, monitored centrally; • Multiple temperature sensors for both the cells and air temperature; • Automated shut down mechanism if temperatures get too high; • Containers sealed and douse in case of fire to prevent the spread; and • Battery management system to prevent overuse and maintain good battery condition.
2.	**Fire and Dangerous Chemicals:** The volatility of the battery system, prior to any mitigation, could result in significant fire danger. In addition to this, there is a risk associated with the chemicals contained within the actual battery storage system itself.	The design of the Li-ion system includes: • Fire detection and suppressant systems; • Gas level monitoring for several different gases (related to degradation of the batteries that increases risk of fire); • Heat sensors; • Battery condition monitoring; • Dousing mechanism for emergency cooling and fire suppression; • Density limits in the containers; and • Spacing limits between containers.

The Li-ion battery technology is currently the most widely used and assessed battery storage technology available, the battery systems will arrive onsite fully encased (rather than installed on site), and the appropriate design mitigation measures, as outlined above, the risks associated with the Li-ion technology can be adequately mitigated to reduce the risks associated with this BESS technology alternative, as the preferred Albany Connection and Associated Grid Infrastructure BESS alternative.

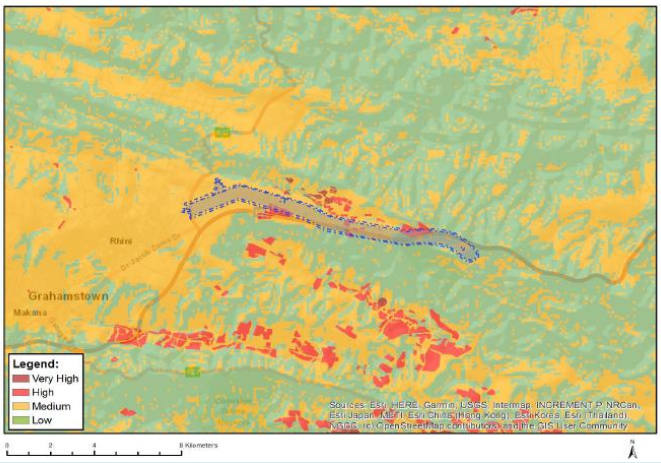
7. DESCRIPTION OF THE ENVIRONMENT

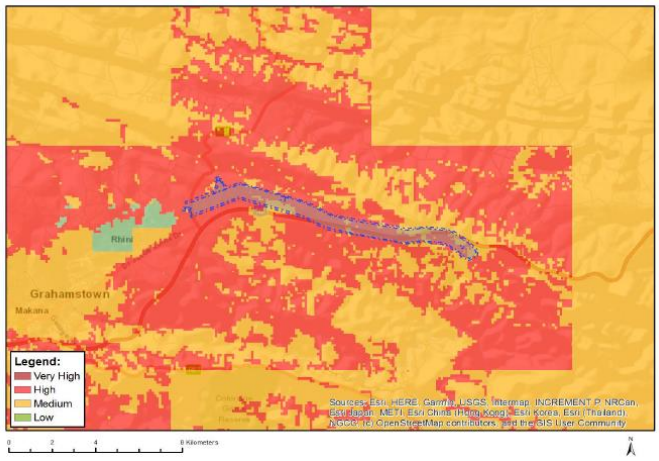
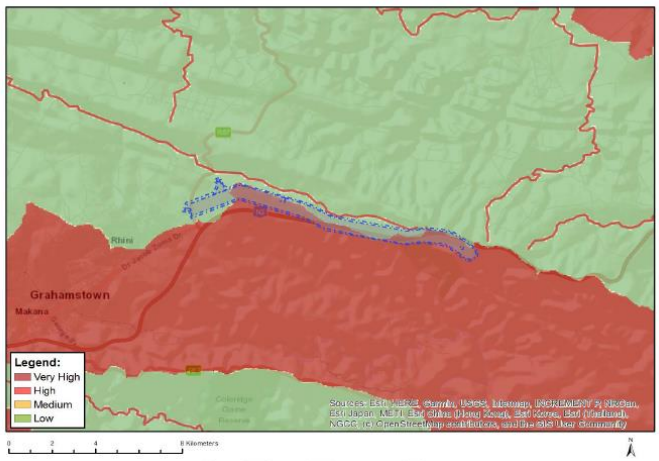
The criteria used to assess the sensitivity of the proposed Albany Connection and Associated Grid Infrastructure site included climate, topography, geology and soils, surface water, fauna, vegetation, land-cover, the Eastern Cape Biodiversity Conservation Plan (ECBCP, 2019) terrestrial and aquatic Critical Biodiversity Areas (CBAs), threatened ecosystems and protected areas.

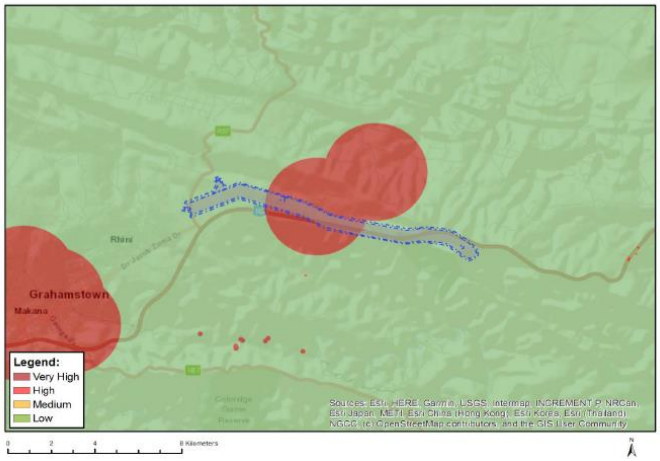
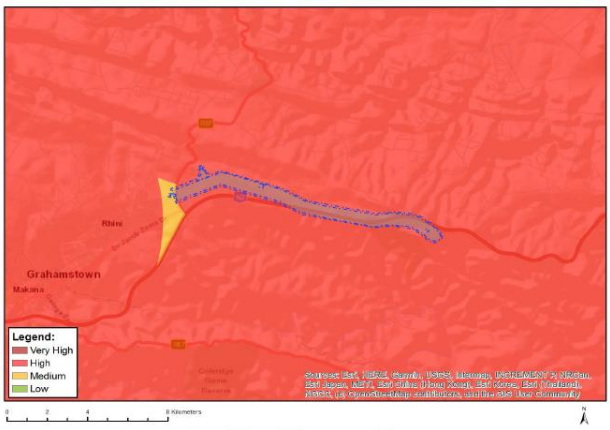
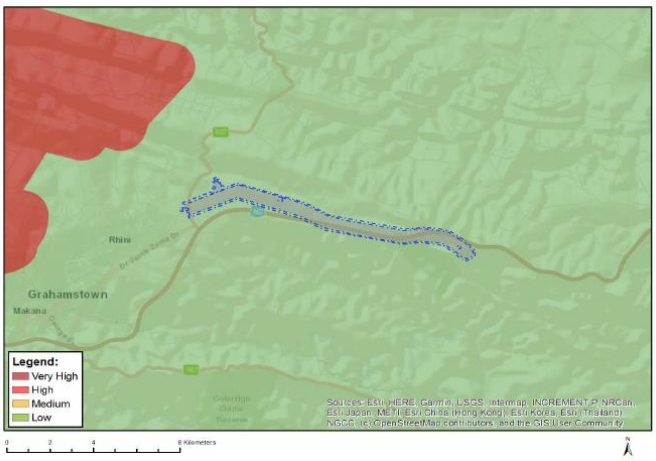
7.1 NATIONAL SCREENING TOOL AND ASSOCIATED SPECIALIST STUDIES

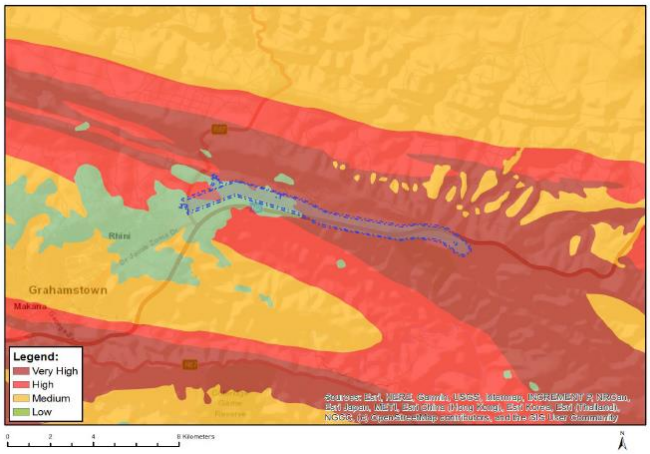
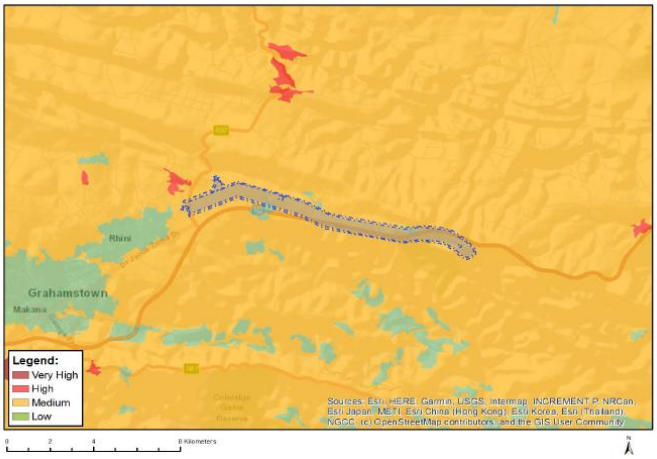
Please see the National Screening Tool results below. The remainder of Chapter 7 outlines the site in terms of specialist findings, the screening tool report vs on the ground findings and the maps associated with various spatial data.

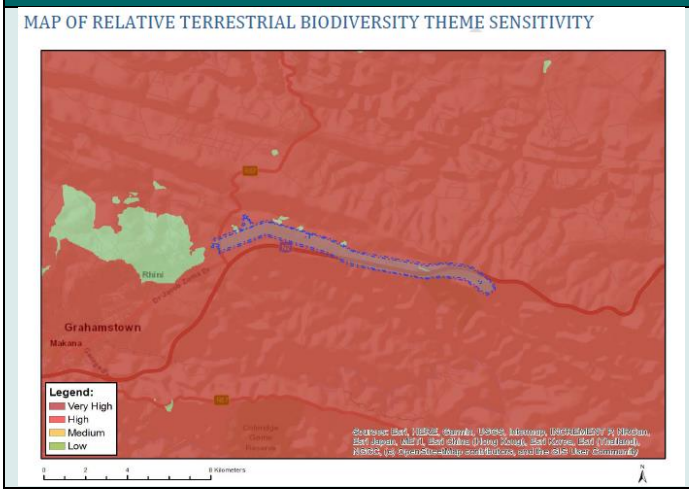
Table 7.1: Albany Associated Grid Infrastructure National Screening Tool

Specialist Field	Sensitivity Rating (with reasons)	Comment/Motivation
Agriculture Theme MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY  	**SENSITIVITY:** **HIGH** **REASONS:** **HIGH:** **Land capability**;09. Moderate-High/10. Moderate-High. **Annual Crop Cultivation / Planted Pastures Rotation;** Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate. **Annual Crop Cultivation / Planted Pastures Rotation;** Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low **MEDIUM:** **Land capability;** 06. Low-Moderate/07. Low-Moderate/08. Moderate **LOW:** **Land capability**; 01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low	An agricultural impact assessment was undertaken as part of this process. **REPORT: Specialist study undertaken.**
Animal Species Theme	**SENSITIVITY:** **HIGH** **REASONS:** **HIGH:** Aves-Circus maurus; Aves-Neotis denhami; Aves-Sarothrura affinis **MEDIUM:** Invertebrate-Forest invertebrate; Aves-Circus ranivorus;	An avifaunal impact assessment and monitoring was undertaken in accordance with the "Animal Species Theme" which is HIGH Aves-Circus maurus; Aves-Neotis

Specialist Field	Sensitivity Rating (with reasons)	Comment/Motivation
MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY 	Aves-Neotis denhami; Aves-Sarothrura affinis; Mammalia-Acinonyx jubatus; Mammalia-Dendrohyrax arboreus; Mammalia-Ourebia ourebi ourebi; Sensitive species 7	denhami; Aves-Sarothrura affinis **REPORT: Avifaunal Impact Assessment**
Aquatic Biodiversity Theme MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY 	**SENSITIVITY:** **VERY HIGH** **REASONS:** Rivers, Wetlands and Estuaries, Freshwater ecosystem priority area quinary catchments	The VERY HIGH sensitivity area identified is the P40A catchment. This area is considered no go and the OHL must be placed along the northern section of the OHL corridor. This is also consistent with the Ecological and Avifaunal Impact Assessments and Sensitivities. **REPORT: Aquatic Impact Assessment not undertaken as the recommendation is to avoid this sensitive catchment entirely. i.e. the line route will only be allowed in the low sensitive areas as per the national screening tool report.**
Archaeological and Cultural Heritage Theme	**SENSITIVITY:** **VERY HIGH**	A heritage impact assessment was

Specialist Field	Sensitivity Rating (with reasons)	Comment/Motivation
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY 	**REASONS:** **VERY HIGH:** Within 2km of a Grade II Heritage site **HIGH:** Within 50 m of a Grade IIIc Heritage site	undertaken as part of the process. Recommendations based on extensive field work are included in the Heritage Impact Assessment and associated BAR. **REPORT: Heritage Impact Assessment**
Civil Aviation Theme MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY 	**SENSITIVITY:** **HIGH** **REASONS:** **HIGH:** Within 8 km of other civil aviation aerodrome; Dangerous and restricted airspace as demarcated **MEDIUM:** Between 8 and 15 km of other civil aviation aerodome	The developer will be required to apply for CAA approval. Input into the EIA of the application process will be required. **REPORT: No specialist study recommended**
Relative Defence Theme MAP OF RELATIVE DEFENCE THEME SENSITIVITY 	**SENSITIVITY:** **LOW**	**REPORT: No specialist study recommended**
Palaeontology Theme	**SENSITIVITY:** **VERY HIGH** **REASONS:** **VERY HIGH:**	A palaeontological impact assessment was undertaken in accordance with the "Palaeontology

Specialist Field	Sensitivity Rating (with reasons)	Comment/Motivation
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY 	Features with a Very High paleontological sensitivity **HIGH:** Features with a High palaeontological sensitivity **LOW:** Features with a Low palaeontological sensitivity	Theme" which is VERY HIGH specifically due to the presence of features with a high palaeontology sensitivity. **REPORT: Palaeontological Impact Assessment**
Plant Species Theme MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY 	**SENSITIVITY:** **MEDIUM** **REASONS:** *Ocotea bullata;* Sensitive species 1252*; Faucaria tigrine; Aspalathus argyrophanes;* Sensitive species 969*;* Sensitive species 72*;* Sensitive species 377; Apodolirion macowanii; Isoetes wormaldii; Sensitive species 1162; Sensitive species 1247; Sensitive species 708 Sensitive species 488; Sensitive species 97; *Agathosma bicornuta;* Sensitive species 828; *Syringodea flanaganii;* Sensitive species 448; *Bobartia macrocarpa; Erica glumiflora;* Sensitive species 609; Sensitive species 579; *Asclepias compressidens;* Sensitive species 654; Sensitive species 1248; *Prunus africana*	An Ecological Impact Assessment will be undertaken to ensure that both the plant and terrestrial biodiversity theme are considered. While the "Plant Species Theme" is rated as MEDIUM. **REPORT: Ecological Impact Assessment**
Terrestrial Biodiversity Theme	**SENSITIVITY:** **VERY HIGH** **REASONS:** Critical biodiveristy area 1; Critical biodiveristy area 2; Ecological support area 1; Ecological support area 2; FEPA Subcatchments; National Forestry Inventory	An Ecological Impact Assessment was be undertaken to ensure that both the plant and terrestrial biodiversity theme are considered. The "Terrestrial

Specialist Field	Sensitivity Rating (with reasons)	Comment/Motivation
		Biodiversity Theme is rated as VERY HIGH due to the presence of CBA 1, CBA 2 and ESAs. This will be assessed as part of the Ecological Impact Assessment. **REPORT: Ecological Impact Assessment**

7.2 CLIMATE

Makhanda (Grahamstown) receives an average of approximately 680 mm of precipitation per annum, with the highest rainfall months of March (autumn) and October (spring). The average minimum temperature is 10.5°C, with the lowest minimum temperatures occurring during the month of July (winter). The average maximum temperature is 23.2°C, with the highest maximum temperatures occurring during the month of February (summer). Table 7.2 below indicates the average temperatures and rainfall data per month for Makhanda.

Table 7.2: Average Temperatures and Rainfall Data for Makhanda (Source: en.climate-data.org).

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Avg. Temp. (°C)	20.7	20.9	20	17.6	15.3	13	12.4	13.5	15.1	16.1	17.9	19.5
Min. Temp. (°C)	14.6	15.1	14.4	11.3	8.6	5.9	5.4	6.4	8.5	10	12.2	13.5
Max. Temp. (°C)	26.8	26.8	25.7	24	22	20.1	19.4	20.7	21.8	22.3	23.6	25.6
Rainfall (mm)	60	68	75	47	43	33	36	51	61	75	68	66

7.3 TOPOGRAPHY

The proposed Albany Connection and Associated Grid Infrastructure site is situated at an altitude of approximately 624 m to 828 m above sea level, with an average elevation of 718 m above sea level. The average slope of the site is 2.9% to -2.7%, as indicated in Figure 7.1.

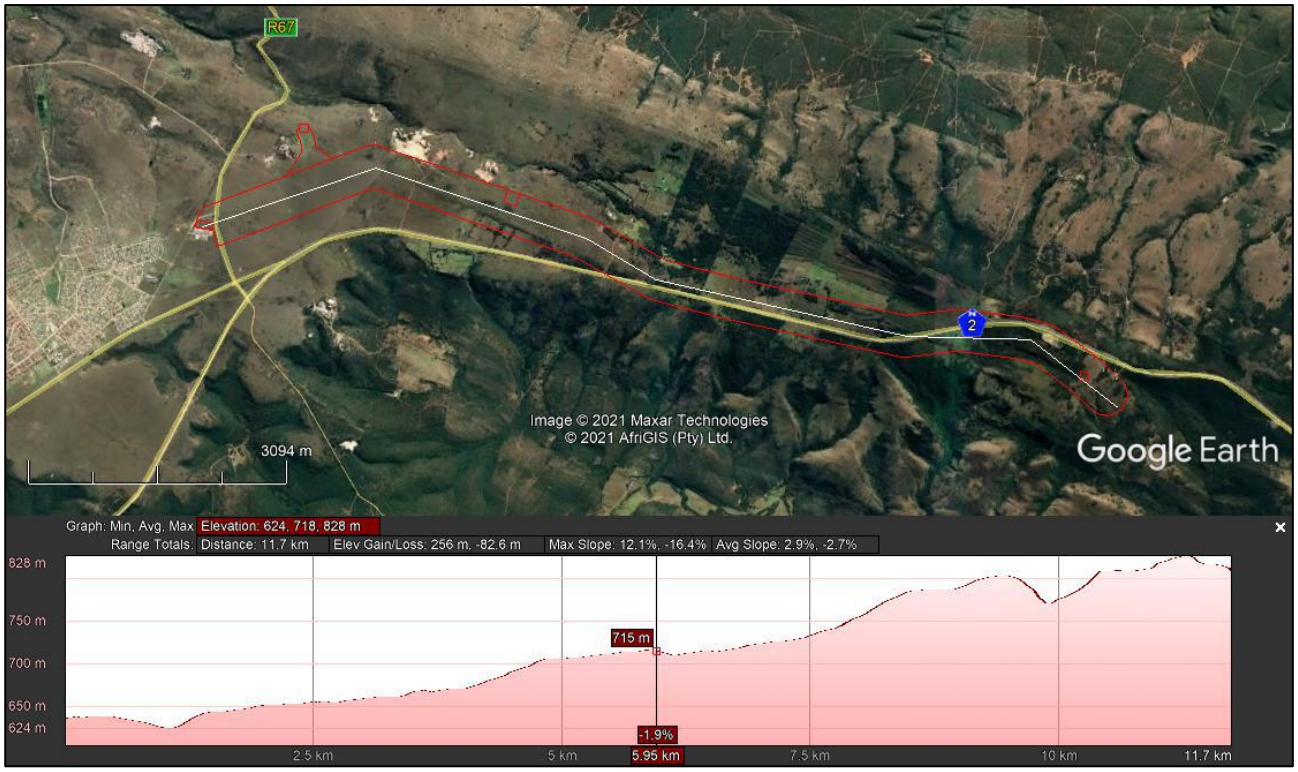


Figure 7.1: Google Earth Elevation Profile of the Albany Connection Corridor, from west to east.

7.4 GEOLOGY AND SOILS

The geology underlying the Albany Connection and Associated Grid Infrastructure site consists of the Weltevrede and Witpoort Formations (Witteberg Group) and the Grahamstown Formation, as indicated in Figure 7.2 below.

The Witteberg Group consists of the Weltevrede Subgroup, which becomes the Weltevrede Formation east of 21˚ E, the Witpoort Formation, the Lake Mentz Subgroup and the Kommadagga Subgroup (Johnson, *et. al.*, 2006). The lithology of the Weltevrede Formation consists of bioturbated shale and siltstone with thin interbedded quartzitic sandstones (Johnson, *et. al.*, 2006). The Weltevrede Subgroup/Formation grades upwards into the quartzitic sandstones and minor mudrocks of the Witpoort Formation (Johnson, *et. al.*, 2006).

The silcrete of the Eastern Cape is referred to as the Grahamstown Formation and it varies in composition from sand and pebbles cemented in a hard, secondary siliceous matrix to cemented scree deposits (Johnson, *et. al.*, 2006). Fossils are rarely present (Johnson, *et. al.*, 2006). Thicknesses vary from a few centimetres to two or more metres; in some cases, as at near Makhanda, multiple layered sequences, reflecting fluctuating soil moisture regimes, are present (Johnson, *et. al.*, 2006).

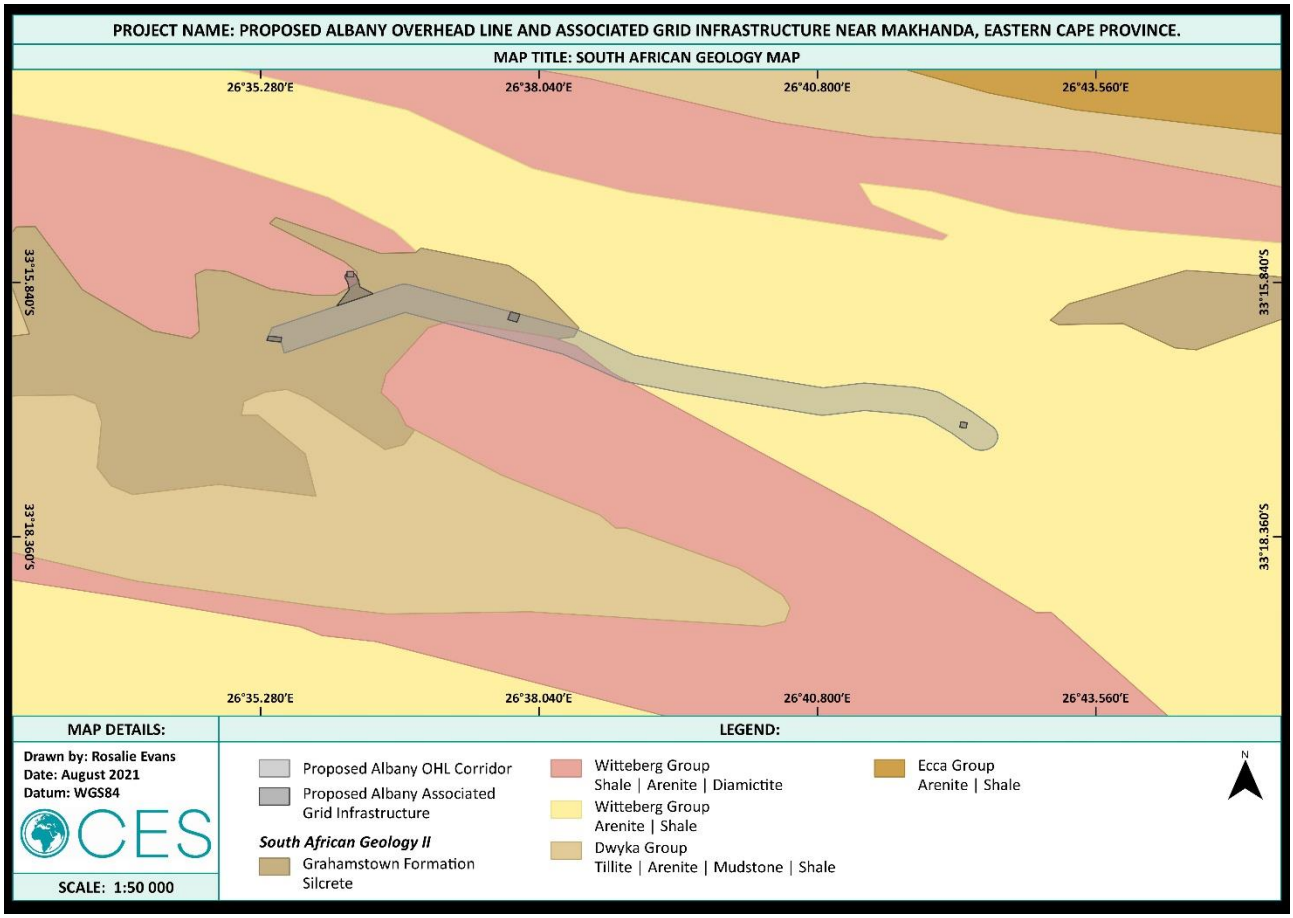


Figure 7.2: South African Geology Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having VERY HIGH Palaeontology Theme Sensitivity, as indicated in Figure 7.3. This consists of very high sensitivity from the middle of the site to the eastern boundary of the site, low sensitivity for the western section, and two areas with high sensitivity within the western low sensitivity section.

The sensitive features have been described as follows:

- Very High Sensitivity: Features with very high palaeontological sensitivity;
- High Sensitivity: Features with a high palaeontological sensitivity; and
- Low Sensitivity: Features with a low palaeontological sensitivity.

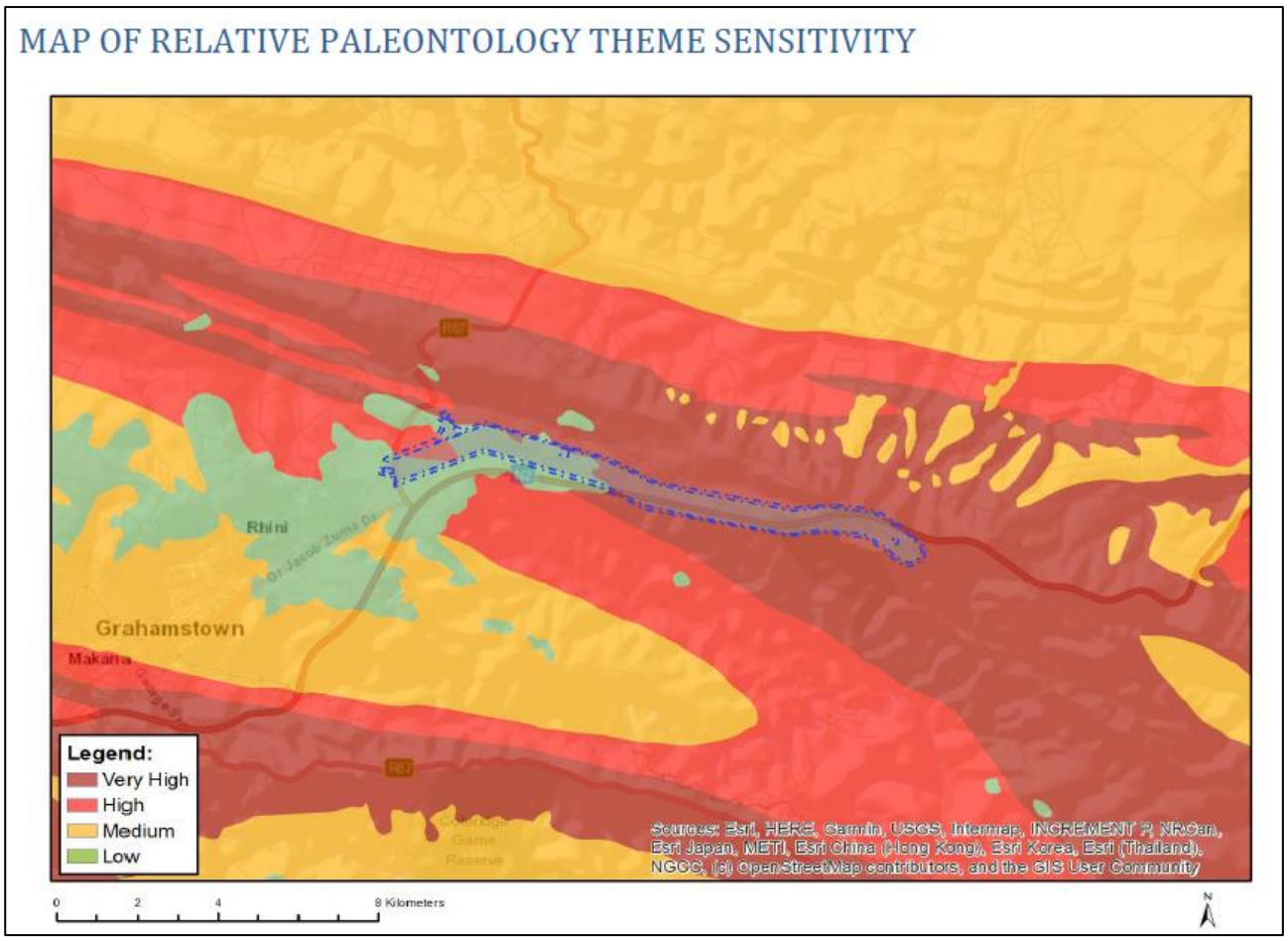


Figure 7.3: National Screening Tool Report Map of the Relative Palaeontology Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

It must be noted that the proposed Albany Connection and Associated Grid Infrastructure development does not require the disturbance of the soil-surface within the whole Connection Corridor as the primary activity requiring the disturbance of the soil surface will be for the placement of the pylons (OHL) or along a linear route (underground).

A Palaeontological Impact Assessment (Rob Gess Consulting, August 2020) has been undertaken by Dr Robert Gess and included in Appendix C of this report.

The soils within the Albany Connection and Associated Grid Infrastructure site and surrounds consist of Haplic Luvisols, Eutric Regosols, Lithic Leptosols and Eutric Leptosols, as indicated in Figure 7.4. The soil types which will be affected by the proposed Albany Connection and Associated Grid Infrastructure development, namely Haplic Luvisols (western section of the site), Eutric Regosols (central section of the site) and Lithic Leptosols (eastern section of the site), have been described in Table 7.3.

Table 7.3: SOTERSAF Main Characteristics of the Soil Types.

SOIL TYPES	MAIN CHARACTERISTICS OF THE SOIL TYPES	*EROSION STATUS* & COLOUR IN FIGURE 7.4
Eutric Regosols (RG-eu)	*Eutric* refers to a base that is saturated by 50% or more in the major part between 20 cm and 100 cm from the soil surface or between 20 cm and continuous rock, cemented or indurated layer. *Regosols* are weakly developed soils in unconsolidated material, finely grained material. They are particularly common in arid areas as well as in mountain regions. *Regosols* have no diagnostic horizons and profile development is minimal as a result of the young age and/or due to slow soil formation.	*Slight - Moderate*
Lithic Leptosols (LP-li)	*Lithic* refers to continuous rock starting with 10 cm of the soil surface. *Leptosols* are shallow soils that mostly occur on land at high to medium altitude with strongly dissected topography. The parent material is continuous rock or unconsolidated gravely/stony materials with less than 20% fine earth. *Leptosols* are found in all climatic zones, especially in strongly eroding areas.	*Slight - Moderate*
Haplic Luvisols (LV-ha)	*Haplic* refers to a typical expression of certain features. *Luvisols* are soils with a pedogenetic clay differentiation between a topsoil with a lower clay content and a subsoil with a higher clay content. These are high-activity clays with a high base saturation at some depth. The parent material is a variety of unconsolidated materials, including glacial till as well as aeolian, alluvial and colluvial deposits. *Luvisols* mostly occur in flat or gently sloping land in cool temperate regions and in warm regions with distinct wet and dry seasons.	*Moderate*

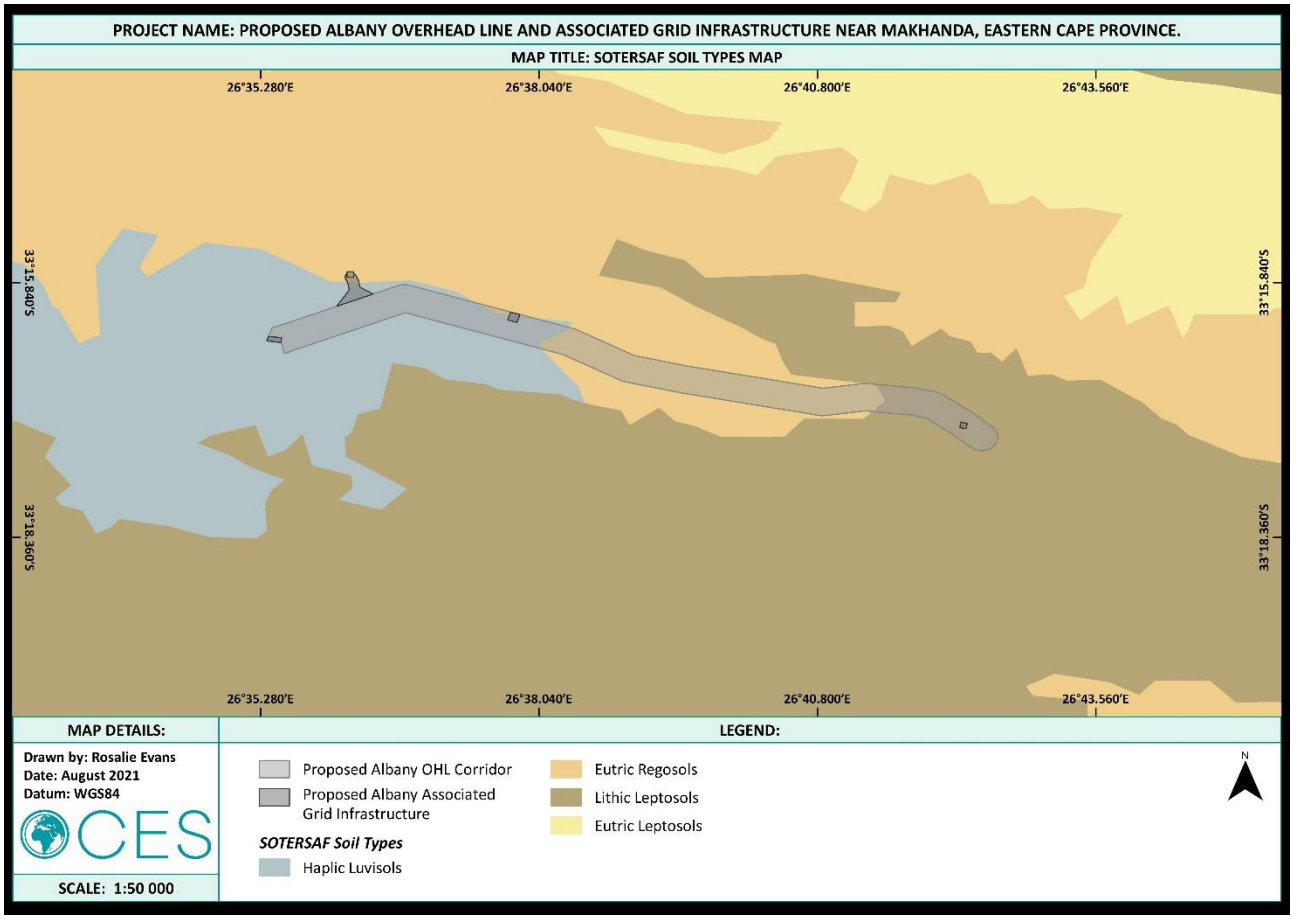


Figure 7.4: SOTERSAF Soil Types Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having HIGH Agriculture Theme Sensitivity, as indicated in Figure 7.5. This consists of areas of high sensitivity (small areas within the OHL Corridor), medium sensitivity (the western and middle sections of the site) and low sensitivity (sections within the eastern part of the site).

The sensitive features have been described as follows:

- High Sensitivity:
  - Due to land capability, which is classified as moderate to high, and
  - Due to annual crop cultivation/planted pastures rotation.
- Medium Sensitivity: due to land capability which is classified as low to moderate and moderate; and
- Low Sensitivity: due to land capability, which is classified as very low, very low to low, and low.

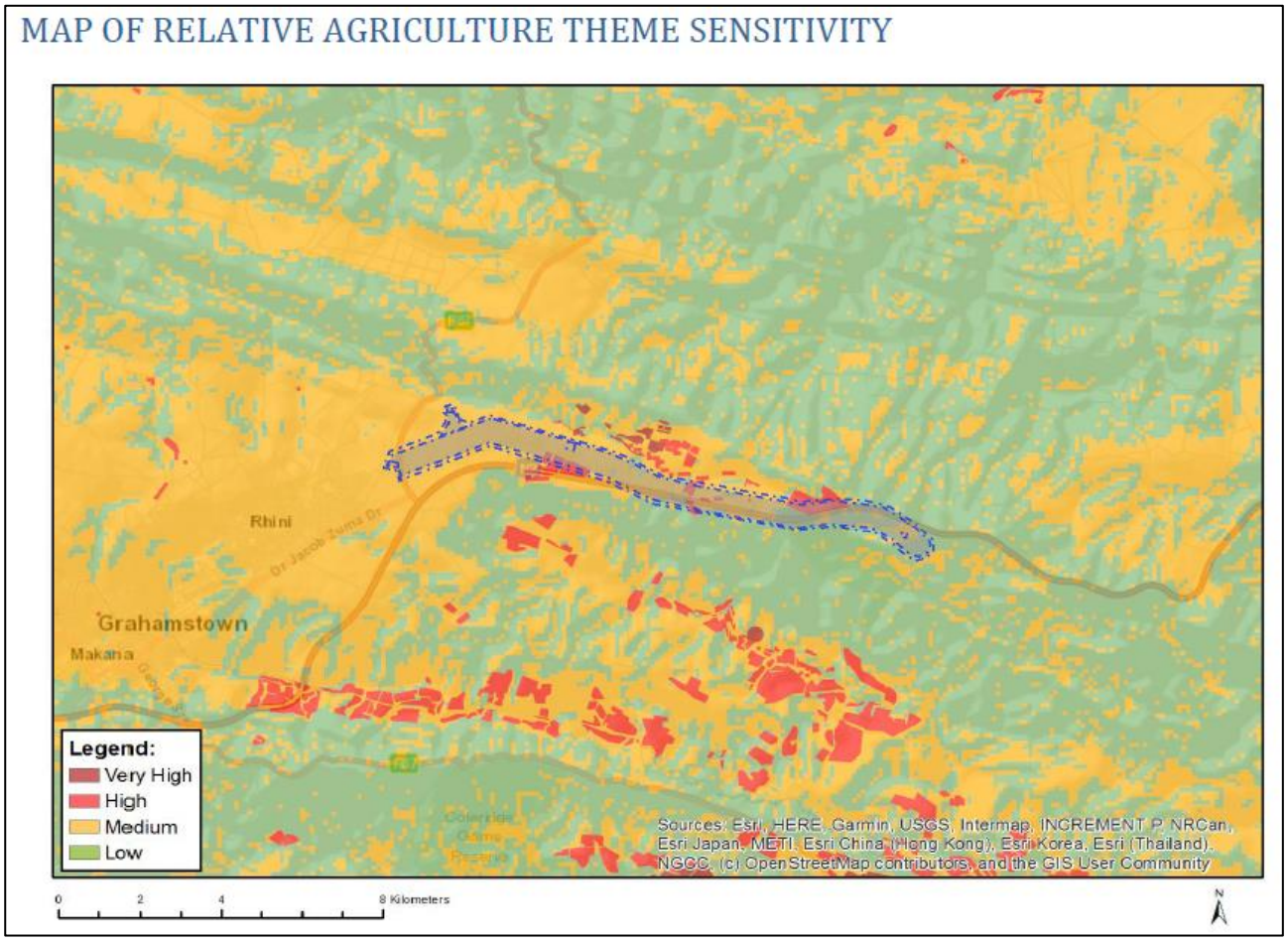


Figure 7.5: National Screening Tool Report Map of the Relative Agriculture Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

As mentioned, the proposed Albany Connection and Associated Grid Infrastructure development does not require the disturbance of the soil-surface within the whole Connection Corridor as the primary activity requiring the disturbance of the soil surface will be for the placement of the pylons (OHL) or along a linear route (underground).

An Agricultural Potential Assessment (Index, February 2020) has been undertaken by Dr Andries Gouws and included in Appendix C of this report.

7.5 SURFACE WATER

The proposed Albany Connection and Associated Grid Infrastructure is situated within the regulatory 500 m buffer of a few NFEPA (2011/14) and NBA (2018) wetlands as well as within the regulatory 100 m buffer of watercourses. Water Use Authorisation, from the Department of Water and Sanitation (DWS) in accordance with Section 21(i) and/or (c) of the National Water Act (NWA) (Act No. 36 of 1998, as amended) is required for development within these regulatory buffers (see Figure 7.6).

The proposed Albany Connection and Associated Grid Infrastructure site traverses four (4) Quaternary Catchments (DWS, 2011), namely Q91C, P40A, Q93B and Q93D.

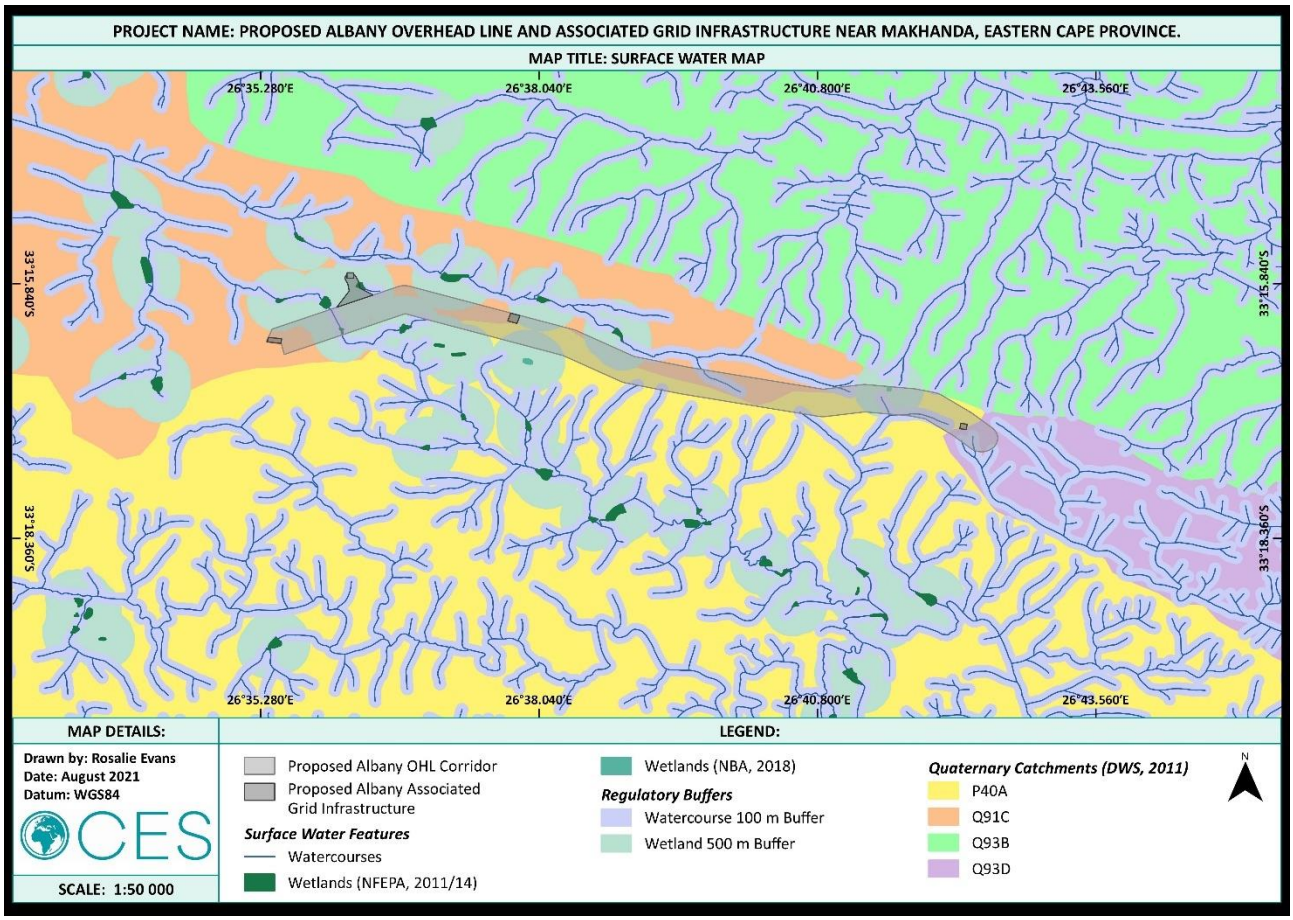


Figure 7.6: Surface Water Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having VERY HIGH Aquatic Biodiversity Theme Sensitivity, as indicated in Figure 7.7. This consists of sections of very high sensitivity as well as sections of low sensitivity.

The sensitive features have been described as follows:

- Very High Sensitivity:
  - Rivers,
  - Wetlands and estuaries, and
  - Freshwater ecosystem priority area quinary catchments (P40A).
- Low Sensitivity: low sensitivity.

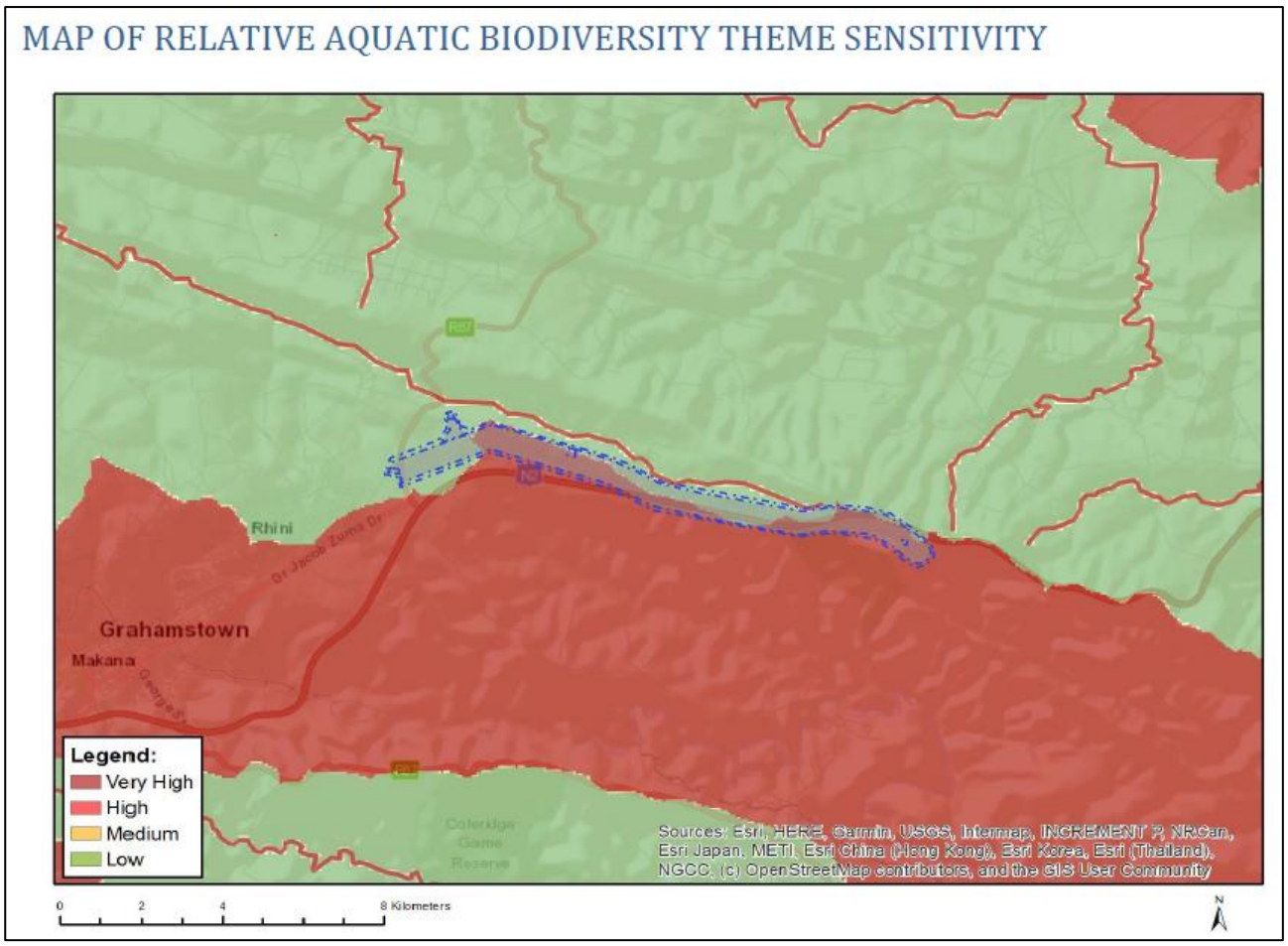


Figure 7.7: National Screening Tool Report Map of the Relative Aquatic Biodiversity Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

Where possible, the Albany Connection within the Connection Corridor, will avoid being placed within watercourses and wetlands. However, the connection will likely be situated within the 100 m (watercourse) and 500 m (wetlands) regulatory buffers and will require Water Use Authorisation from the DWS prior to the commencement of construction.

SRK Consulting undertook a Groundwater Investigation to determine the impact of the proposed larger WEF site development on the Kap River catchment system. Please see Appendix C of this report.

7.6 LAND-COVER

According to the South African National Land-Cover (DFFE, 2020) spatial dataset, the majority of the proposed site is situated within *natural grassland* with sections containing *open woodland*, *low shrubland*, *cultivated commercial annuals*, *roads and rail (major linear)*, *contiguous and dense planted forest*, *contiguous low forest and thicket*, and small sections containing *contiguous forest* and *industrial*. The Albany Connection, within the Connection Corridor (light grey area corridor in Figure 7.8), will avoid being placed within areas with sensitive land-cover, such as the *contiguous forest*.

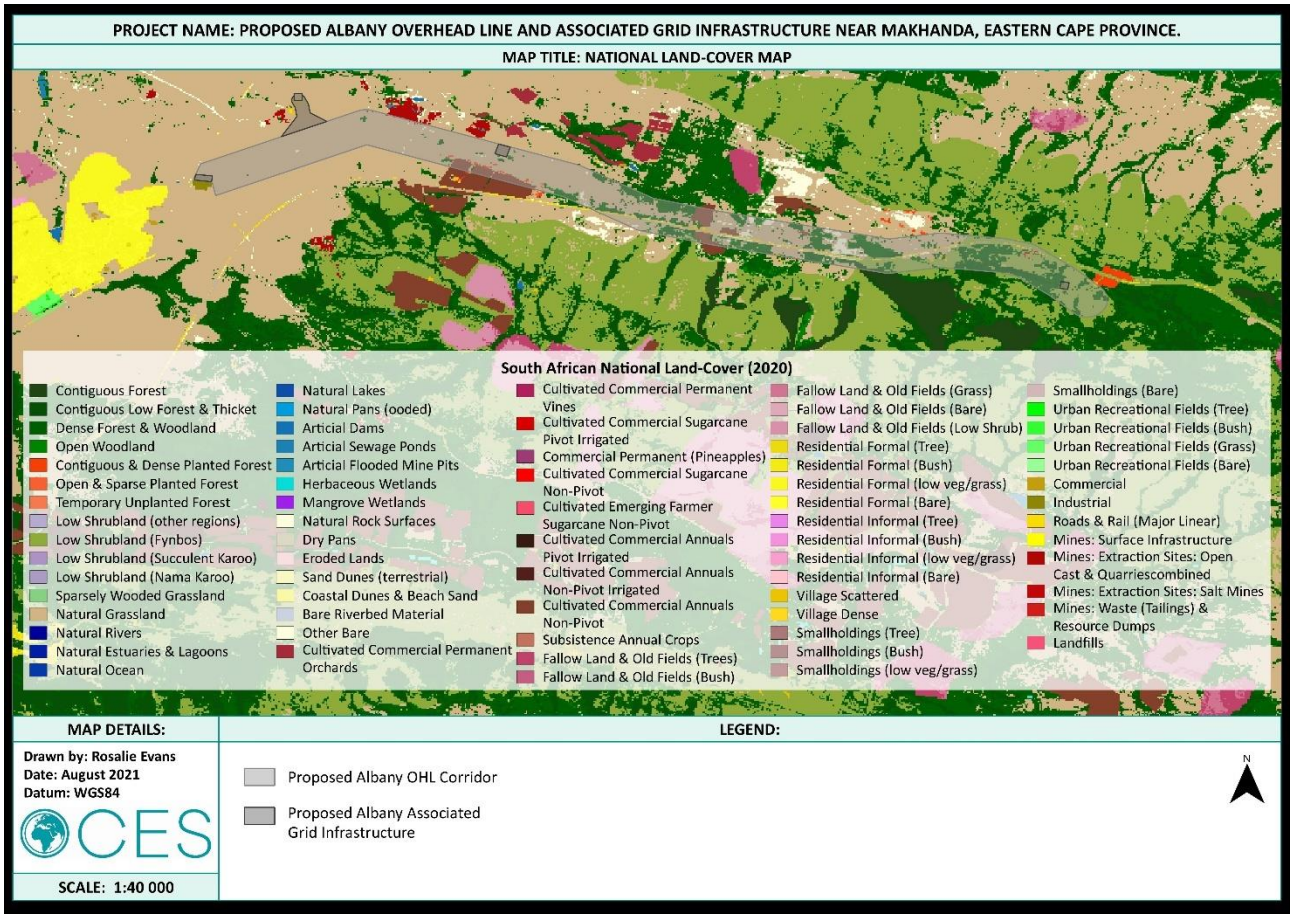


Figure 7.8: National Land-Cover Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

7.7 VEGETATION

The proposed Albany Connection and Associated Grid Infrastructure is situated within Bhisho Thornveld, Grahamstown Grassland Thicket, Suurberg Quartzite Fynbos and a small section of Southern Mistbelt Forest vegetation, as indicated in Figure 7.9. Table 7.3 below contains descriptions of the vegetation types which occur within the site.

Table 7.3: Vegetation Type Descriptions within the Proposed Site (Mucina and Rutherford, 2006 and 2018-19).

BIOME	VEGETATION TYPE	CONSERVATION STATUS & TARGET	PROTECTION STATUS & TOTAL	COLOUR IN FIGURE 7.9	PROPOSED INFRASTRUCTURE
Albany Thicket Biome	Grahamstown Grassland Thicket	Least threatened with a target of 19%	Poorly protected		±15% of the connection corridor, collector substation (west), ±5% of the IPP substation and the collector substation corridor.
Savanna Biome	Bhisho Thornveld	Least threatened with a target of 25%	Hardly protected with a total of 0.2% (+2%)		±95% of the IPP substation, potential 132 kV substation upgrade, and ±68% of the connection corridor.
Fynbos Biome	Suurberg Quartzite Fynbos	Least threatened with a target of 23%	Moderately protected with a total of 15% (+16%)		Collector substation (east) and ±15% of the connection corridor.

BIOME	VEGETATION TYPE	CONSERVATION STATUS & TARGET	PROTECTION STATUS & TOTAL	COLOUR IN FIGURE 7.9	PROPOSED INFRASTRUCTURE
Forests	Southern Mistbelt Forest	Least threatened with a target of 30%	Poorly protected with a total of 7.9% (+5%)		±2% of the connection corridor.

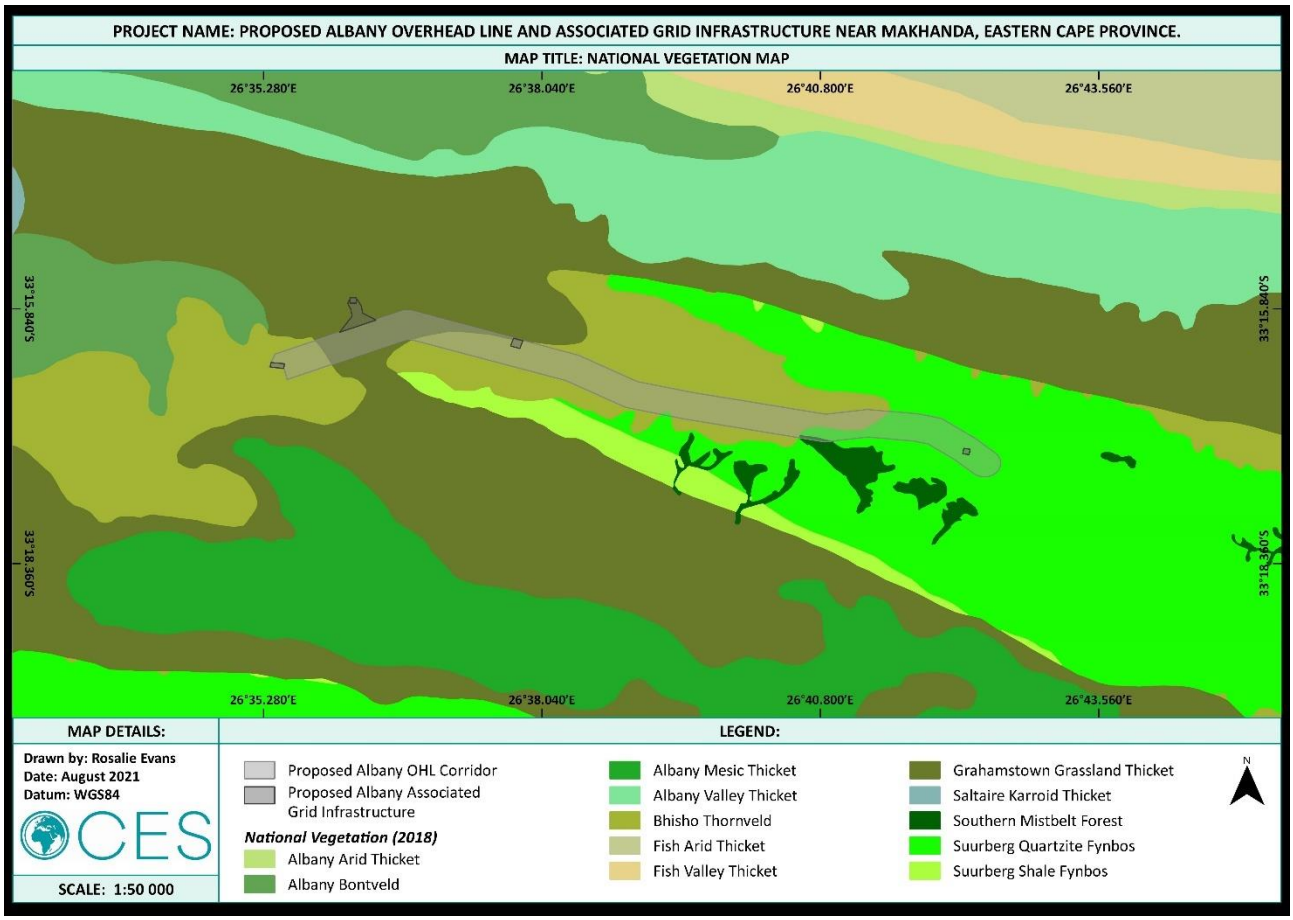


Figure 7.9: National Vegetation Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having MEDIUM Plant Species Theme Sensitivity, as indicated in Figure 7.10. This consists of sections of medium sensitivity as well as sections of low sensitivity. Please also see Section 7.8 for the Map of Relative Terrestrial Biodiversity Theme Sensitivity.

The sensitive features have been described as follows:

- Medium Sensitivity:
  - *Ocotea bullata*
  - Sensitive species 1252
  - *Faucaria tigrina*
  - *Aspalathus argyrophanes*
  - Sensitive species 969
  - Sensitive species 72
  - Sensitive species 377
  - *Apodolirion macowanii*

- *Isoetes wormaldii*
- Sensitive species 1162
- Sensitive species 1247
- Sensitive species 708
- Sensitive species 488
- Sensitive species 97
- *Agathosma bicornuta*
- Sensitive species 828
- *Syringodea flanaganii*
- Sensitive species 448
- *Bobartia macrocarpa*
- *Erica glumiflora*
- Sensitive species 609
- Sensitive species 579
- *Asclepias compressidens*
- Sensitive species 654
- Sensitive species 1248
- *Prunus africana*

- Low Sensitivity: low sensitivity.

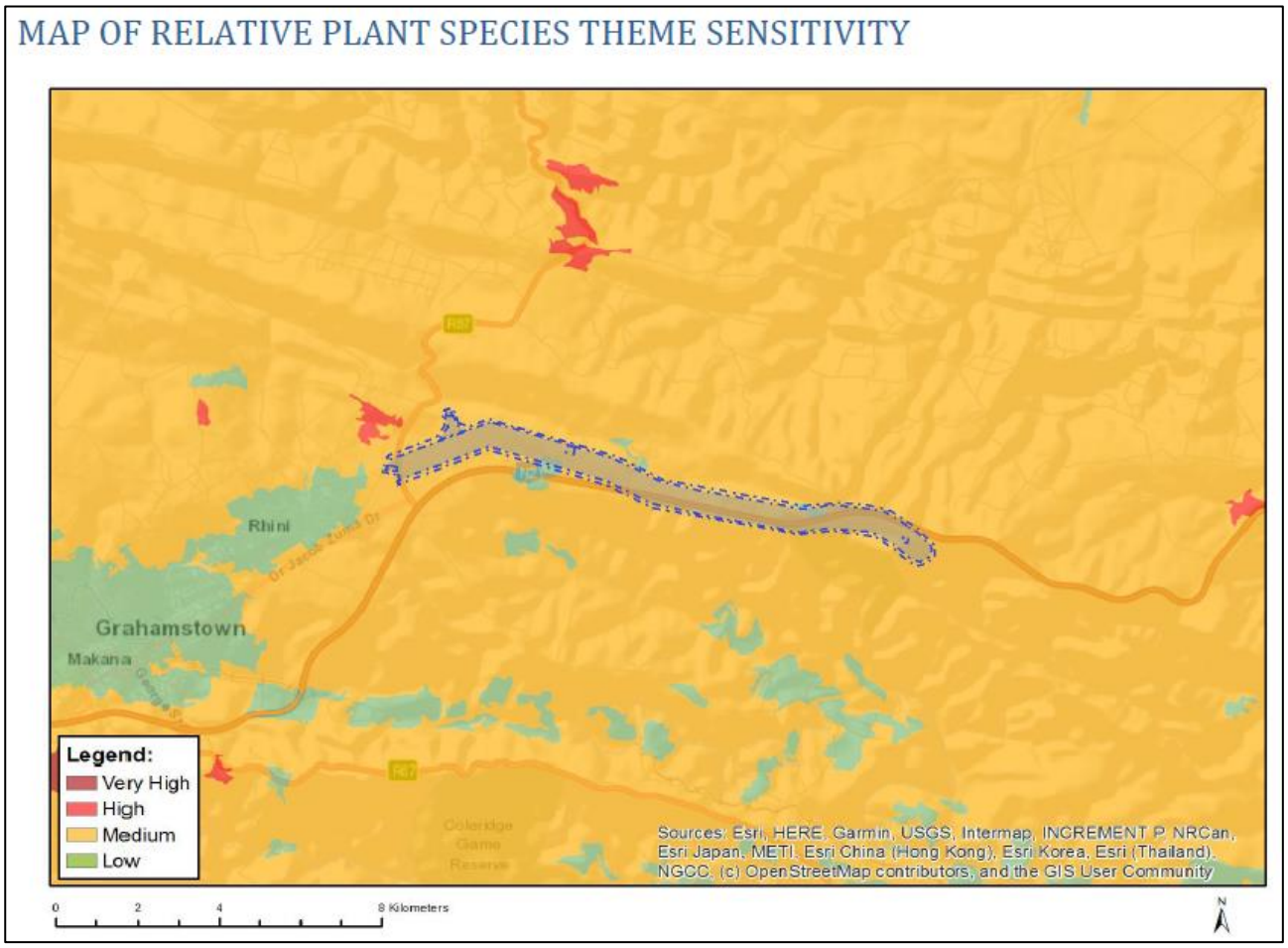


Figure 7.10: National Screening Tool Report Map of the Relative Plant Species Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

An Ecological Impact Assessment (CES, October 2020), which includes floral and faunal assessments, has been undertaken and included in Appendix C of this report.

7.8 FAUNA

7.7.1 Avifaunal

WildSkies Ecological Services were appointed as the avifaunal specialists to conduct four (4) seasons of pre-construction bird monitoring (between 2016 and 2017) and they were subsequently appointed to undertake an Avifaunal Impact Assessment. The Avifaunal Impact Assessment assessed the potential impacts of both the proposed Albany WEF and the proposed Albany Connection and Associated Grid Infrastructure.

The following information has been extracted from the Avifaunal Impact Assessment Report (WildSkies Ecological Services, January 2020):

- Two-hundred and eleven (211) species were recorded within the proposed sites with a peak in species diversity recorded during spring, one-hundred and fifty (150) species.
- Fifty-five (55) species of the list of two-hundred and ten (210) species identified by Retief et. al. (2011 and 2014) as high-risk species for wind farms were recorded within the Albany sites.
- Twenty-eight (28) of these species were identified as priority target bird species. Twelve (12) of these are Red Listed species, consisting of:
    - Four (4) endangered species,
    - Five (5) vulnerable species, and
    - Three (3) near-threatened species.
- Walked transects, undertaken by the Avifaunal Specialists, recorded sixty-two (62) small passerine species, with a peak of forty-three (43) species during summer. One (1) of these being a Red Listed species, the European Roller *Coracias garrulus* which is categorised as a near-threatened species.
- Drive transects, undertaken by the Avifaunal Specialists, recorded eight (8) species, none of which are Red Listed species.
- Nineteen (19) target avifaunal species were recorded flying within the sites, with 95% of flight activity contributing to raptors. This included seven (7) regionally Red Listed species, including the Martial Eagle *Polemaetus bellicosus*, Black Harrier *Circus maurus* and Yellow-billed Stork *Mycteria ibis* (Endangered); Denham's Bustard *Neotis denhami*, Lanner Falcon *Falco biarmicus* and Secretary bird *Sagittarius serpentarius* (Vulnerable); and Blue Crane *Anthropoides paradiseus* (Near-threatened).
- Based on the abundance and flight data collected by the Avifaunal Specialists, they concluded that six (6) of the twenty-eight (28) target species will be at medium- to high risk if the proposed Albany WEF (including the Albany OHL and Associated Grid Infrastructure) is constructed and operated. These include the (1) Martial Eagle, (2) Jackal Buzzard, (3) Rock Kestrel, (4) Secretary bird, (5) Denham's Bustard and (6) the Blue Crane.
- The Avifaunal Specialists have identified areas within the proposed sites (Albany WEF and Albany Connection and Associated Grid Infrastructure) which should be avoided in order to mitigate these risks.

As mentioned above, an Avifaunal Impact Assessment (WildSkies Ecological Services, January 2020) has been undertaken and included in Appendix C of this report.

7.7.2 Amphibians

A relatively rich amphibian fauna occurs in the Eastern Cape Province, where a total of thirty-two (32) species and sub-species occur. This represents almost a third of the species known in South Africa. Knowledge of amphibian species diversity within the proposed Albany sites is limited. However, according to the Animal Demography Unit (ADU) Amphibian database, seventeen (17) species of frog have been documented in the Quarter Degree Squares (QDS), within which the Albany WEF and Albany Connection and Associated Grid Infrastructure are being proposed. Of these seventeen (17) species, none are listed as

Schedule 1 on the PNCO list. However, all frogs and toads are listed as Schedule II species on the PNCO list and will therefore require permits for their removal. None of these species are listed in the NEM:BA List of Threatened and Protected Species (TOPS), but the Giant Bull Frog (*Pyxicephalus adspersus*) is listed as Near Threatened on IUCN's Red Data List.

During the site investigation and during additional visits to the proposed site and surrounds, the specialists recorded eight (8) out of the seventeen (17) species which are likely to be found within the proposed sites.

An Ecological Impact Assessment (CES, October 2020), which includes floral and faunal assessments, has been undertaken and included in Appendix C of this report.

7.7.3 Reptiles

According to the Herpetological Specialist (input included in the Ecological Impact Assessment Report), the Eastern Cape Province is home to one-hundred and thirty-three (133) reptile species. These include twenty-one (21) snakes, twenty-seven (27) lizards and eight (8) chelonians (tortoises and turtles). Most of these species are found in Mesic Succulent Thicket vegetation and riverine habitats.

The ADU historical records indicate that sixty-two (62) reptile species are likely to occur within the proposed Albany WEF and Albany Connection and Associated Grid Infrastructure sites (QDS 3326 BA, 3326 BC, and 3326BD). None of these species are threatened in terms of the Red List of Reptiles of South Africa (2014) but the Southern African Python (*Python natalensis*) is listed under NEM:BA. However, all the lizards and tortoises, which are likely to occur within the proposed site, are listed as a Schedule II species on the PNCO list and will therefore, require permits for their removal. Twenty (20) of the sixty-two (62) species, which are likely to be found within the proposed sites and surrounds, have been recorded on site by the specialists.

An Ecological Impact Assessment (CES, October 2020), which includes floral and faunal assessments, has been undertaken and included in Appendix C of this report.

7.7.4 Mammals

According to the NEM:BA, four (4) protected terrestrial mammal species and two (2) vulnerable terrestrial species have distributions which coincide with the proposed Albany WEF and Albany Connection and Associated Grid Infrastructure sites. Four (4) species are listed as either endangered or vulnerable, and two (2) as near threatened in terms of the South African Red Data List, and three (3) species are listed as either endangered or vulnerable according to the IUCN Red Data List. Most terrestrial mammal species tend to avoid areas which are disturbed by anthropogenic activities. However, there is the possibility that smaller and less mobile mammal species, such as moles, will be encountered. The Giant Golden Mole (*Chrysospalax trevelyani*) is listed as an endangered species according to the IUCN Red Data List, vulnerable according to the SA Red Data List, and has a vulnerable status according to the NEM:BA.

An Ecological Impact Assessment (CES, October 2020), which includes floral and faunal assessments, has been undertaken and included in Appendix C of this report.

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having HIGH Animal Species Theme Sensitivity, as indicated in Figure 7.11. This consists of sections of high sensitivity as well as sections of medium sensitivity. Please also see Section 7.8 for the Map of Relative Terrestrial Biodiversity Theme Sensitivity.

The sensitive features have been described as follows:

- High Sensitivity:
  - *Aves-Circus maurus*

- *Aves-Neotis denhami*
- *Aves-Sarothrura affinis*

- Medium Sensitivity:
  - *Invertebrate-Forest invertebrate*
  - *Aves-Circus ranivorus*
  - *Aves-Neotis denhami*
  - *Aves-Sarothrura affinis*
  - *Mammalia-Acinonyx jubatus*
  - *Mammalia-Dendrohyrax arboreus*
  - *Mammalia-Ourebia ourebi ourebi*
  - Sensitive species 7

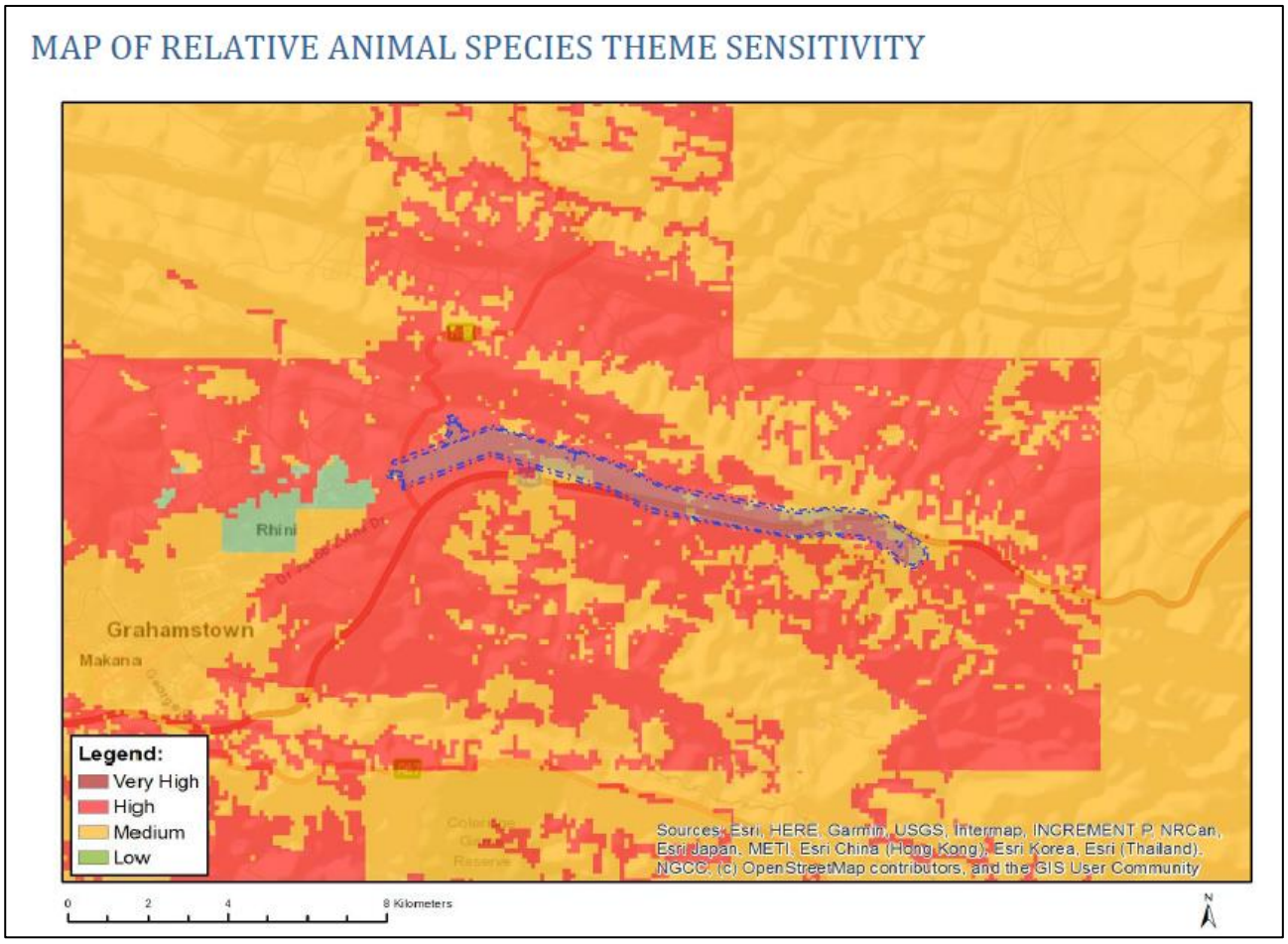


Figure 7.11: National Screening Tool Report Map of the Relative Animal Species Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

An Ecological Impact Assessment (CES, October 2020) and an Avifaunal Impact Assessment (WildSkies Ecological Services, January 2020) have been undertaken and included in Appendix C of this report.

7.9 BIODIVERSITY INDICATORS

The Eastern Cape Biodiversity Conservation Plan (ECBCP) of 2019 replaces the 2007 ECBCP in its entirety and provides a map of important biodiversity areas, outside of the Protected Areas network, which must be used to inform land use and resource-use planning and decision making. The objectives of the ECBCP (2019) are to:

- Identify the minimum spatial requirements needed to maintain a living landscape that continues to support all aspects of biodiversity and retain/maintain essential ecological infrastructure. This is achieved through the selection of areas, based on achieving targets, which represent important biodiversity pattern and ecological processes;
- Serve as the primary source of biodiversity information for land use planning and decision-making; and
- Inform conservation and restoration action in important biodiversity areas.

The aim of the ECBCP (2019) was to map biodiversity priority areas through a systematic conservation planning process. The main outputs of the ECBCP include Protected Areas (PA), Critical Biodiversity Areas (CBA), and Ecological Support Areas (ESA) for both terrestrial and aquatic ecosystems.

In terms of the ECBCP (2019) Terrestrial CBAs, the proposed Albany Connection and Associated Grid Infrastructure site contains areas which are classified as CBA 1, CBA 2, ESA 1, ESA 2 and two (2) sections of the Connection Corridor traverse areas which are classified as PAs (Figure 7.12).

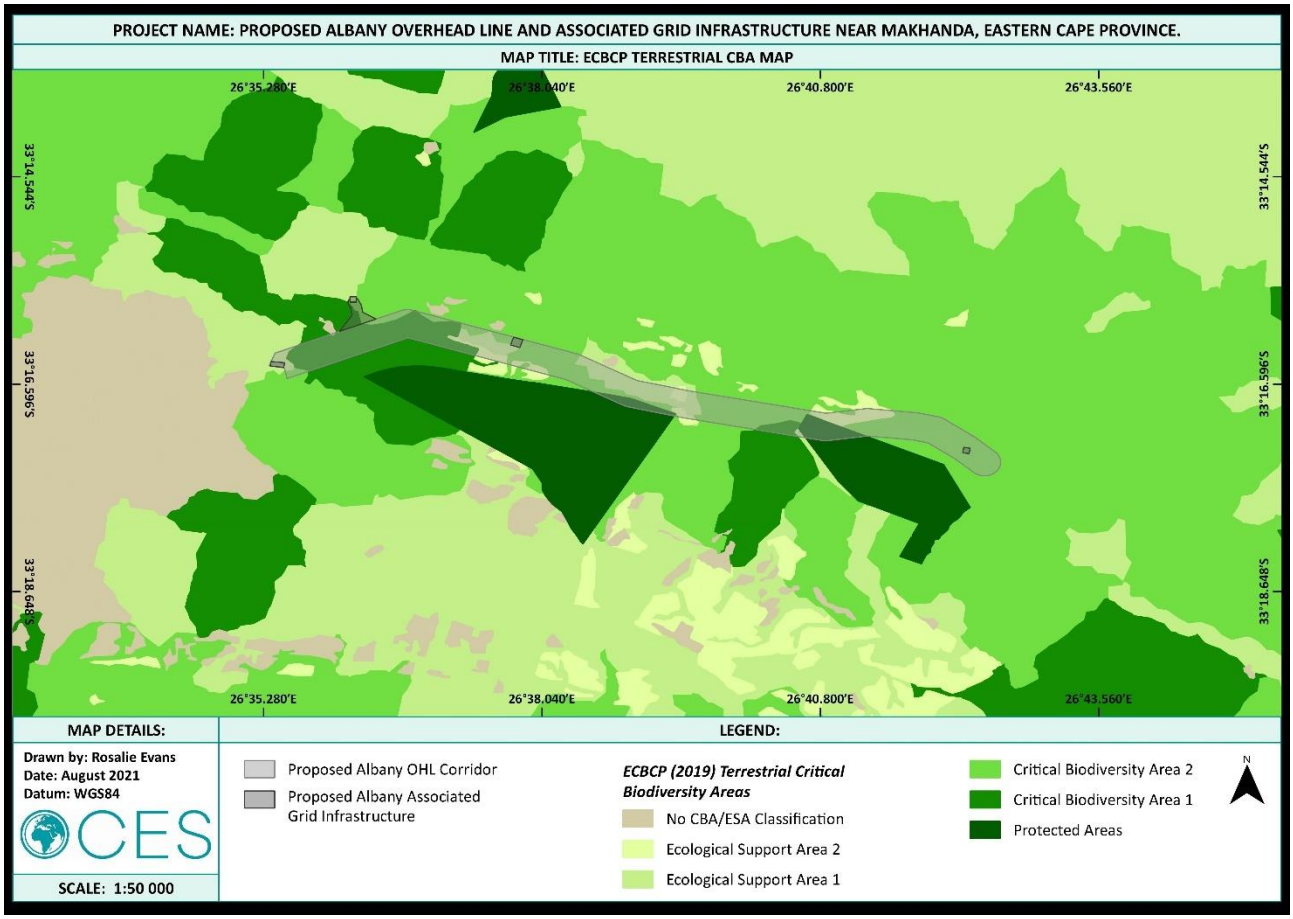


Figure 7.12: ECBCP Terrestrial CBA Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

In terms of the ECBCP (2019) Aquatic CBAs, the majority of the proposed Albany Connection and Associated Grid Infrastructure site is classified as an ESA 1, with sections which contain ESA 2 and no CBA/ESA classifications (Figure 7.13).

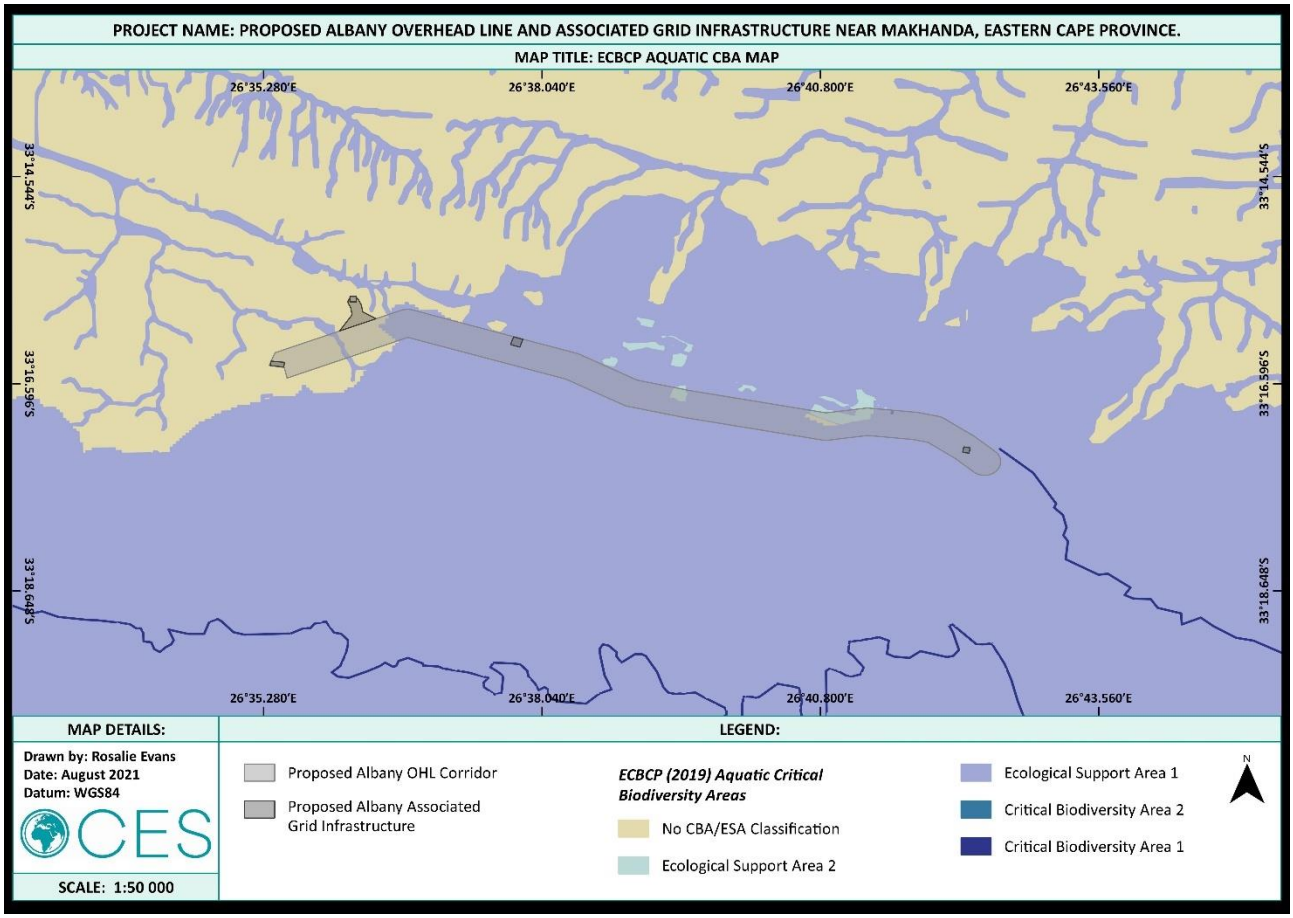


Figure 7.13: ECBCP Aquatic CBA Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

Please refer to the Ecological Impact Assessment (CES, October 2020), which has been included in Appendix C of this report, for further details relating to the CBA classifications.

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having VERY HIGH Terrestrial Biodiversity Theme Sensitivity, as indicated in Figure 7.14. This primarily consists of very high sensitivity areas with small sections of low sensitivity.

The sensitive features have been described as follows:

- Very High Sensitivity:
  - Critical Biodiversity Area 1,
  - Critical Biodiversity Area 2,
  - Ecological Support Area 1,
  - Ecological Support Area 2,
  - FEPA Subcatchments, and
  - National Forestry Inventory.
- Low Sensitivity: low sensitivity.

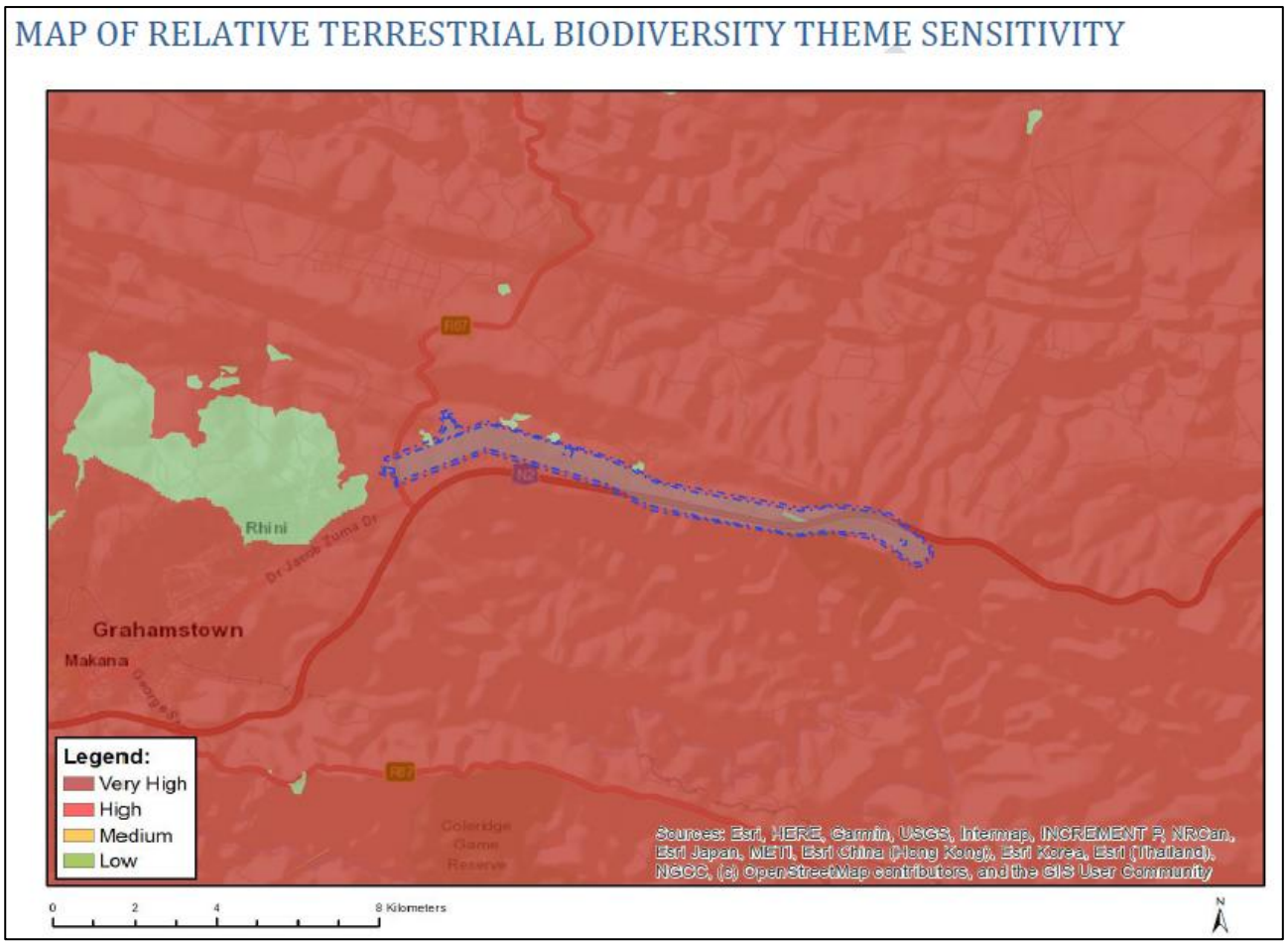


Figure 7.14: National Screening Tool Report Map of the Relative Terrestrial Biodiversity Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

As previously mentioned, an Ecological Impact Assessment (CES, October 2020) has been undertaken and included in Appendix C of this report.

7.10 THREATENED ECOSYSTEMS

The National Environmental Management: Biodiversity Act (NEM:BA) (Act No. 10 OF 2004) provides a national list of ecosystems which are threatened and in need of protection – GN 1002 of 2011. According to the NEM:BA List of Threatened Ecosystems, the proposed site does not occur within or near to a critically endangered, an endangered nor vulnerable ecosystem. These findings are supported by the NBA (2018) Terrestrial Ecosystem threat status assessment (Skowno *et al.*, 2019) which confirmed that the ecosystems within and surrounding the site are classified as ***Least Concern*** (Figure 7.15). The nearest threatened ecosystem, identified by the NBA (2018) and NEM:BA (2011), is Albany Alluvial Vegetation (***Endangered***), situated roughly 7.5 km to the south of the Albany Connection and Associated Grid Infrastructure site.

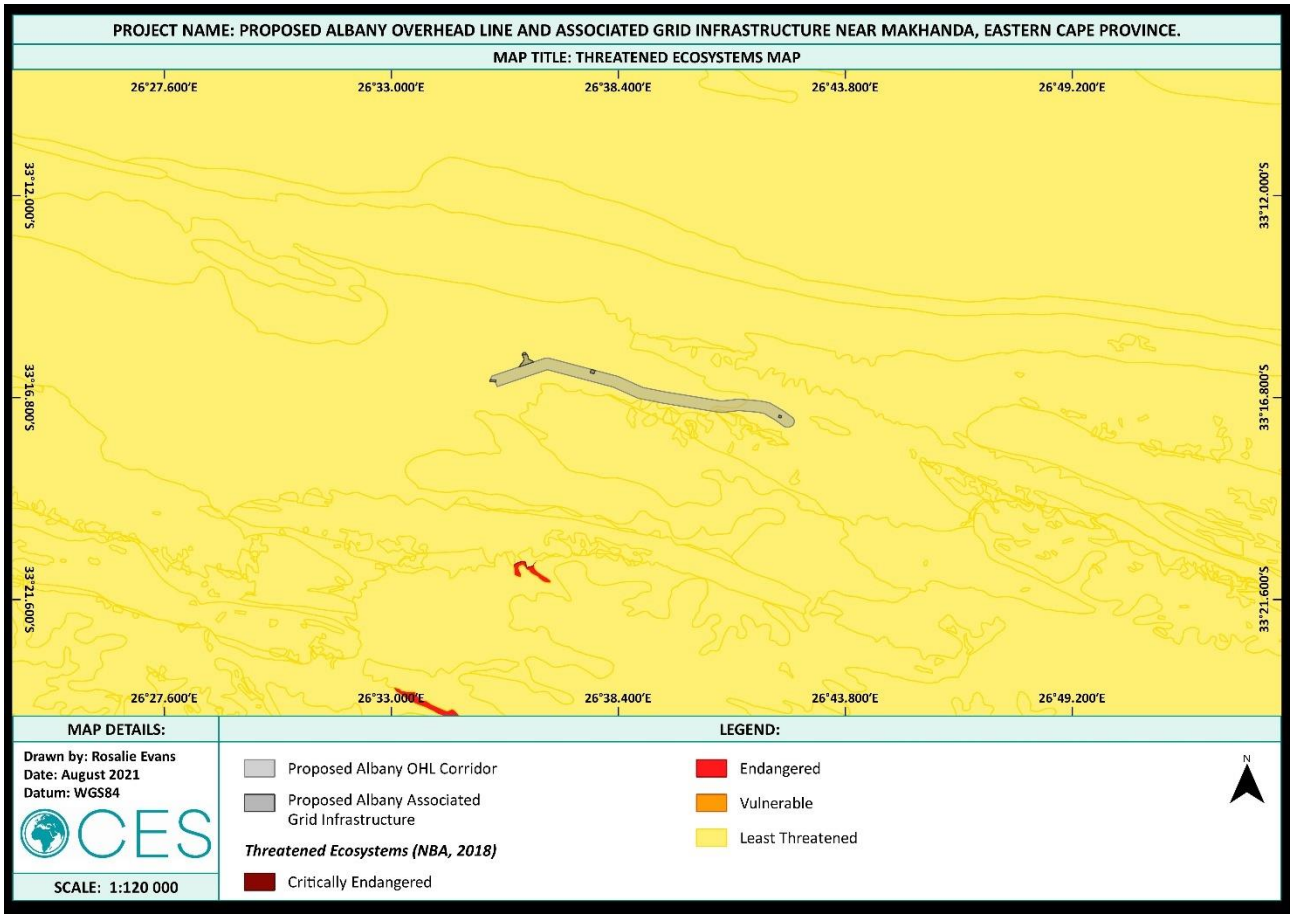


Figure 7.15: Threatened Ecosystems Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

7.11 PROTECTED AREAS

The National Protected Areas Expansion Strategy (NPAES) was developed to *"achieve cost-effective protected area expansion for ecological sustainability and increased resilience to climate change."* The NPAES originated as Government recognised the importance of protected areas in maintaining biodiversity and critical ecological process. The NPAES sets targets for expanding South Africa's protected area network, placing emphasis on those ecosystems that are least protected. The proposed Albany Connection and Associated Grid Infrastructure site is not situated within a NPAES Focus Area. The closest Focus Areas are situated to the west/south-west of the site and to the north of the site (Figure 7.16), namely the Amathole-Tarkastad Focus Areas.

A Section of the proposed Albany Connection and Associated Grid Infrastructure site, specifically the Connection Corridor, traverses an Eastern Cape State Owned Protected Area, the Beggars Bush State Forest, as indicated in Figure 7.16. Where possible, the routing of the OHL/underground, within the Connection Corridor, will avoid this protected area.

The proposed Albany Connection and Associated Grid Infrastructure site does not traverse any South Africa Protected Areas Database (SAPAD, Q1 2021) Protected Areas. However, the Ecca Nature Reserve protected area is located approximately 3.4 km north of the site (Figure 7.16).

Please refer to the Ecological Impact Assessment (CES, October 2020) in Appendix C for further information regarding the protected areas.

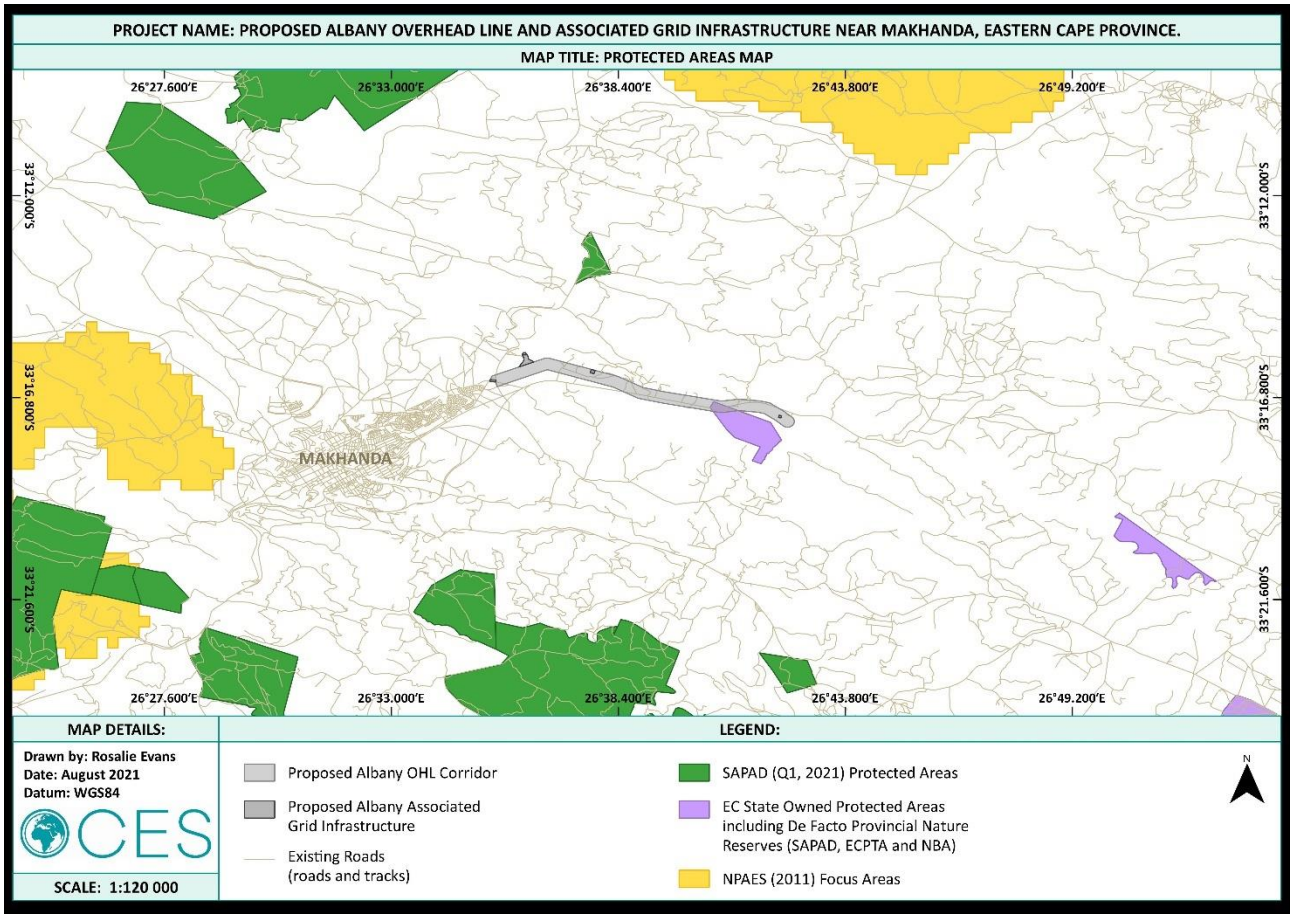


Figure 7.16: Protected Areas Map of the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

7.12 SOCIAL SETTING

Index undertook a Socio-Economic Impact Assessment (Index, March 2021) to assess the potential adverse impacts and the benefits of the proposed development of the Albany WEF and Albany Connection and Associated Grid Infrastructure, situated north-east of Makhanda in the Makana Local Municipality of the Sarah Baartman District Municipality in the Eastern Cape Province. The section below consists of extracts from the Socio-Economic Impact Assessment (Index, March 2021).

According to the Socio-Economic Impact Assessment (Index, March 2021), the Sarah Baartman District Municipality is sparsely populated, with an average of eight (8) people per square kilometre. This results in high costs per capita of providing services in the District (SBDM IDP). Geographically, the Makana Local Municipality has a fairly large population, living in a relatively small area with a population density of 18.4 per square kilometre. It has a population of 82 060 with 22 700 households, that accounts for 18% of the District's population (Index, March 2021). Makhanda (Grahamstown) has a population of 50 220 and accounts for 62.5% of the Makana Local Municipality's population (StatsSA, Census 2011). The Makana Local Municipality Integrated Development Plan indicates that an even larger proportion of the Makana Local Municipality's population, approximately 80%, is located in Makhanda. The Makana Local Municipality is therefore highly urbanised (Index, March 2021).

The Eastern Cape Province has the highest unemployment rate at 35.4% (Stats SA second quarter Quarterly Labour Force Survey 2019) out of the nine (9) provinces in South Africa. This percentage would be even higher if the 366 000 discouraged work seekers were factored in. During this time, the national unemployment rate jumped to an 11-year high of 29%, the highest since 2008. The official unemployment rate of Sarah Baartman District Municipality is 24.9% (Census 2011), which is lower than the Province and

much lower than the Makana Local Municipal unemployment of 32.5%. Interesting to note is that in Ward 13 (where a large section of the Albany site lies), 71% of the labour force is employed. This could perhaps be the result of employment opportunities available on farms, tourism and the private game industries. The unemployed population and work seekers are often more urbanised (Index, March 2021).

Please refer to the Socio-Economic Impact Assessment (Index, March 2021) in Appendix C for further information regarding the social and socio-economic setting.

7.13 ARCHAEOLOGICAL AND CULTURAL HERITAGE

Booth Heritage Consulting a Phase 1 Archaeological Impact Assessment (Booth Heritage Consulting, August 2020) to assess the archaeological and cultural heritage of the proposed Albany WEF and Albany Connection and Associated Grid Infrastructure site. The section below consists of extracts from the Archaeological Impact Assessment (Booth Heritage Consulting, August 2020).

Middle Stone Age (MSA) stone artefacts occurred in various locations over the proposed development area within the exposed and disturbed surface areas. This would generally be expected as the immediate and wider region is rich in the occurrence of MSA as well as Early Stone Age (ESA) archaeological material. It is possible that stone artefacts will occur between the surface and 50 cm – 80 cm below the ground (Booth Heritage Consulting, August 2020).

Several stone packed features were also recorded within the proposed development area. These included stone packed/walled kraals, a historical stone packed/walled farm boundary as well as the remains of foundations. The built environment component included historical ruins that included farmhouses, other buildings and a church. A graveyard is associated with the church. In addition, an old historical wagon route was pointed out by the owner of the Farm Grobbeler's Kloof, situated at the entrance to the farm south off the N2, running parallel to N2 national road (Booth Heritage Consulting, August 2020).

The National Screening Tool Report (August 2021) for the proposed Albany Connection and Associated Grid Infrastructure development classifies the overall site as having VERY HIGH Archaeological and Cultural Heritage Theme Sensitivity, as indicated in Figure 7.17. This primarily consists of low sensitivity (eastern and western sections) with the middle of the site being classified as very high sensitivity.

The sensitive features have been described as follows:

- Very High Sensitivity: within 2 km of a Grade II Heritage Site.
- High Sensitivity: within 50 m of a Grade IIIc Heritage Site.
- Low Sensitivity: low sensitivity.

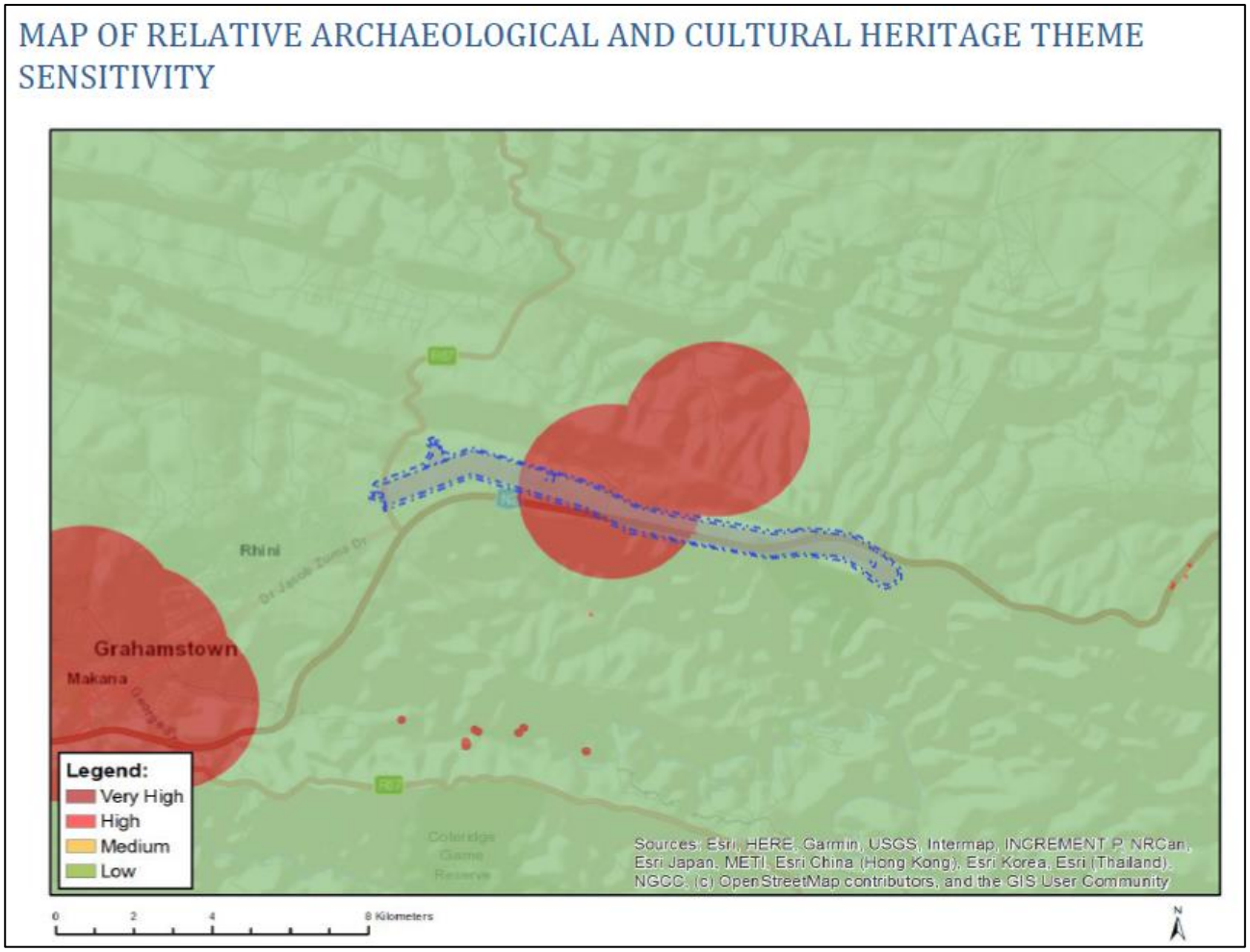


Figure 7.17: National Screening Tool Report Map of the Relative Archaeological and Cultural Heritage Theme Sensitivity for the Albany Connection and Associated Grid Infrastructure Site and Surrounds.

An Archaeological Impact Assessment (Booth Heritage Consulting, August 2020) has been undertaken and included in Appendix C of this report.

8. IMPACT ASSESSMENT

8.1 CES ASSESSMENT METHODOLOGY

The following standard rating scales have been defined for assessing and quantifying the identified impacts. This is necessary since impacts have a number of parameters that need to be assessed. The identified impacts have been assessed against the following criteria:

Six (6) factors are considered when assessing the significance of the identified issues, namely:

1. **Significance:** Each of the below criterion (points 2-6 below) are ranked with scores assigned, as presented in Table 8.1 to determine the overall significance of an activity. The total scores recorded for the effect (which includes scores for duration; extent; consequence and probability) and reversibility/mitigation are then read off the matrix presented in Table 8.2, to determine the overall significance of the issue. The overall significance is either negative (issue) or positive (benefit).
2. **Consequence:** The consequence scale is used in order to objectively evaluate how severe a number of negative impacts might be on the issue under consideration, or how beneficial a number of positive impacts might be on the issue under consideration.
3. **Extent:** The extent, or the spatial scale, defines the physical extent of the impact.
4. **Duration:** The duration, or the temporal scale, defines the significance of the impact at various time scales, as an indication of the duration of the impact.
5. **The probability of the impact occurring:** The likelihood of impacts taking place as a result of project actions arising from the various alternatives. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident) and might or might not result from the proposed development and alternatives. Although some impacts might have a severe effect, the likelihood of them occurring could affect their overall significance.
6. **Reversibility/Mitigation:** The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four (4) categories used are listed and explained in Table 8.3 below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness are taken into consideration when determining the appropriate degree of difficulty.

The relationship of the issue to the temporal scale, spatial scale and the severity are combined to describe the overall importance rating, namely the significance of the assessed impact. The impact is first classified as a positive (+) or negative (-) impact. The impact then undergoes the evaluation according to the set of criteria.

Table 8.1: Ranking of Evaluation Criteria.

EFFECT	**DURATION**	
	Short-term	Less than 5 years.
	Medium-term	Between 5 and 20 years.
	Long-term	Between 20 and 40 years (a generation) and from a human perspective also permanent.
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there.
	EXTENT	
	Localised	Impacts affect a small area of a few hectares in extent. Often only a portion of the project area.
	Study area	The proposed site and its immediate surroundings.
	Municipal	Impacts affect the Makana Local Municipality or Sarah Baartman District Municipality, or any towns within the municipality.
	Regional	Impacts affect the wider area or the Eastern Cape Province as a whole.
	National	Impacts affect the entire country.
	CONSEQUENCE	

	Slight	Slight impacts or benefits on the affected system(s) or party(ies).
	Moderate	Moderate impacts or benefits on the affected system(s) or party(ies).
	Severe/Beneficial	Severe impacts or benefits on the affected system(s) or party(ies).
	PROBABILITY	
	Definite	More than 90% sure of a particular fact. Should have substantial supportive data.
	Probable	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
	Possible	Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
	Unsure/Unlikely	Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.
REVERSIBILITY/ MITIGATION	**IMPACT REVERSIBILITY/MITIGATION**	
	Easy	The impact can be easily, effectively and cost effectively mitigated/reversed.
	Moderate	The impact can be effectively mitigated/reversed without much difficulty or cost.
	Difficult	The impact could be mitigated/reversed but there will be some difficultly in ensuring effectiveness and/or implementation, and significant costs.
	Very Difficult	The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly.

Table 8.2: Impact Severity Ratings.

IMPACT SEVERITY	
The severity of negative impacts, or how beneficial positive impacts would be on an affected system or affected party.	
VERY SEVERE	**VERY BENEFICIAL**
An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example, the permanent loss of land.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example, the vast improvement of sewage effluent quality.
SEVERE	**BENEFICIAL**
Long-term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.	A long-term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example, an increase in the local economy.
MODERATELY SEVERE	**MODERATELY BENEFICIAL**
Medium- to long-term impacts on the affected system(s) or party (ies), which could be mitigated. For example, constructing a sewage treatment facility where there was vegetation with a low conservation value.	A medium- to long-term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way. For example, a 'slight' improvement in sewage effluent quality.
SLIGHT	**SLIGHTLY BENEFICIAL**
Medium- or short-term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example, a temporary fluctuation in the water table due to water abstraction.	A short- to medium-term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.
NO EFFECT	**DON'T KNOW/CAN'T KNOW**
The system(s) or party(ies) is not affected by the proposed development.	In certain cases, it might not be possible to determine the severity of an impact.

Table 8.3: Overall Significance Rating.

OVERALL SIGNIFICANCE	
The combination of all the above criteria as an overall significance.	
VERY HIGH NEGATIVE (-)	**VERY BENEFICIAL (VERY HIGH +)**
These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects. *Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.* *Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.*	
HIGH NEGATIVE (-)	**BENEFICIAL (HIGH +)**
These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH	

will need to be considered by society as constituting an important and usually long-term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light. *Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.* *Example: The change to soil conditions will impact the natural system, and the impact on affected parties (such as people growing crops in the soil) would be HIGH.*
MODERATE NEGATIVE (-) / **SOME BENEFITS (MODERATE +)**
These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium-term change to the (natural and/or social) environment. These impacts are real but not substantial. *Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.*
LOW NEGATIVE (-) / **FEW BENEFITS (LOW +)**
These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short-term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect. *Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.* *Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.*
NO SIGNIFICANCE
There are no primary or secondary effects at all that are important to scientists or the public. *Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective but is of NO significance in the overall context.*
DON'T KNOW
In certain cases, it might not be possible to determine the significance of an impact. For example, the primary or secondary impacts on the social or natural environment given the available information. *Example: The effect of a development on people's psychological perspective of the environment.*

The following assumptions and limitations are inherent in the rating methodology:

- **Value Judgements:** Although this scale attempts to provide a balance and rigor to assessing the significance of impacts, the evaluation relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.
- **Cumulative Impacts:** These affect the significance rating of an impact because it considers the impact in terms of both on-site and off-site sources. This is particularly problematic in terms of impacts beyond the scope of the proposed development and the BA Process. For this reason, it is important to consider impacts in terms of their cumulative nature.
- **Seasonality:** Certain impacts will vary in significance based on seasonal change. Thus, it is difficult to provide a static assessment. Seasonality will need to be implicit in the temporal scale and, with management measures being imposed accordingly (e.g. dust suppression measures being implemented during the dry season).

8.2 IDENTIFICATION OF GENERAL IMPACTS AND ASSESSMENT

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (PROBABILITY/ LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	REVERSIBILITY/ MITIGATION	SIGNIFICANCE POST-MITIGATION
PLANNING & DESIGN PHASE										
STORAGE OF HAZARDOUS SUBSTANCES	*Inappropriate planning for the storage of hazardous substances such as diesel, paint, pesticides, etc, tools and equipment used on site could lead to surface and ground water pollution e.g. due to oil leaks, spillage of diesel, etc. In addition, these hazardous substances could be washed into nearby tributaries. The mixing of cement on site could result in ground water contamination from compounds in the cement. A large number of cement mixing stations on site could increase the presence of impermeable areas which in turn could increase rates of run-off and thereby increase the risk of localised flooding, soil erosion, silting, gully formation, etc.* *Cumulative impact would be moderate as the Albany WEF is being proposed on some of the same properties. The proposed Albany WEF includes planning for the storage and use of hazardous substances (localised impact).* *No-go alternative would result in no impact related to hazardous waste as the site does not currently experience issues related to the storage of hazardous substances.*	**DIRECT**	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	• *All hazardous substances such as paints, diesel and cement must be stored in a bunded area with an impermeable surface beneath them.* • *Cement mixing must be conducted at a single location which must be centrally located, where practical. This mixing must take place on an impermeable surface, and dried waste cement must be disposed of with building rubble at a suitably registered disposal site.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							
ENVIRONMENTAL LEGISLATION AND POLICY COMPLIANCE	*Failure to adhere to existing policies and legal obligations could lead to the project conflicting with local, provincial and national policies, guidelines and legislation. This could result in lack of institutional support for the project, overall project failure and undue disturbance to the natural environment.* *Cumulative impact would be high as there are a range of activities in the region which are currently non-compliant in terms of environmental policy and law.* *No-go alternative could result in landowners looking at other avenues of potential income which would need to comply with environmental law and policy.*	**DIRECT**	**REGIONAL NATIONAL**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	• *Ensure that all relevant legislation and policy is consulted and ensure that the project is compliant with such legislation and policy.* • *Planning for the construction and operation of the proposed overhead line and associated grid infrastructure must consider available best practice guidelines.*	*EASY*	**LOW -**
		CUMULATIVE	**REGIONAL NATIONAL**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**HIGH -**		*MODERATE*	**LOW -**
		NO-GO	**REGIONAL NATIONAL**	**LONG-TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
STORMWATER MANAGEMENT AND EROSION	*The introduction of impermeable surfaces could increase rates of runoff and therefore the risk of localised flooding and a resultant increase in erosion potential.* *Cumulative impact would be moderate as there are a range of activities, including existing informal and formal roads as well as the proposed Albany WEF, which contribute (roads) and could contribute (proposed WEF) to increased rates of runoff and erosion at localised levels.* *No-go alternative would still present a level of stormwater runoff and erosion due to the existing informal and formal roads, current farming activities and other existing impermeable surfaces.*	**INDIRECT**	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	• *Where possible, monopoles should be placed at least 32 m away from rivers, tributaries and drainage lines.* • *A Stormwater Management Plan must be designed prior to the commencement of the construction phase.* • *The plan must also include management mitigation measures for water pollution, wastewater management and the management of surface erosion e.g. by considering the applicability of contouring, etc.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
MANAGEMENT OF GENERAL WASTE	*Inadequate planning for the management and disposal of waste, such as storage and disposal, could result in surface and ground water contamination.* *Cumulative impact, on a localised scale, would be moderate as sections of the proposed site and surrounds contain scattered general litter and illegal dump sites, at times. These sites are primarily located to the west of the site.* *No-go alternative would result in a low impact due to the existing general waste situated to the west of the*	**DIRECT INDIRECT**	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**SLIGHT**	**MODERATE -**	• *A Waste Management Plan must be developed prior to the commencement of the construction phase.* • *During the planning and design phase, a suitable area should be designated to the temporary storage of waste prior to disposal at a licenced facility.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**LONG-TERM**	**PROBABLE**	**SLIGHT**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*

Issue	Description of Impact	Nature of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	proposed site.									
CONSTRUCTION PHASE										
NUISANCE DUST	*Dust is likely to be a potential nuisance due to the construction activities, such as the clearance of vegetation.* *Cumulative impact would be moderate should the proposed Albany WEF and the neighbouring proposed WEF (Plan 8) start construction at the same time as the proposed Albany overhead line and associated grid infrastructure. Improper management of the neighbouring sites could exacerbate the impact.* *No-go alternative would result in a low impact related to construction nuisance dust if the Albany WEF and the neighbouring WEF are constructed. In addition, current land use activities, such as farming activities and the use of farm roads are likely to produce low levels of dust.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**LOW -**	• *Nuisance dust should be reduced by implementing one of or a combination of the following:* ○ *Damping down of cleared areas;* ○ *Retention of vegetation where possible;* ○ *Excavations and clearing activities should only be undertaken during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas; and* ○ *A speed limit of 40km/h must not be exceeded on dirt roads.* • *Any complaints or claims emanating from the lack of dust control must be attended to immediately by the Contractor.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**SHORT-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*EASY*	**LOW -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
FIRE	*Risk of runaway fires resulting from construction activities due to anthropogenic activities, such as lighting fires for cooking and/or heating, smoking or burning of vegetation might lead to the burning of surrounding vegetation.* *Cumulative impact would be high should the proposed Albany WEF and the neighbouring proposed WEF (Plan 8) start construction at the same time as the proposed Albany overhead line and associated grid infrastructure. Improper management of these WEF sites could exacerbate the impact.* *No-go alternative would still have a high fire risk as fires could be both a natural occurrence or a manmade occurrence due to the current land uses within the sites which could result in potential burning of vegetation for agricultural activities, potential fires due to vehicle activity on the National Road N2, etc. This impact remains a high significant impact if no mitigation or management measures are implemented and no responsible party is identified.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**POSSIBLE**	**SEVERE**	**HIGH -**	• *Cleared vegetation and any other construction-related waste must not be burned on site during the construction phase.* • *Open fires must not be permitted within the site during the construction phase.* • *Smoking on site must be confined to a designated area and this area must be equipped with the necessary fire extinguishers and cigarette disposal facilities.* • *The Contractor must ensure that all site personnel are aware of the risk of fires, the procedure to be followed in the event of a fire and that all site personnel have access to the relevant contact details of the nearest Fire and Emergency Services.*	*MODERATE*	**MODERATE -**
		CUMULATIVE	**LOCALISED**	**SHORT-TERM**	**POSSIBLE**	**SEVERE**	**HIGH -**		*MODERATE*	**MODERATE -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**SEVERE**	**HIGH -**	*N/A*	*N/A*	*N/A*
STORMWATER MANAGEMENT	*Sediments are likely to be created during construction due to the clearing of vegetation, vegetation trimming, stockpiling of soils, etc. These materials could be washed or blown into the nearby tributaries. In addition, the creation of impermeable surfaces during the construction phase is likely to contribute to increased stormwater runoff and could lead to an increase in erosion.* *Cumulative impact would be moderate as there are a range of activities, including roads and proposed WEFs, which could contribute to sedimentation at localised levels.* *No-go alternative would still present a level of stormwater runoff and erosion due to current farming activities and existing impermeable surfaces.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *The recommendations of the Stormwater Management Plan must be implemented to reduce runoff and reduce the risk of soil erosion and sedimentation in tributaries.* • *Stockpiled materials must not be stored within 50 m of a tributary or wetland.* • *Stockpile areas must be suitably bunded to prevent waterborne erosion of exposed soils where there is a likelihood that the soils will be washed into nearby watercourses.*	*MODERATE*	**LOW -**
		CUMULATIVE	**LOCALISED**	**SHORT-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**LOCALISED**	**SHORT-TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
MANAGEMENT OF GENERAL WASTE	*Littering by construction workers and inadequate temporary storage of waste could cause surface and ground water pollution.* *Cumulative impact, on a localised scale, would be moderate as sections of the proposed site and surrounds contain scattered general litter and illegal dump sites, at times. These sites are primarily located to the west of the site.* *No-go alternative would result in a low impact due to the*	**DIRECT**	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *The Waste Management Plan, incorporating recycling and waste minimisation, must be implemented throughout the construction phase. The Waste Management Plan must be explained to all employees as part of the environmental education training.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*

Issue	Description of Impact	Nature of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	existing general waste situated to the west of the proposed site.									
INCREASE IN NOISE LEVELS	*Noise will be created on the site during the construction phase due to the operation of construction equipment, noise generated by construction vehicles both within the site and during travel to and from the site as well as noise generated by the construction workers which are all likely to result in an increase in noise levels and potentially be a nuisance to individuals in proximity to the site.* *Cumulative impact, within the study area, would be moderate due to the noise associated with the construction of the proposed development, the Albany WEF and the neighbouring WEF.* *No-go alternative refers to the current noise levels within the study area and if no construction activities take place, there will be no significant increase in noise levels.*	**DIRECT**	**STUDY AREA**	**SHORT-TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	• *All construction vehicles must be in sound working order and meet the necessary noise level requirements.* • *The Contractor must comply with all municipal by-laws with regards to noise control.* • *The Contractor must comply with the Noise Induced Hearing Loss Regulations published under the Occupational Health and Safety Act.* • *Construction workers must not make use of portable radios, vehicle radios, whistles, etc., which generate excessive noise, while they are on the construction site.*	*MODERATE*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**MODERATE -**
		NO-GO	**NO IMPACT**							
HAZARDOUS SUBSTANCES	*Inadequate storage and use of hazardous substances such as diesel, paint, pesticides, etc, tools and equipment used on site could lead to surface and ground water pollution e.g. due to oil leaks, spillage of diesel, etc. In addition, these hazardous substances could be washed into nearby tributaries. The mixing of cement on site could result in ground water contamination from compounds in the cement. Surface and ground water pollution could arise from the spillage or leaking of diesel, lubricants and cement during construction activities.* *Cumulative impact would be moderate as the Albany WEF is being proposed on some of the same properties. The proposed Albany WEF includes the storage and use of hazardous substances (localised impact).* *No-go alternative would result in no impact related to hazardous waste as the site does not currently experience issues related to hazardous substances.*	**DIRECT INDIRECT**	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *Hazardous Chemical Substances Regulations promulgated in terms of the Occupational Health and Safety Act (Act No. 85 of 1993) must be adhered to. This applies to solvents and other chemicals which could potentially be used during the construction phase.* • *The storage of fuels and hazardous materials must be located away from sensitive water resources.* • *All hazardous substances (e.g. diesel, oil drums, etc.) must be stored in a bunded area.* • *The recommendations of the Stormwater Management Plan must be implemented during construction.* • *Vehicles should not be refuelled within 50 m of tributaries or any highly sensitive environmental areas.* • *Drip trays must be placed under all stationary construction plant.* • *If a spill occurs on an impermeable surface, such as fuel or oil, the surface spill must be contained using oil absorbent materials or the appointed ECO must determine the precise method of treatment of polluted soil.*	*MODERATE*	**LOW -**
		CUMULATIVE	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**NO IMPACT**							
MANAGEMENT OF CONSTRUCTION WASTE	*Waste from construction activities e.g. excess concrete and cement mixture, empty paint containers, oil containers, etc., could cause pollution of ground and surface water due to runoff.* *Cumulative impact, on a localised scale, would be moderate should the proposed WEFs start construction at the same time as the proposed Albany overhead line and associated grid infrastructure.* *No-go alternative would result in no impact related to construction waste as the site does not currently have any construction activities taking place.*	**DIRECT**	**STUDY AREA**	**SHORT-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *The Waste Management Plan must be implemented throughout the construction phase.* • *All waste must be disposed of at an appropriately licensed landfill site.* • *All construction materials must be stored in a central and secure location with an appropriate impermeable surface.* • *The recommendations of the Stormwater Management Plan must be implemented to mitigate the impacts of potentially polluted runoff.*	*MODERATE*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**NO IMPACT**							
TOPSOIL MANAGEMENT	*The inadequate management of topsoil during the construction phase could result in the loss of important topsoil and could cause irreversible damage to the agricultural potential of the landscape if left unmitigated. In addition, the loss or damage to topsoil will have a significant impact on the rehabilitation of the site.* *Cumulative impact, on a localised scale, would be low should the proposed WEFs start construction at the same time as the proposed Albany overhead line and associated grid infrastructure and should there be*	**DIRECT**	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *Any stockpiling of gravel, cut, fill or any other material including spoil must only be in areas that have been approved by the ECO within the defined working area.* • *The Contractor should ensure that the material does not blow or wash away. If the stockpiled material is in danger of being washed or blown away, the Contractor should spray it with Dustex or cover it with a suitable material, such as hessian or plastic. Stockpiles of topsoil must not be covered with plastic.* • *Areas from which the topsoil is to be removed must be cleared of any foreign material which could form part of*	*EASY*	**LOW -**

Issue	Description of Impact	Nature of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	improper topsoil management. *No-go alternative would result in no impact related to topsoil management as the site does not currently have any construction activities taking place.*	CUMULATIVE	LOCALISED	LONG-TERM	POSSIBLE	SLIGHT	LOW -	*the topsoil during removal including any waste material, litter, excess vegetation and any other material which could reduce the quality of the topsoil.* • *Topsoil stockpiles should not exceed 2 m in height.* • *The removal and stockpiling of topsoil must be carried out in accordance with the approved EMPr.* • *Stripping of topsoil should be undertaken in such a manner as to minimise erosion by wind or runoff.* • *Stockpiled topsoil must not be compacted.* • *No stockpiling of any material will be allowed within 20 m of any "no-go" areas.*	*EASY*	LOW -
		NO-GO	NO IMPACT							
OPERATIONAL PHASE										
WASTE MANAGEMENT	*During the maintenance of the Albany overhead line and associated grid infrastructure, littering could occur due to the presence of maintenance workers on site.* *Cumulative impact, on a localised scale, would be moderate as sections of the proposed site and surrounds contain scattered general litter and illegal dump sites, at times. These sites are primarily located to the west of the site.* *No-go alternative would result in a low impact due to the existing general waste situated to the west of the proposed site.*	DIRECT	LOCALISED	LONG-TERM	POSSIBLE	MODERATE	MODERATE -	• *A Waste Management Plan incorporating recycling and waste minimisation must be implemented. The Waste Management Plan must be explained to all employees as part of the environmental induction training.*	*EASY*	LOW -
		CUMULATIVE	LOCALISED	LONG-TERM	POSSIBLE	MODERATE	MODERATE -		*EASY*	LOW -
		NO-GO	LOCALISED	LONG-TERM	DEFINITE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
DECOMMISSIONING PHASE										
As per the temporal scales indicated in the significance statement for the operational phase in the section above, the proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant. However, it is recommended that the EMPr is updated at the time of decommissioning, based on the environmental conditions and relevant legislation at the time, and implemented throughout the decommissioning of the Albany Connection and Associated Grid Infrastructure development.									

8.3 Specialist Impacts and Assessment

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
PLANNING & DESIGN PHASE										
AGRICULTURAL IMPACTS										
NO PLANNING AND DESIGN PHASE IMPACTS HAVE BEEN IDENTIFIED BY THE AGRICULTURAL SPECIALIST.										
AVIFAUNAL IMPACTS										
COLLISION AND ELECTROCUTION ON OVERHEAD POWER LINES	*Birds could perch on the pylons/towers of the overhead power line and be at risk of electrocution if the design is not bird friendly. Birds in flight could collide with the overhead cables, particularly the earth wire.* *Cumulative impact not rated.* *No-go alternative will not increase the risk of bird collision and electrocution. .*	**DIRECT**	**STUDY AREA**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	• *Select the shortest and most sensible possible length of new overhead power line to be constructed and the optimal route for this line.* • *To mitigate for collision of the relevant species, it is recommended that the conductors on the high bird collision risk sections of the line be fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device.* • *This should preferably be a dynamic device, i.e. one that moves as it is believed that these are more effective in reducing collisions, especially for bustards, which are one of the key species (Denham's Bustard) in this area.* • *It is recommended that a durable device be used as this area is clearly prone to a lot of strong wind and dynamic devices may be susceptible to mechanical failure.* • *It will be either Albany Wind Power or Eskom's responsibility to ensure that these line marking devices remain in working order for the full lifespan of the power line, as we cannot afford to have significant numbers of bird collisions on this new line.* • *It is important that these devices are installed as soon as the conductors are strung, not only once the line is commissioned, as the conductors pose a collision risk as soon as they are strung. The devices should be installed alternating a light and a dark colour to provide contrast against dark and light backgrounds respectively.* • *Note that 100% of the length of each span needs to be marked (i.e. right up to each tower/pylon) and not the middle 60% as some guidelines recommend. This is based on a finding by Shaw (2013) that collisions still occur close to the towers or pylons. It is also recommended that the stay wires on the met masts on site be installed with these devices as soon as possible.* • *In the case of bird electrocution, the power line must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds to perch on them in safety.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
ECOLOGICAL IMPACTS										
NO PLANNING AND DESIGN PHASE IMPACTS HAVE BEEN IDENTIFIED BY THE ECOLOGICAL SPECIALIST.										
HERITAGE IMPACTS										

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
ARCHAEOLOGICAL HERITAGE	*The overall area is considered as having a low archaeological heritage significance.* *Cumulative impact not rated.* *No-go alternative will not impact archaeological heritage.*	**DIRECT**	**LOCALISED**	**SHORT-TERM AND PERMANENT**	**POSSIBLE**	**MODERATE**	**LOW -**	• *An archaeological walk-through assessment must be conducted when the final layout of the Albany WEF and Albany OHL and Associated Grid Infrastructure is determined. The walk-through assessment will be conducted to assess changes in the positions of the turbines, access roads and cabling between the turbines as well as other associated infrastructure relative to the original footprint. Further mitigatory recommendations may be necessary if any of the changes may impact negatively upon heritage resources.* • *The Developer/ECO or construction manager must apply to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for a destruction permit to disturb the stone artefact scatters prior to the commencement of the development.*	*EASY*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
HERITAGE	*The overall area [Albany WEF and Albany Connection and Associated Grid Infrastructure site] is considered as having a medium-high heritage significance.* *Cumulative impact not rated.* *No-go alternative will not impact heritage resources.*	**DIRECT**	**LOCALISED**	**SHORT-TERM AND PERMANENT**	**POSSIBLE**	**SEVERE**	**MODERATE -**	• *An archaeological walk-through assessment must be conducted when the final layout of the Albany WEF and Albany Connection and Associated Grid Infrastructure is determined. The walk-through assessment will be conducted to assess changes in the positions of the turbines, access roads and cabling between the turbines as well as other associated infrastructure relative to the original footprint. Further mitigatory recommendations may be necessary if any of the changes may impact negatively upon heritage resources.* • *The Developer/ECO or construction manager must apply to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for a destruction permit to disturb the stone artefact scatters prior to the commencement of the development.*	*EASY*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
PALAEONTOLOGICAL IMPACTS										
NO PLANNING AND DESIGN PHASE IMPACTS HAVE BEEN IDENTIFIED BY THE PALAEONTOLOGICAL SPECIALIST.										
SOCIO-ECONOMIC IMPACTS										
NO PLANNING AND DESIGN PHASE IMPACTS HAVE BEEN IDENTIFIED BY THE SOCIAL SPECIALIST.										
CONSTRUCTION PHASE										
AGRICULTURAL IMPACTS										
LOSS OF HIGH POTENTIAL AGRICULTURAL LAND AND CULTIVATED LAND	*There is no high potential land or land that is irrigated on or in proximity of available surface water. Approximately 4.31 hectares of low potential land will permanently be lost.* *Cumulative impact not rated.* *No-go alternative not rated.*	**DIRECT**	**STUDY AREA**	**SHORT-TERM**	**N/A**	**N/A**	**NO SIGNIFICANCE**	• *No high potential land will be lost – no mitigation necessary.*	*N/A*	**NO SIGNIFICANCE**
		CUMULATIVE	**STUDY AREA**	**N/A**	**N/A**	**N/A**	**NO SIGNIFICANCE**		*N/A*	**NO SIGNIFICANCE**
		NO-GO	**NO IMPACT**							
LOSS OF CULTIVATED LAND	*No cultivated land will be lost.* *Cumulative impact not rated.* *No-go alternative not rated.*	**DIRECT**	**STUDY AREA**	**N/A**	**N/A**	**N/A**	**NO SIGNIFICANCE**	• *No cultivated land will be lost – no mitigation necessary.*	*N/A*	**NO SIGNIFICANCE**
		CUMULATIVE	**STUDY AREA**	**N/A**	**N/A**	**N/A**	**NO SIGNIFICANCE**		*N/A*	**NO SIGNIFICANCE**
		NO-GO	**NO IMPACT**							

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
LOSS OF GRAZING LAND	*The loss of grazing land is temporary and will be for one or two rainy seasons. The land will remain as grazing after construction. The footprint area is permanently lost. Temporary lost: Local impact. Only 4.6 hectares will be lost for at least two (2) years. No residual or cumulative impact is expected afterwards. Construction Footprint: Local impact (permanently lost): 4.3 hectares.* *Cumulative impact would have no significance. Only 4.6 hectares will be lost for at least two (2) years. No residual or cumulative impact is expected afterwards.* *No-go alternative would have no significance because grazing would continue.*	**DIRECT**	**LOCALISED**	**SHORT-TERM AND PERMANENT**	**DEFINITE**	**SLIGHT**	**LOW -**	• *Compensate farmers for what is lost.* • *Keep the construction period as short as possible.* • *Employ dust-supressing practices to protect adjoining grazing land.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
LOSS OF AGRICULTURAL PRODUCTION (YIELD AND INCOME)	*The loss of grazing is the only impact that translates to income loss. Temporary lost: Local impact. 4.6 hectares will be lost that can contribute R 5 005.00 towards farming income. Construction Footprint: Local impact: 4.3 hectares is permanently lost. This is not sufficient to accommodate even one (1) livestock unit.* *Cumulative impact would have no significance. Only 4.6 hectares will be lost for at least two (2) years. No residual or cumulative impact is expected afterwards.* *No-go alternative would have no significance because agricultural production could continue.*	**DIRECT**	**LOCALISED**	**SHORT-TERM AND PERMANENT**	**DEFINITE**	**SLIGHT**	**LOW -**	• *Th Compensate farmers for what is lost.* • *Keep the construction period as short as possible.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
LOSS OF AGRICULTURAL RESOURCES	*The loss of resources relates to soil due to erosion and water that can be used for farming purposes.* *Cumulative impact would have no significance. Only 4.6 hectares will be lost for at least two (2) years. No residual or cumulative impact is expected afterwards.* *No-go alternative would have no significance because no agricultural resources would be lost.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**UNLIKELY**	**SLIGHT**	**LOW -**	• *Compensate farmers for what is lost.* • *Replace topsoil during rehabilitation and ensure that the soil is well fertilised and rolled.* • *Sow seed of local plants that is adapted to the climate.* • *Irrigate the soil to ensure germination and establishment of the seed occurs.* • *Remove all alien plants and weeds until the plants are well established.*	*EASY*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
INCREASE IN STOCK THEFT AND POACHING	*Stock theft and wildlife poaching are ongoing issues in the Eastern Cape. The risk/likelihood of stock theft and poaching could likely increase during construction due to the increase in activity.* *Cumulative impact would be the combined activity within the site due to the construction of the Albany overhead line and associated grid infrastructure as well as the construction of the Albany WEF.* *No-go alternative would have moderate significance because stock theft and poaching are existing issues within the Eastern Cape.*	**INDIRECT**	**REGIONAL**	**SHORT-TERM**	**POSSIBLE**	**SEVERE**	**MODERATE -**	• *No unauthorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary.* • *The construction period is for a short period. Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions.* • *Construction workers must not handle or remove any livestock or wildlife from the site or the surrounding properties.* • *Police should be notified if any illegal actions take place.*	*DIFFICULT*	**LOW -**
		CUMULATIVE	**REGIONAL**	**SHORT-TERM**	**POSSIBLE**	**SEVERE**	**MODERATE -**		*DIFFICULT*	**LOW -**
		NO-GO	**REGIONAL**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**MODERATE -**	• *No mitigation measures provided for the no-go alternative.*	*DIFFICULT*	**MODERATE -**
ACCESS TO FARMS AND FARMING INFRASTRUCTURE	*Access by farmers to their own farms during the period of construction may be hampered. The effect is inconvenience rather than actual.* *Cumulative impact would be the combined activity*	**INDIRECT**	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**N/A**	**NO SIGNIFICANCE**	• *The effect is inconvenience rather than actual.*	*N/A*	**NO SIGNIFICANCE**

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	within the site due to the construction of the Albany overhead line and associated grid infrastructure as well as the construction of the Albany WEF which could hamper farmers' access to localised sections of their properties. *No-go alternative would have no impact as no development would hamper farmers' access to portions of their properties.*	CUMULATIVE	LOCALISED	SHORT-TERM	PROBABLE	N/A	NO SIGNIFICANCE		*N/A*	NO SIGNIFICANCE
		NO-GO	NO IMPACT							
BLASTING AND NOISE DURING CONSTRUCTION	*Some of the farms have rare and endangered species. Blasting with explosives can endanger these animals. In addition, hunting activities could endanger construction workers.* *Cumulative impact would be moderate should the proposed Albany WEF start construction at the same time as the proposed Albany overhead line and associated grid infrastructure.* *No-go alternative would result in no impact related to blasting and construction noise.*	INDIRECT	STUDY AREA	SHORT-TERM	POSSIBLE	SEVERE	MODERATE -	• *No unauthorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary.* • *The construction period is for a short period. Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions.* • *Construction workers must not handle or remove any livestock or wildlife from the site or the surrounding properties.* • *Police should be notified if any illegal actions take place.*	*MODERATE*	LOW -
		CUMULATIVE	STUDY AREA	SHORT-TERM	POSSIBLE	SEVERE	MODERATE -		*MODERATE*	LOW -
		NO-GO	NO IMPACT							
BIOLOGICAL [IN TERMS OF AGRICULTURE]	*A possible environmental impact of the development is the creation of dust along the main roads by large trucks and construction vehicles. Dust could have an impact on the livestock carrying capacity of adjoining properties.* *Cumulative impact would be moderate should the proposed Albany WEF start construction at the same time as the proposed Albany overhead line and associated grid infrastructure.* *No-go alternative currently results in low levels of dust along gravel roads, which could potentially affect livestock.*	INDIRECT	LOCALISED	SHORT-TERM	PROBABLE	MODERATE	MODERATE -	• *Keep the construction period as short as possible.* • *Employ dust reduction practices.*	*MODERATE*	LOW -
		CUMULATIVE	LOCALISED	SHORT-TERM	PROBABLE	MODERATE	MODERATE -		*MODERATE*	LOW -
		NO-GO	LOCALISED	LONG-TERM	POSSIBLE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
AVIFAUNAL IMPACTS										
COLLISION AND ELECTROCUTION ON OVERHEAD POWER LINES	*Birds could perch on the pylons/towers of the overhead power line and be at risk of electrocution if the design is not bird friendly. Birds in flight could collide with the overhead cables, particularly the earth wire.* *Cumulative impact has been rated as moderate due to the collision and electrocution risk of the proposed Albany overhead line and associated grid as well as the risk which is posed by the existing overhead lines and proposed grid infrastructure in the area.* *No-go alternative has been rated as low due to collision and electrocution risks which currently exist due to existing overhead lines.*	DIRECT	STUDY AREA	LONG-TERM	PROBABLE	SEVERE	HIGH -	• *To mitigate for collision of the relevant species, it is recommended that the conductors on the high bird collision risk sections of the line be fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device.* • *This should preferably be a dynamic device, i.e. one that moves as it is believed that these are more effective in reducing collisions, especially for bustards, which are one of the key species (Denham's Bustard) in this area.* • *It is recommended that a durable device be used as this area is clearly prone to a lot of strong wind and dynamic devices may be susceptible to mechanical failure.* • *It is important that these devices are installed as soon as the conductors are strung, not only once the line is commissioned, as the conductors pose a collision risk as soon as they are strung. The devices should be installed alternating a light and a dark colour to provide contrast against dark and light backgrounds respectively.* • *Note that 100% of the length of each span needs to be marked (i.e. right up to each tower/pylon) and not the middle 60% as some guidelines*	*MODERATE*	LOW -
		CUMULATIVE	STUDY AREA	LONG-TERM	PROBABLE	SEVERE	MODERATE -		*MODERATE*	LOW -

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								recommend. This is based on a finding by Shaw (2013) that collisions still occur close to the towers or pylons. It is also recommended that the stay wires on the met masts on site be installed with these devices as soon as possible. • *In the case of bird electrocution, the power line must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds to perch on them in safety.*		
		NO-GO	STUDY AREA	LONG-TERM	PROBABLE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
ECOLOGICAL IMPACTS										
FAUNAL HABITAT LOSS AND FRAGMENTATION	*The habitats within the proposed site and those of the surrounding areas form part of a functional ecosystem. Destruction or modification of habitats causes disruption of ecosystem function and threatens the interplay of processes which ensure environmental health and the survival of individual species. During the construction phase, faunal habitats will be impacted and could be lost during the clearing of vegetation for the construction of the overhead line pylons and the associated substation infrastructure. However, it must be noted that faunal species are mobile and will move out of the affected areas due to construction activities but that they are likely to move back to these areas once the affected areas have been rehabilitated.* *The cumulative impact would be moderate due to the proposed developments in the area, which could contribute to faunal habitat loss and fragmentation.* *Faunal habitats have already been lost in the area due to development and agricultural activities. In addition, the existing road networks have resulted in the fragmentation of faunal habitats.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	• *Ground truthing must be undertaken within the overhead line corridor to determine the route with the least possible damage to faunal habitats.* • *Clearing of vegetation should be kept to a minimum and rocky outcrops and wetlands must be avoided, where possible.* • *Construction areas should be demarcated with hazard tape and no clearing must occur outside of these areas.*	*MODERATE*	**LOW -**
		CUMULATIVE	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
LOSS OF REPTILE DIVERSITY	*It is likely that some of the reptile species, which occur within the proposed site, will be disturbed or killed due to construction activities. This could be due to habitat loss or mortality associated with road mortality or poaching.* *The cumulative impact would be moderate due to the proposed developments in the area, which could contribute to the loss of reptile diversity.* *Due to the current land uses within the proposed site, it is likely that reptile habitats have already been disturbed in some areas within the proposed site. It is also likely that reptiles have been and will continue to be killed along the road networks in the absence of the proposed development.*	**DIRECT**	**STUDY AREA**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	• *All the lizards and tortoises, which are likely to occur within the proposed site that are listed as Schedule II species on the PNCO List, and it is therefore illegal for any construction staff to remove them from the site. It will be difficult to avoid all areas where reptiles are likely to occur, but it is recommended that construction staff are educated with regards to reptile conservation and that all staff employed by the developer ensure that any reptiles encountered are not killed. Any reptiles encountered should be allowed to move away from the area but those which require relocation should be relocated in accordance with local legislation.* • *No reptiles must be removed from the site without proper authorisation from the relevant authority.* • *A rescue plan should be developed to protect reptiles which could fall into construction pits.* • *The construction of gird infrastructure on rocky outcrops should be avoided.* • *Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of reptiles being killed along the access roads during construction.* • *Driving within the site must be restricted to day-*	*DIFFICULT*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**LOW -**

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								light hours, where feasible. • *It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.*		
		NO-GO	STUDY AREA	LONG-TERM	POSSIBLE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
LOSS OF AMPHIBIAN DIVERSITY	*It is likely that some of the amphibian species, which occur within the proposed site near surface water habitats, will be disturbed or killed due to construction activities. However, as amphibians are primarily associated with surface water, the likelihood of directly encountering amphibians during construction and operation is lower than that of reptiles. Although, the increase in traffic in the area could result in road fatalities, especially the fatalities of amphibians moving between the wetlands, rivers and streams within the site. In addition, an increase in noise could impact the breeding behaviour of some amphibian species.* *The cumulative impact would be moderate due to the proposed developments in the area, which could contribute to the loss of amphibian diversity.* *Due to the existing primary and secondary roads in some areas the proposed site, it is likely that amphibian habitats have already been disturbed to some degree. It is also likely that amphibians have been, and will continue to be, killed along these roads in the absence of the proposed development.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	• *All frogs and toads are listed as Schedule II species on the PNCO List and it is therefore illegal to remove them from the site without a permit.* • *Where possible, the placement of turbine hardstands should avoid all aquatic habitats as they are valuable habitats for protected amphibian species.* • *If amphibians are encountered during construction works, all construction staff should be educated with regards to amphibian conservation to ensure that they are not harmed or killed. Any amphibians encountered should be allowed to move away from the area or carefully relocated to an area within the same catchment.* • *No amphibians will be allowed to be removed from the site.* • *The construction of pylons must avoid the wetland areas.* • *Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of amphibians being killed along the roads.* • *Driving within the site should be restricted to day-light hours, where feasible.* • *Vehicles should be well maintained so as not to leak oils and fuels which could pollute surface water sources.* • *Oils and fuels should be stored on impermeable surfaces, and preferably under lock and key, to reduce the likelihood of the pollution of surface water.* • *Where possible, existing service/access/haul roads should be used.* • *It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.*	*MODERATE*	**LOW -**
		CUMULATIVE	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**LOCALISED**	**LONG-TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
LOSS OF MAMMAL DIVERSITY	*It is likely that some mammal species will be impacted during the construction phase as a result of habitat loss*	**DIRECT INDIRECT**	**STUDY AREA**	**SHORT-TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	• *In the event of the unearthing of any mole species during construction, all construction staff*	*MODERATE*	**LOW -**

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	and road mortality within the proposed site. During the operation phase, noise may affect communication and breeding potential. The proposed site traverses extensive areas of land which contain numerous large and small mammal species. Most of these large and small mammals, including mammal SCC, will move out of the disturbed areas during the construction phase, but may return once habituated for foraging opportunities. It is possible that some of the smaller, and more secretive mammal species, may still be encountered within the site throughout these phases. *The cumulative impact would be moderate due to the proposed developments in the area, which could contribute to the loss of amphibian diversity.* *In the absence of the proposed development, it is likely that most of the large and small mammal species will probably still move around within and outside of the site due to movement towards foraging opportunities and/or moving away from anthropogenic activities and associated noises within the site.*	CUMULATIVE	STUDY AREA	SHORT-TERM	POSSIBLE	SLIGHT	LOW -	• *should be educated with regards to mammal conservation to ensure that they are not killed, and any mammals encountered should be allowed to move away from the area or carefully moved to an area outside of the project activities.* • *Speed restrictions (40 km per hour is recommended) should be in place to reduce the likelihood of mammals being killed along the roads.* • *Driving within the proposed site should be restricted to day-light hours, where feasible.* • *It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.*	*MODERATE*	LOW -
		NO-GO	STUDY AREA	LONG-TERM	POSSIBLE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
IMPACT OF NOISE AND DUST ON FAUNAL SPECIES	*The construction of the proposed grid infrastructure will result in an increase in noise and dust within the proposed site and surrounds. It is possible that numerous species within the proposed site will be affected by the increase in noise and dust to some extent. The faunal group which is most likely to be impacted by the increase in noise and dust levels is amphibians. Increased dust levels alter wetlands and riparian areas which could affect the feeding and breeding of amphibians within these areas. Fauna vary in the degree to which they can tolerate such disturbances and the increase in noise and dust could potentially have adverse impacts on various faunal groups. Increased noise in wetland areas could also impact amphibian breeding choruses, but these impacts will be localised and many amphibian species are surprisingly tolerant of vehicle noise. Noise pollution will primarily occur during the construction phase of the grid infrastructure development.* *Cumulative impact not rated.* *Due to the current land uses in the area, it is likely that noise and dust are created by the farming activities and the use of gravel roads within the site.*	DIRECT INDIRECT	LOCALISED	SHORT-TERM	DEFINITE	MODERATE	LOW -	• *Soil stockpiles should be limited to 2 m in height.* • *Construction activities such as the digging of trenches, which could result in excessive dust pollution, should preferably cease during period of high winds.* • *Newly cleared and exposed areas must be managed for dust and landscaped with indigenous vegetation to avoid soil erosion. Where necessary, temporary stabilization measures must be used until vegetation establishes.* • *Speed restrictions (40 km per hour is recommended) should be in place to reduce the amount of dust caused by vehicle movement along the roads.* • *Where possible, fine materials should be covered or kept in containers during transportation to avoid contamination of the surrounding areas.* • *Driving within the proposed site should be restricted to day-light hours, where feasible.*	*EASY*	LOW -
		CUMULATIVE	NO IMPACT							
		NO-GO	LOCALISED	LONG-TERM	POSSIBLE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
LOSS OF VEGETATION COMMUNITIES	*Plant communities are dynamic ecosystems which provide habitats that support all forms of life. Different types of plant communities (and habitats) exist within the proposed site. The vegetation types which will be affected by the proposed development footprints include Grahamstown Grassland Thicket, Bhisho Thornveld and Suurberg Quartzite Fynbos. The current condition of these vegetation communities varies from good to poor condition, depending on the level of transformation caused by anthropogenic activities. Sections of these vegetation types will be lost due to vegetation clearance during the construction phase of the grid infrastructure. No development must occur within the patches of Southern Mistbelt Forest.* *The cumulative impact would be moderate due to the proposed developments in the area, which will contribute to the loss of vegetation.* *Vegetation communities have been and will continue to be lost and/or fragmented in the area, in absence of the*	DIRECT	STUDY AREA	PERMANENT	DEFINITE	MODERATE	MODERATE -	• *A comprehensive Plant Search and Rescue must be undertaken by a suitably qualified specialist prior to vegetation clearance.* • *All relevant plant permits must be in place prior to the removal or removal and relocation of protected species.* • *Plant SCC found within the proposed site must either be housed in an onsite nursery for use during rehabilitation or be relocated to suitable areas where vegetation clearance will not occur.* • *Areas of the proposed site which contain large populations of SCC should be avoided where possible.* • *The clearance of vegetation, at any given time, must be kept to a minimum to reduce the possibility of soil erosion.* • *The clearing of vegetation and damage to plants may not be permitted in any areas which have been demarcated as no-go areas, these include*	*MODERATE*	LOW -
		CUMULATIVE	STUDY AREA	PERMANENT	DEFINITE	MODERATE	MODERATE -		*MODERATE*	LOW -

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	grid infrastructure development, due to transformation for agricultural activities and other development.							• *the Southern Mistbelt Forest patches (Beggars Bush State Forest) as well as the Ecca Local Authority Nature Reserve.* • *Where possible, all temporary infrastructure should be placed in areas which have already been transformed.*		
		NO-GO	LOCALISED	PERMANENT	DEFINITE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
REMOVAL OF ALIEN VEGETATION	*The clearance of vegetation associated with the development of the Albany grid infrastructure will include the clearance of alien vegetation which is already present on portions of the proposed site. This will be a positive impact as alien invasive species will be removed, which will improve the condition of the existing indigenous vegetation as there will be less competition from alien invasive species.* *Cumulative impact not rated.* *No-go alternative rated a low negative due to the existing alien vegetation which occurs within the site.*	**DIRECT**	**LOCALISED**	**SHORT-TERM**	**PROBABLE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *A site-specific Alien Vegetation Management Plan must be implemented during the construction phase.* • *Alien vegetation, within the development footprints, should be removed from the site and disposed of at a registered waste disposal site.* • *The development footprints and immediate surroundings should be monitored for the growth/regrowth of alien vegetation throughout the construction phase.*	*EASY*	**FEW BENEFITS +**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	LOCALISED	MEDIUM-TERM	DEFINITE	MODERATE	LOW -	*N/A*	*N/A*	*N/A*
POLLUTION OF SURFACE WATER RESOURCES	*The proposed site contains numerous wetlands and watercourses. Sections of the overhead line corridor are located within 500 m of numerous wetlands, within 100 m of numerous tributaries and a section of the corridor is located within 100 m of the Bothas River. Water use authorisation is required from the DWS prior to the commencement of any construction activities within the regulatory buffers of these wetlands and watercourses. Activities associated with the proposed development could result in the pollution of surface water resources both directly and indirectly through activities such as the inappropriate storage of hazardous materials which could result in spillages and the resultant contamination of surface water resources.* *Cumulative impact not rated.* *No-go alternative not rated.*	**DIRECT INDIRECT**	**LOCALISED**	**MEDIUM-TERM**	**PROBABLE**	**SEVERE**	**MODERATE -**	• *Where possible, the placement of pylons should avoid wetlands and tributaries.* • *No concrete mixing must take place within 32 m of a watercourse or 500 m of a wetland during the construction phase.* • *Concrete mixing must only take place on impermeable surfaces.* • *No stationary construction machinery must be stored within 500 m of a wetland or 32m of a watercourse.* • *Construction machinery must be maintained regularly to reduce the risk of oil and fuel leaks.* • *All stationary machinery should be equipped with drip trays to retain potential oil and fuel leaks.* • *Emergency plans must be in place to remedy oil and fuel spill leaks.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
REHABILITATION	*Inadequate rehabilitation could result in limited revegetation and/or an invasion of alien vegetation which will result in long term ecological degradation and damage.* *Cumulative impact not rated.* *No-go alternative not rated.*	**DIRECT INDIRECT**	**LOCALISED**	**MEDIUM-TERM**	**PROBABLE**	**SEVERE**	**MODERATE -**	• *A Rehabilitation Management Plan should be developed and implemented during the construction phase as construction is complete only each section of line.* • *Measures should be put in place to prevent the accidental or unintentional introduction of alien vegetation during rehabilitation.* • *The development footprints and immediate surroundings should be monitored for the growth/regrowth of alien vegetation throughout the construction phase.* • *Indigenous species must be used for rehabilitation.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
HERITAGE IMPACTS										
ARCHAEOLOGICAL HERITAGE	*The overall area is considered as having a low archaeological heritage significance.* *Cumulative impact not rated.* *No-go alternative will not impact archaeological heritage.*	**DIRECT**	**LOCALISED**	**SHORT-TERM AND PERMANENT**	**POSSIBLE**	**MODERATE**	**LOW -**	• *If any of the buildings are planned to be demolished during the course of development, a built environment specialist, historical architect should be appointed to assess the buildings proposed for demolition.* • *If concentrations of pre-colonial archaeological*	*EASY*	**LOW -**

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								heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue. • *A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.*		
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
HERITAGE	*The overall area [Albany WEF and Albany Connection and Associated Grid Infrastructure site] is considered as having a medium-high heritage significance.* *Cumulative impact not rated.* *No-go alternative will not impact heritage resources.*	**DIRECT**	**LOCALISED**	**SHORT-TERM AND PERMANENT**	**POSSIBLE**	**SEVERE**	**MODERATE -**	• *If any of the buildings are planned to be demolished during the course of development, a built environment specialist, historical architect should be appointed to assess the buildings proposed for demolition.* • *If concentrations of pre-colonial archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.* • *A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.*	*EASY*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
PALAEONTOLOGICAL IMPACTS										

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PALAEONTOLOGICAL RESOURCES	*It is the nature of palaeontological resources that important sites may be spatially very limited, yet they may prove to be of international significance. Discovery of such resources during development may be of great permanent benefit to the scientific community. Their destruction represents a severe permanent loss which may be of international significance. Quarries and roadworks within the study area and within the district have however demonstrated that excavation into the Witpoort Formation not infrequently intercepts black shale layers and lenses that may be of great palaeontological value. Palaeontological investigations of these layers, in the Makhanda (Grahamstown) district, has provided the world's only window into high latitude conditions at the end of the Devonian, a time of extreme importance in understanding the process of vertebrate terrestrialisation and the lead up to the second global Mass Extinction Event. There is therefore a reasonable chance that excavation activities could intercept fossiliferous shales, which may contain important unique heritage material. Lag deposits, containing fossil plant stems and possibly vertebrate bones might also be found preserved within the quartzites. Excavation activities could disturb palaeontological material. Excavations into Lake Mentz Subgroup strata are somewhat less likely to disturb palaeontological material, but should they do so this would also be significant, potentially providing insights into the recovery fauna and flora after the end Devonian Extinction.* *Cumulative impact not rated.* *No-go alternative will not impact palaeontological resources.*	**DIRECT**	**NATIONAL**	**SHORT-TERM AND PERMANENT**	**POSSIBLE**	**SEVERE**	**HIGH -**	• *All excavated areas should be examined by a palaeontologist after excavation.* • *During any excavations, the ECO should check for any palaeontological material and immediately report any finds or suspected finds to the palaeontologist.*	*EASY*	**MODERATE -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
SOCIO-ECONOMIC IMPACTS										
EMPLOYMENT OPPORTUNITIES	*During the 24-month labour intensive construction period, skilled employment amounts to 613 person-month and unskilled up to 900 person-month [combined Albany WEF and Albany Connection and Associated Grid Infrastructure]. Unskilled workers are required to do basic labour such as site clearing, digging of trenches, erection of fences and the laying of foundations. Skilled professionals would include, but not be limited to Land Surveyors, Project Managers, Assistant Project Managers, Engineers and an ECO, machine operators and so forth.* *Cumulative impact of other wind farm and associated infrastructure developments are unlikely to overlap but the construction of the various wind farms in the Makana Local Municipality would contribute positively towards employment and skills transfer for locals, including semi- and higher skilled individuals. Social and economic advantages for individuals and families.* *No-go alternative will not impact result in the creation of additional employment opportunities.*	**DIRECT**	**MUNICIPAL**	**SHORT-TERM**	**DEFINITE**	**BENEFICIAL**	**SOME BENEFITS +**	• *No mitigation is required as the number and type of employment required are determined by the construction program.*	*N/A*	**SOME BENEFITS +**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM-TERM**	**DEFINITE**	**BENEFICIAL**	**SOME BENEFITS +**		*N/A*	**SOME BENEFITS +**
		NO-GO	**NO IMPACT**							

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
EMPLOYMENT EQUITY	*Many local businesses, especially those headed by youth, women and persons with disabilities, are feeling left out in the economic agenda of the province. To address this concern, the Makana Local Municipality is implementing the Local Economic Development Procurement Framework (LEDPF) and the revised Preferential Procurement Policy Framework Act has been in effect since April 2017, which makes it compulsory for all contracts above R30 million to sub-contract 30% of work to small or black-owned enterprises where feasible. Equally important is the development of skills and sustainable youth enterprises as part of the radical economic transformation agenda and Makana Local Municipality has allocated a budget to cater for this demand. SMMEs are registered on the 'Central Supplier Database' to enable them to do business with government (Makana IDP). For this project [Albany WEF and Albany Connection and Associated Grid Infrastructure], the inclusion of Blacks in employment and the entire supply chain forms part of the scorecard according to which the DMRE will rank the projects submitted for bidding. At this stage, DMRE requires a minimum of 30% skilled Black people to be involved in the construction phase, which could be raised during the course of the process. The DMRE encourages the Project to procure with suppliers that have a BBBEE Generic scorecard or who are Qualifying Small Enterprises, Exempt Micro Enterprises and Women Owned Vendors. However, no constructive guidelines/thresholds exist to address employment equity for women, youth and the disabled.* *Cumulative impact - it is unknown what the cumulative contribution towards employment of minority groups have been and the impact on employment equity can thus not be determined.* *No-go alternative will not benefit/affect employment equity.*	**DIRECT**	**MUNICIPAL**	**SHORT-TERM**	**POSSIBLE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *Maximise local employment (unskilled, semi- and skilled workers) as well as the number of local SMMEs and vendors. Set standards for local employment in the Contractor Services Management Plans.* • *Implement a fair and transparent employment process through the EPC contract and employ a Community Employer Relations Officer for the duration of the construction period.* • *Implement a SMME skills development programme (training on how to tender, understanding contracts, etc.) at least 4 months prior to inviting SMMEs to tender. The programme should not only assist local small businesses but also aim to do skills development for the local Municipality.* • *Communication with the affected communities should be done constructively through one channel, such as the Community Employer Relations Officer through the assistance of the local councillors. This will assist to manage expectations and avoid potential conflict.* • *A policy regarding employment equity of minority groups should be formulated and implemented wherever possible.* • *As part of the tender documents, the Contractor/s have to provide subcontracting values per package and the plan on how they will meet procurement of minority groups (women, youth, disabled) and SMMEs targets assigned.* • *Implement relevant measures should the Contractor/s not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work, etc.).*	*MODERATE*	**SOME BENEFITS +**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM-TERM**	**UNSURE**	**DON'T KNOW**	**DON'T KNOW**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
LOCAL EMPLOYMENT	*The term "local" means a community or communities residing within the area of jurisdiction of the District Municipality in which the project site is located; or residing in one or more residential areas or villages within 50 km from the Project Site. At this stage DMRE, prescribes that between 12 and 20% of people employed on a project have to be residents of local communities (as defined above). This threshold is not set and could change.* *From a socio-economic perspective, the benefits and overall significance of this impact would increase if the number of locals working on the Project is maximised. It is anticipated that the majority of the unskilled and semi-skilled positions could be filled by locals. The number of foreigners/expatriates employed on renewable energy projects has decreased over time, as skills have gradually been transferred to South Africans. Skilled professionals could be available locally due to experiences gained during construction of the Waainek Windfarm and similar projects in the Eastern Cape.* *Cumulative impact - although probable, local*	**DIRECT**	**MUNICIPAL**	**SHORT-TERM**	**DEFINITE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *Maximise local employment (unskilled, semi- and skilled workers) as well as the number of local SMMEs and vendors. Set standards for local employment in the Contractor Services Management Plans.* • *Implement a fair and transparent employment process through the EPC contract and employ a Community Employer Relations Officer for the duration of the construction period.* • *Implement a SMME skills development programme (training on how to tender, understanding contracts, etc.) at least 4 months prior to inviting SMMEs to tender. The programme should not only assist local small businesses but also aim to do skills development for the local Municipality.* • *Communication with the affected communities should be done constructively through one channel, such as the Community Employer Relations Officer through the assistance of the local councillors. This will assist to manage*	*MODERATE*	**SOME BENEFITS +**

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	employment at Waainek WEF and the other wind farms to be constructed is unknown (severity is unknown) and the cumulative impact of local employment cannot be rated. However, in the Eastern Cape (in BW1-4) 4 737 construction jobs (job years) have been created for all renewable energy projects combined; and 53% local people (2 509) were employed in construction. This is more than the Northern and Western Cape provinces, where 51 and 45% locals retained construction jobs. *No-go alternative will not benefit/affect local employment.*							*expectations and avoid potential conflict.* • *A policy regarding employment equity of minority groups should be formulated and implemented wherever possible.* • *As part of the tender documents, the Contractor/s have to provide subcontracting values per package and the plan on how they will meet procurement of minority groups (women, youth, disabled) and SMMEs targets assigned.* • *Implement relevant measures should the Contractor/s not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work, etc.).*		
		CUMULATIVE	**MUNICIPAL**	**MEDIUM-TERM**	**PROBABLE**	**DON'T KNOW**	**DON'T KNOW**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
LOCAL ECONOMIC IMPACTS	*Procurement* *In order to promote preferential procurement and local content, a percentage of the scorecard ranked by DMRE to select winning bids will be based on:* • *How much of the facility is manufactured in South Africa; and* • *The amount of goods and services procured through South African companies that have a BBBEE Generic scorecard or who are Qualifying Small Enterprises, Exempt Micro Enterprises and Woman Owned Venders.* *It is anticipated that many of the high-technology components required would be imported and local procurement would thus be more focused on general construction material and goods and infrastructure elements. Building material could be sourced from local towns and aggregate material from licenced borrow pits as close to the site as possible. The specific procurement strategy will be formulated closer to the time. Some of the strategies are confidential and can thus not be revealed at this stage.* *Impacts as a result of salaries and wages* *The unemployment rate in Makana Local Municipality is 32.5%, and averages 29.8% in the three affected wards. Local unemployment is thus higher than national and provincial averages. Between 12 and 20% of people employed on the Project have to be residents of local communities and the assumption can be drawn that the majority of the unskilled workforce will be unemployed prior to the construction phase commencing. Incomes in the form of salaries and wages would thus hold economic benefits for these individuals, households and communities for the duration of the construction period.* *Induced Impacts* *The multiplier impact on the local economy due to local procurement of goods and services encourages further employment at downstream businesses, with positive impacts on disposable incomes and subsequently the cumulative demand in the economy would increase. Also, when households spend earnings from project development, salaries and wages as well as procurement, these earnings circulate in the regional economy and manifest as induced impacts. These effects*	**DIRECT INDIRECT**	**REGIONAL**	**SHORT-TERM**	**PROBABLE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *Formulate a local procurement strategy that specifically also aims to increase the local content of the Project to its maximum.* • *Involve the Makana LED Department in the early processes and commence discussions with them during financial close already.* • *Do a Value-chain analysis of services required (directly and indirectly related to construction such as transport, laundry, catering, uniform supplies, etc.) and communicate this to the Makana LM at least four months prior to the tender process commencing. Do skills development and training for the SMME's and Makana LM to ensure that SMMEs/contractors are prepared and equipped to take part in the tender processes.*	*MODERATE*	**SOME BENEFITS +**
		CUMULATIVE	**REGIONAL**	**MEDIUM-TERM**	**PROBABLE**	**MODERATELY BENEFICIAL**	**SOME BENEFITS +**	*N/A*	*N/A*	*N/A*

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	associated with the construction phase could include: • *Contracts with SMME's and local service providers (catering, transport, etc.) that are not directly related to construction;* • *Manufacturing jobs related to turbine and supply chain impacts;* • *Retail sales, childcare, leisure and hospitality; and* • *Real estate sectors and accommodation of foreigners in local establishments and related spin-offs, such as tourism.* *Cumulative impact is that local procurement of the various wind energy projects (Makana Local Municipality and the Eastern Cape Province) would result in technology development and positive cumulative economic impacts for the local and regional economies. Cumulative local economic impacts as a result of an increase in spending power would benefit local and regional study area. Enhanced local economic opportunities, economic diversification, industrialisation, job creation and other economic spin-offs for the local municipality and region.* *No-go alternative will not significantly alter the current local economic conditions.*	NO-GO	**NO IMPACT**							
IMPACTS ON THE SOCIAL AND DEMOGRAPHIC STRUCTURE OF THE LOCAL MUNICIPALITY	*<u>Influx of jobseekers and the impact of temporary construction workers</u>* *Should the project be a successful bidder and the construction period becomes public knowledge, jobseekers and temporary construction workers from the Eastern Cape Province, or wider country, could pose various challenges and negative impacts:* • *Conflict between locals and 'outsiders' if an outside labour force receives preference;* • *Conflict due to cultural differences and impacts on social networks;* • *An increase in the size and number of informal settlements in and around the study area;* • *Provision of accommodation for temporary workers could become an economic and social burden for the Project and the Local and District Municipalities (erection of a construction camp to house workers is however not foreseen);* • *Workers that remain in the area after the construction period ended could place additional pressure on local government for housing and associated infrastructure and services;* • *'Outsiders' that have short-term relationships with local women resulting in unwanted pregnancies and an increase in HIV/AIDS and other STD's, thereby placing more pressure on healthcare facilities;* • *An increase of single-headed households without a main income provider and pressure on healthcare, social grants and infrastructure; and* • *Safety and security issues for the surrounding landowners due to an influx of 'jobless' people.* *<u>Impacts on the size and structure of the local Municipal population</u>* *Changes in the size, gender, race and age composition of*	**DIRECT INDIRECT**	**MUNICIPAL**	**SHORT-TERM**	**PROBABLE**	**SLIGHTLY TO MODERATELY SEVERE**	**LOW -**	• *Ensure that the Community Employer Relations Officer has knowledge of the local communities, is educated with good public relation skills, committed to the cause and is accessible for community members.* • *Care should be taken to communicate the project requirements and time frames to the local communities to avoid raising unrealistic expectations. Work through limited communication channel such as the Community Employer Relations Officer and ward Councillor.* • *Contractually obligate contractors and subcontractors to employ temporary workers through the labour desk/job seeker registration database and make this fact known to the communities. This would address and limit the uncoordinated influx of jobseekers to the site and to the surrounding towns, as they would be unable to secure work if not through the established routes.* • *Recruitment of temporary workers at the access to the construction site is not allowed.*	*DIFFICULT*	**LOW -**

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	the local population would be affected by the scale of 'outsiders' moving into the area [Albany WEF and Albany Connection and Associated Grid Infrastructure] and the length of the period that they remain. Adequate management of the employment processes and strict measures in terms of local employment would mitigate this impact effectively. *Cumulative impact is unknown; whether Waainek Wind Farm (or other renewable energy projects in the region) resulted in an influx of jobseekers and the severity of the cumulative impact can thus not be rated. The likelihood of the impact manifesting is possible but is rated with an overall LOW significance as locals should have been primarily employed in accordance with DMRE requirements. In terms of impacts on the size and structure of the local municipal population, although possible, the severity of this impact manifesting for the municipality as a result of cumulative factors is unknown and a LOW overall negative significance is awarded.* *No-go alternative will not significantly impact the social and demographic structure of the Makana Local Municipality.*	**CUMULATIVE**	**MUNICIPAL**	**MEDIUM-TERM**	**POSSIBLE**	**DON'T KNOW**	**LOW -**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY: Training/skills development of individuals/groups/ SMMEs	*During the construction phase the Project's subcontractors will provide locally recruited staff with suitable training to safely undertake the roles they will perform on site. If required as part of the subcontractors' own strategy to maintain their BBBEE Level, subcontractors may provide additional capacity building to specific individuals, groups of individuals or SMMEs employed on the Project. The type of training and/or capacity building would generally be specific to the needs* *of the individuals/groups/SMMEs being supported. For example, this may include training in health and safety legislation, first aid, firefighting, construction skills, basic electrical training, quality management, legal compliance or business skills. Any such capacity building or training is at the discretion of the individual subcontractor. An important outcome of skills development and training is that it increases the employability of a region's workforce, resulting in enhanced economic opportunities and thus addressing poverty alleviation over the medium- to long-term.* *Cumulative impact includes capacity building for unskilled and semi-skilled individuals and SMMEs in the broader Makana Local Municipality, thereby increasing their employability. Individuals would be able to use their skills gained to secure employment at similar renewable energy projects in future.* *No-go alternative will not result in positive impacts for the employability of the local and regional labour force over the medium- or long-term.*	**DIRECT**	**MUNICIPAL**	**SHORT-TERM**	**PROBABLE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *Clearly define the study area and beneficiary communities who would benefit directly through employment, equity, SED and ED spend.* • *Collaborate with Waainek Wind Farm to determine the beneficiaries on its Community trust, and how their SED and ED expenditures are allocated. This will ensure that overlapping do not take place. Co-ordinate projects and training programmes wherever possible.* • *Monitor social performance of contractors and determine how contractors fair on each KPI.* • *Implement relevant measures should the contractors not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work).* • *Require larger contractors to work with small SMMEs to train and transfer skills and include this requirement in the CSMP.* • *Implement a SMME skills development programme to train and educate SMMEs and other small vendors how to tender, understanding contracts, basic business skills and so forth.* • *Partner with consulting firms and initiatives that support the Eastern Cape Department of Economic Development Environment and Tourism's SMME support programme. Conduct workshops for the eligible SMMEs that were selected for tailored support measures, issue SMME Resource Packs, provide one-on-one enterprise development support, provide office space (where feasible), finance and support liaising with relevant government and state-owned agencies.* • *Create a point of contact for the public such as a community liaison office, a visitor centre, a website with contact details or even a Facebook group.*		**FEW BENEFITS +**

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
		CUMULATIVE	MUNICIPAL	MEDIUM-TERM	PROBABLE	MODERATELY BENEFICIAL	SOME BENEFITS +	*N/A*	*N/A*	*N/A*
		NO-GO	NO IMPACT							
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY: Beneficiary identification	*Communities within a 50 km radius of the project are eligible to become beneficiaries of the program. The identification of beneficiary communities could however be problematic as the social and political dynamics can be negatively impacted by selectively identifying some people as beneficiaries over others. Also, the 50 km radius often competes with other administrative boundaries. Such a radius can stretch over one or more municipal areas and can even cross provincial and national boundaries, which makes the alignment of SED and ED plans with government policies difficult. For the Albany WEF and the Albany Connection and Associated Grid Infrastructure the 50 km radius would include Makhanda and a number of smaller inland and coastal towns. It is thus necessary to shrink the 'Project impact area' that would benefit directly through equity, SED and ED and as such the Albany WEF and the Albany Connection and Associated Grid Infrastructure will aim to prioritize projects implemented in closer proximity to the Project site. Coordination and cooperation in terms of beneficiary identification between the Waainek and Albany WEF's would avoid fragmented spending, ensuring that economic advantages of the Project are fairly and equally distributed.* *Cumulative impacts associated with beneficiary identification (such as conflict) is possible, but the severity of the impact, should it manifest, is unknown.* *No-go alternative will not require beneficiary identification.*	DIRECT	MUNICIPAL	SHORT-TERM	POSSIBLE	SLIGHT	LOW -	*N/A*	*N/A*	*N/A*
		CUMULATIVE	REGIONAL	MEDIUM-TERM	POSSIBLE	DON'T KNOW	DON'T KNOW	*N/A*	*N/A*	*N/A*
		NO-GO	NO IMPACT							
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY: Community projects, ED and SED contributions	*Due to the ED and SED commitments being linked to revenue received during the operational phase of the Project, Albany Wind Power will not be implementing any ED and SED projects during its construction phase. However, the developer will assess the potential of utilising ED and SED funds from its neighbouring project (Waainek Wind Farm) for the benefit of the commonage farmers occupying land on the Albany Site.* *Cumulative impacts include Waainek Wind Power which has committed to allocating a total of 2.1% of its revenues on ED (0.6%) and SED (1.5%) projects within a 50 km radius form the project. Although few ED and SED benefits are anticipated during the Albany WEF's construction phase, cumulative impacts would hold some benefits for the local Municipality over the medium-term.* *No-go alternative will not result in community projects, nor ED or SED contributions.*	DIRECT INDIRECT	STUDY AREA	SHORT-TERM	UNLIKELY	NO EFFECT	FEW BENEFITS +	*N/A*	*N/A*	*N/A*
		CUMULATIVE	MUNICIPAL	MEDIUM-TERM	PROBABLE	SLIGHTLY BENEFICIAL	SOME BENEFITS +	*N/A*	*N/A*	*N/A*
		NO-GO	NO IMPACT							
SECURITY IMPACTS	*Crime and security issues during the construction phase are often associated with the influx of outsiders and an increase in jobless people. The increase in human activities and materials and equipment brought to site could attract criminals, which would be exacerbated if the recruitment process is mismanaged.* *Cumulative impacts, although possible, the cumulative impact cannot be rated.* *No-go alternative will not result in community projects, nor ED or SED contributions.*	DIRECT INDIRECT	STUDY AREA	SHORT-TERM	POSSIBLE	MODERATELY SEVERE	MODERATE -	• *Do a security risk assessment and base the exact security measures on the detailed assessment of the risks at the site.* • *Clearly demarcate and/or fence the construction areas, ensure access control and allow no trespassing of workers outside the designated construction areas.* • *Security personnel that patrol the wider areas surrounding the turbine construction footprints, and not limited to the construction areas, could be considered pending the outcome of the*	*MODERATE*	LOW -

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
								security risk assessment. • *Fencing surrounding all construction areas, where feasible [i.e. not along the connection route].* • *Signboards at the accesses and along the major roads warning motorists of the dangers of a construction site and of heavy vehicles turning.* • *Workers should not be allowed to remain in and around the construction site when they are off duty; workers transported to their places of residence after each shift.*		
		CUMULATIVE	MUNICIPAL	MEDIUM-TERM	POSSIBLE	DON'T KNOW	DON'T KNOW	*N/A*	*N/A*	*N/A*
		NO-GO	NO IMPACT							
GENERAL IMPACTS ON THE MAKANA LOCAL MUNICIPALITY	*The proposed construction project would hold economic advantages for the Makana Local Municipality in terms of employment, skills development, SMME development and so forth. However, local government is also faced with various responsibilities and challenges during the feasibility and construction phases, which could place pressure on municipal resources, such as:* • *Collaboration with the Project for permits for the submission of a compliant bid;* • *Management of stakeholder and community relations;* • *Involvement in the employment process by assisting the Community Employer Relations Officer with the job seeker registration database;* • *Participation in SMME training and SMME support programmes;* • *Monitoring of the construction site and processes to ensure compliance with municipal bylaws; and so forth.* *It is possible that there are shortfalls in capacity and management experience within the municipality and bureaucratic procedures and financial constraints could also hamper progress.* *Cumulative impacts – pressure on roles, responsibilities and resources of Makana Local Municipality would increase.* *No-go alternative will not result in general impacts on the Makana Local Municipality.*	DIRECT	MUNICIPAL	SHORT-TERM	DEFINITE	SLIGHT	LOW -	• *Should electricity or any other service disruptions occur, inform the local landowners/communities thereof in advance and restore the service as quickly as possible.* • *Include Makana Local Municipality in all relevant processes from the onset of the Project:* ○ *Inform Council on a regular basis of expected timelines and issues arising;* ○ *Establish a Project Steering Committee (PSC) or similar structure for the duration of the construction period. Members of the PSC (Developer, Contractor, Municipality, landowner representatives, etc.) would meet on a quarterly basis to discuss issues that may arise during the course of the construction period;* ○ *Include the affected local Councillors in the employment process to cooperate with the Community Employer Relations Officer in compiling and managing the job seeker registration database;* ○ *Involve the relevant LED structure in training and skills development programmes for SMME development and certification;* ○ *Inform the municipality of the Procurement strategy to be implemented and obtain their inputs, where required and feasible; and* ○ *Apply timeously for the relevant zonings and permits with Council.* • *Establish a protocol for landowners and other affected parties to raise complaints: make a complaints' register available at the entrance to the construction site; make the contact details of the main contractor, CLO, PSC and Ward Councillor available; address complaints speedily.*	*EASY*	FEW BENEFITS +
		CUMULATIVE	MUNICIPAL	MEDIUM-TERM	DEFINITE	MODERATELY SEVERE	MODERATE -	*N/A*	*N/A*	*N/A*
		NO-GO	NO IMPACT							
HEALTH AND SAFETY IMPACTS	*<u>Health and safety risks for construction workers</u>* *Inadequate management of the construction process and general construction related activities could result in health and safety risks for workers, manifesting in the*	DIRECT INDIRECT	LOCALISED	SHORT-TERM	POSSIBLE	SEVERE	MODERATE -	• *Construction workers to wear protective clothing (e.g. masks that minimize dust inhalation and clothing that protects against sunburn) and earplugs.*	*MODERATE - DIFFICULT*	LOW -

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	following ways: • *Construction related accidents due to structural safety of project infrastructure;* • *Dust generation and air pollution resulting in respiratory diseases;* • *High ambient noise levels caused by machinery and construction equipment resulting in loss in hearing or similar health issues;* • *Dehydration, sunburn and related issues due to unsafe and insufficient drinking water and high temperatures during summer months; and* • *An increase in HIV/AIDS and other STDs due to prostitution activities and temporary sexual relationships with local women, unwanted pregnancies that place further pressure on Basic Health Care Services.* *<u>Community health and safety risks</u>* *Community health and safety impacts as a result of poor management of the construction site and construction activities could include:* • *Road accidents, subsequently placing pressure on local emergency, disaster management and health services (fire, ambulance, police services, etc.);* • *Unauthorized access/trespassing at the construction site, resulting in theft, public safety issues and accidents;* • *Fire hazards at the construction site and the possibility of fires spreading and damaging surrounding farmland and infrastructure;* • *Pollution problems, flies, rodents and pests and possible contamination of ground and surface water sources due to poor management of the construction activities (e.g. insufficient sanitation facilities, littering and refuse);* • *High ambient noise levels that damage hearing (unlikely); and* • *Dust generation and air pollution caused by gravel roads, construction activities and machinery resulting in respiratory diseases.* *The risk/likelihood of the impact manifesting as well as its severity will, to a large extent, depend on the proximity of sensitive receptors (residences, farming activities, livestock, etc.) to the construction sites. It is required of the Project to comply with all the provisions of the Occupational Health and Safety Act (Act No. 85 of 1993) in order to mitigate potential health and safety issues.* *Cumulative impacts associated with health and safety of the workforce and the community are possible but cannot be rated as the severity of the impact manifesting is unknown.* *No-go alternative will not result in an increase in health and safety impacts.*							• *Lock away dangerous plant, equipment and material when not supervised or in use.* • *Provide safe and clean drinking water and instil regular water breaks to keep workers hydrated.* • *Provide sufficient ablution facilities (chemical/portable toilets, etc.) at strategic locations that are cleaned regularly.* • *Keep the local police, emergency and ambulance services informed of construction times and progress.* • *Ensure that emergency vehicles/ambulance is on stand-by for the duration of the construction period.* • *Display "danger" warning signs and "no public access" signs at all potential accesses, paths and along the periphery of the construction areas in English and the local languages.* • *Ensure good visibility at the accesses to the site.* • *Adhere to the Emergency and Safety plan procedures for the duration of the construction phase.* • *Implement all mitigation measures to address individual and family level impacts during the construction phase.* • *Implement measures to suppress dust, such as spraying water on gravel roads, surfaces and stockpiles on a regular basis.* • *Dispose of the various types of waste generated in the appropriate manner at licensed waste landfill sites at regular intervals.* • *Store any materials away from sensitive locations in fenced-off areas.* • *Accommodation and facilities of security guards and any other personnel that may stay on site should comply with health and safety standards.* • *Inform the Municipality and emergency services if harmful substances are spilled.* • *Designate a suitable area for cooking fires (if required).*		
	CUMULATIVE	**MUNICIPAL**	**MEDIUM-TERM**	**POSSIBLE**	**DON'T KNOW**	**DON'T KNOW**	*N/A*		*N/A*	*N/A*
	NO-GO	**NO IMPACT**								
<u>OPERATIONAL PHASE</u>										
AGRICULTURAL IMPACTS										

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
INCREASE IN STOCK THEFT AND POACHING	*The increase in individuals accessing the affected properties for the development during the operational phase could lead to the increase in stock theft and poaching, which is already an issue in the area.* *Cumulative impact would be the combined activity within the site due to the maintenance of the Albany overhead line and associated grid infrastructure as well as the maintenance of the Albany WEF.* *No-go alternative would have high significance because stock theft and poaching are existing issues within the Eastern Cape.*	**INDIRECT**	**REGIONAL**	**LONG-TERM**	**POSSIBLE**	**SEVERE**	**HIGH -**	• *No unauthorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary.* • *Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions.* • *Maintenance workers must not handle or remove any livestock or wildlife from the site or the surrounding properties.* • *Police should be notified if any illegal actions take place.*	*DIFFICULT*	**MODERATE -**
		CUMULATIVE	**REGIONAL**	**LONG-TERM**	**POSSIBLE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**REGIONAL**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	*N/A*	*N/A*	*N/A*
AVIFAUNAL IMPACTS										
COLLISION AND ELECTROCUTION ON OVERHEAD POWER LINES	*Birds could perch on the pylons/towers of the overhead power line and be at risk of electrocution if the design is not bird friendly. Birds in flight could collide with the overhead cables, particularly the earth wire.* *Cumulative impact has been rated as moderate due to the collision and electrocution risk of the proposed Albany overhead line and associated grid as well as the risk which is posed by the existing overhead lines and proposed grid infrastructure in the area.* *No-go alternative has been rated as low due to collision and electrocution risks which currently exist due to existing overhead lines.*	**DIRECT**	**STUDY AREA**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	• *Anti bird collision line marking devices must be maintained throughout the operational phase.*	*MODERATE*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**MODERATE -**		*MODERATE*	**LOW -**
		NO-GO	**STUDY AREA**	**LONG-TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
ECOLOGICAL IMPACTS										
INVASION OF ALIEN VEGETATION	*The clearance of vegetation associated with the development of the Albany grid infrastructure will create open/bare habitats which are likely to be colonised by pioneer plant species. While this is partly a natural revegetation/regeneration process, which would ultimately lead to the reestablishment of secondary vegetation cover, it also favours the establishment of alien vegetation.* *Cumulative impact not rated.* *No-go alternative has been rated as low due to the existing alien vegetation which currently occurs within the site.*	**DIRECT INDIRECT**	**LOCALISED**	**LONG-TERM**	**PROBABLE**	**SEVERE**	**MODERATE -**	• *The site-specific Alien Vegetation Management Plan must be implemented for the first two (2) years of the operational phase. Thereafter, alien vegetation must continue to be monitored and eradicated annually throughout the life of the project.* • *Alien vegetation, within the development footprints, must be removed from the site as they appear and must be disposed of at a registered waste disposal site.*	*EASY*	**FEW BENEFITS +**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**LOCALISED**	**LONG-TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*N/A*	*N/A*	*N/A*
HERITAGE IMPACTS										
NO OPERATIONAL PHASE IMPACTS HAVE BEEN IDENTIFIED BY THE HERITAGE SPECIALIST.										
PALAEONTOLOGICAL IMPACTS										
NO OPERATIONAL PHASE IMPACTS HAVE BEEN IDENTIFIED BY THE PALAEONTOLOGICAL SPECIALIST.										
SOCIO-ECONOMIC IMPACTS										
DIRECT EMPLOYMENT	*The Albany WEF and Albany Connection and Associated Grid Infrastructure will have permanent Service Technicians and assistants (if any) on site during the operational phase. At this point, the following person-months are estimated:* • *Skilled: 1 690 person-months; and* • *Unskilled: 240 person-months.* *Skilled positions usually relate to technicians, electricians, IT specialists, engineers and mechanics and unskilled workers entail cleaners and site maintenance.*	**DIRECT**	**MUNICIPAL**	**LONG-TERM**	**DEFINITE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *Even though mitigation will not impact on employment significantly, it is proposed to:* ○ *Make use of local service providers and SMMEs and increase the frequency and number of temporary employment opportunities wherever possible;* ○ *Through ED contributions do training and capacity building of SMMEs where necessary; and* ○ *Make employment creation one of the SED program's targets, aims and*	*EASY*	**FEW BENEFITS +**

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	Furthermore, ahead of the operational phase, an IMA is appointed to administer and manage ED and SED contributions. Temporary staff will be employed periodically through service providers for civil works and site maintenance (roads, crane pads, etc.), site clearance to minimize potential veld fires, painting of buildings and small maintenance jobs such as plumbing. These numbers cannot accurately be determined at this early stage of the Project. *Cumulative impact of permanent and temporary employment of the WEFs in Makana Local Municipality would hold benefits of LOW overall significance, as the wind farms are not labour intensive. Employment, training and capacity building at the three wind farms would enhance skills of the workforce, contributing to economic diversification.* *No-go alternative will not result in direct employment opportunities.*							*objectives. Local businesses that apply for SED funding have to demonstrate their commitment to employment creation (criteria for evaluation by the Implementing and Monitoring Agent).*		
		CUMULATIVE	**MUNICIPAL**	**LONG-TERM**	**DEFINITE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
INDIRECT EMPLOYMENT	*Job creation as a result of the funding spent on SED projects, such as construction/infrastructure projects, literacy/educational programmes, sport development and so forth, is probable. At this premature stage of the Project it is not possible to determine or estimate the number of indirect job opportunities that will manifest.* *Cumulative impact will include indirect job creation, training and capacity building at the wind farms in the Makana Local Municipality which could contribute to individual/household incomes, address poverty levels and enhance skills of the local municipal workforce.* *No-go alternative will not benefit local communities in terms of indirect job creation, skills development or any other economic spinoffs. No negative impact on existing employment opportunities in the reserve management and hospitality components of the affected game farms.*	**INDIRECT**	**MUNICIPAL**	**LONG-TERM**	**PROBABLE**	**SLIGHTLY BENEFICIAL**	**FEW BENEFITS +**	• *Even though mitigation will not impact on employment significantly, it is proposed to:* ○ *Make use of local service providers and SMMEs and increase the frequency and number of temporary employment opportunities wherever possible;* ○ *Through ED contributions do training and capacity building of SMMEs where necessary; and* ○ *Make employment creation one of the SED program's targets, aims and objectives. Local businesses that apply for SED funding have to demonstrate their commitment to employment creation (criteria for evaluation by the Implementing and Monitoring Agent).*	*EASY*	**SOME BENEFITS +**
		CUMULATIVE	**MUNICIPAL**	**LONG-TERM**	**DEFINITE**	**MODERATELY BENEFICIAL**	**SOME BENEFITS +**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
GENERAL IMPACTS FOR THE LOCAL ECONOMY	*During the operational phase, the local economy could benefit in the following ways:* • *A possible increase in municipal rates and taxes, as the lease areas would be zoned "Special Use for Renewable Energy Infrastructure", resulting in higher levels of rateable income.* • *Induced impacts on retail sales, childcare, leisure and hospitality, real estate, etc. as more money circulates in the local economy due to:* ○ *Salaries and wages;* ○ *SED and ED contributions (currently the target set by DMRE is 2.1% of revenue); and* ○ *Shareholding in respect of local ownership (currently expected to be around 26%), which leads to the increase in financial resources for the local community (local ownership dividends start accruing in most projects from year five (5) to fifteen (15) onwards, depending on the project finance structure).* *Cumulative impact of benefits for the local economy have already been generated and would further be enhanced with the implementation of the Albany and Plan 8 WEF's. Locally, the Makana Winds of Change*	**DIRECT INDIRECT**	**MUNICIPAL**	**LONG-TERM**	**DEFINITE**	**MODERATELY BENEFICIAL**	**SOME BENEFITS +**	• *Mitigate potential intrusion impacts, implement relevant security measures, maintain infrastructure, fencing and roads and implement dust control measures in co-operation with the private landowners to ensure that their property values do not decrease.*	*MODERATE*	**SOME BENEFITS +**

Issue	Description Of Impact	Nature Of Impact	Spatial Scale (Extent)	Temporal Scale (Duration)	Certainty Scale (Probability/ Likelihood)	Severity / Beneficial Scale	Significance Pre-Mitigation	Mitigation Measures	Reversibility/ Mitigation	Significance Post-Mitigation
	Community Trust, which emanates from the neighbouring Waainek Wind Farm, is a 26% shareholder in Waainek Wind Power (RF) (Pty) Ltd, which has been operational since 2016. Dividends received are contributed on community development projects/initiatives within a 50 km radius of the wind farm. The cumulative impact of renewable energy projects for the country as a whole is significant. Based on the submitted numbers in the bid documents there is a 90% probability that the total resources committed to SED and ED around the 64 approved projects in round one to three of the procurement programme will accumulate to R 570 780 737 million over the next 20 years. Local ownership is also expected to result in a significant financial value associated with dividends. Summarising the financial commitments of projects in the first three rounds for SED, ED and local ownership, a total of R 1.17 billion has been allocated towards local economic development investments in communities around projects. This is generated and will be available over the next 20 years (Wlokas,2015). In the Eastern Cape Province, the IPP projects procured will make a combined SED commitment of R 4.5 billion over the 20-year project life and R 1.2 billion has been committed to ED alone (IPP Office, 2018). *No-go alternative will not have monetary contributions and economic spinoffs for the local economy and communities as a result of this Project. Status quo remains.*	**CUMULATIVE**	**MUNICIPAL**	**LONG-TERM**	**DEFINITE**	**BENEFICIAL**	**BENEFICIAL +**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
COMMUNITY HEALTH AND SAFETY RISKS	*Community health and safety risks could include:* • *Uncontrolled veld fires that destroy or damage surrounding farmland and infrastructure;* • *Road accidents if employees of the wind farm [and grid infrastructure] do not adhere to speed limits and implement general road safety practices; and* • *Unauthorized access/trespassing at the wind farm infrastructure resulting in public safety issues.* *Cumulative impact on community health and safety may manifest.* *No-go alternative will not result in community health and safety impacts manifesting.*	**DIRECT INDIRECT**	**SUDY AREA**	**LONG-TERM**	**POSSIBLE**	**MODERATELY SEVERE**	**MODERATE -**	• *Implement measures to suppress dust on a regular basis, such as spraying water on gravel roads, surfaces and stockpiles.* • *Workers on site to wear protective clothing.* • *All on-site activities to comply with the Occupational Health and Safety Act and with Standards of conditions of employment.* • *Where possible, install safety fencing around the construction areas to prevent illegal trespassing.* • *Fire breaks to prevent the spreading of veld fires.* • *Display "danger" warning signs and "no public access" signs in English and the local languages at all potential accesses.* • *Implement all the safety and security measures as identified in the Security Risk Assessment.* • *Make the procedure to lodge complaints available to the surrounding property owners and Ward Councillor/s to enable them to lodge complaints when problems with regards to community and/or environmental health arise. Keep a complaints register at the entrance to the site.*	*EASY - MODERATE*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**LONG-TERM**	**POSSIBLE**	**MODERATELY SEVERE**	**MODERATE -**	*N/A*	*N/A*	*N/A*
		NO-GO	**NO IMPACT**							
DECOMMISSIONING PHASE										
The proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant. However, it is recommended that the EMPr be updated, based on the environmental conditions and relevant legislation at the time, and implemented during the decommissioning of the Albany Connection and Associated Grid Infrastructure.									

8.4 CUMULATIVE IMPACT

The proposed Albany WEF and Albany Associated Grid Infrastructure projects are located within a 30km radius of Waainek (operational), Plan 8 Grahamstown (authorised), Fronteer (proposed) and Wind Garden (proposed) WEFs. The assessment, from a cumulative perspective, was undertaken by specialists for both the WEF and the Associated Gird Infrastructure.

Overall, the cumulative impact of the proposed Albany WEF and associated infrastructure, when neighbouring existing and authorised WEFs are considered is MODERATE negative. Cumulative impacts are notoriously difficult to mitigate since environmental legislation, related to monitoring, construction and operation, changes over time. Developers are therefore not always prescribed the same standards of environmental care. In addition to this, cumulative impacts can only be assessed using available data and in some cases older EIAs did not assess impacts to the same level of detail, e.g. specialist studies can vary drastically, which means that data is often limited. However, there are standard practice procedures, such as anti-bird collision line divertors, alien vegetation management plans, prescribed socio-economic development budgets and other factors which are present across the board in terms of Renewable Energy facilities. It is therefore easier to state with confidence which impacts are mitigatable across the cumulative board.

8.5 NO-GO ALTERNATIVE

There are a number of current environmental impacts which are taking place on the proposed site. These impacts relate to alien vegetation, poaching, waste and erosion. The no-go alternatives of the remainder of the impacts mean that the site and its surrounding remain as is (status quo). This means that the negative impacts described in this report would not transpire and nor would the positive impacts.

9. RECOMMENDATIONS & CONCLUSIONS

9.1 RECOMMENDATIONS

It is recommended that the following general and specialist mitigation measures are included in the EMPr(s) for each of the phases of the Albany Connection and Associated Grid Infrastructure development.

9.1.1 General Impact Recommendations and Mitigation

GENERAL IMPACTS - PLANNING & DESIGN PHASE MITIGATION FOR EMPR

- All hazardous substances such as paints, diesel and cement must be stored in a bunded area with an impermeable surface beneath them.
- Cement mixing must be conducted at a single location which must be centrally located, where practical. This mixing must take place on an impermeable surface, and dried waste cement must be disposed of with building rubble at a suitably registered disposal site.
- Ensure that all relevant legislation and policy is consulted and ensure that the project is compliant with such legislation and policy.
- Planning for the construction and operation of the proposed overhead line and associated grid infrastructure must consider available best practice guidelines.
- Where possible, monopoles should be placed at least 32 m away from rivers, tributaries and drainage lines.
- A Stormwater Management Plan must be designed prior to the commencement of the construction phase.
- The plan must also include management mitigation measures for water pollution, wastewater management and the management of surface erosion e.g. by considering the applicability of contouring, etc.
- A Waste Management Plan must be developed prior to the commencement of the construction phase.
- During the planning and design phase, a suitable area should be designated to the temporary storage of waste prior to disposal at a licenced facility.

GENERAL IMPACTS - CONSTRUCTION PHASE MITIGATION FOR EMPR

- Nuisance dust should be reduced by implementing one of or a combination of the following:
  - Damping down of cleared areas;
  - Retention of vegetation where possible;
  - Excavations and clearing activities should only be undertaken during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas; and
  - A speed limit of 40km/h must not be exceeded on dirt roads.
- Any complaints or claims emanating from the lack of dust control must be attended to immediately by the Contractor.
- Cleared vegetation and any other construction-related waste must not be burned on site during the construction phase.
- Open fires must not be permitted within the site during the construction phase.
- Smoking on site must be confined to a designated area and this area must be equipped with the necessary fire extinguishers and cigarette disposal facilities.
- The Contractor must ensure that all site personnel are aware of the risk of fires, the procedure to be followed in the event of a fire and that all site personnel have access to the relevant contact details of the nearest Fire and Emergency Services.
- The recommendations of the Stormwater Management Plan must be implemented to reduce runoff and reduce the risk of soil erosion and sedimentation in tributaries.
- Stockpiled materials must not be stored within 50 m of a tributary or wetland.
- Stockpile areas must be suitably bunded to prevent waterborne erosion of exposed soils where there is a likelihood that the soils will be washed into nearby watercourses.

- The Waste Management Plan, incorporating recycling and waste minimisation, must be implemented throughout the construction phase. The Waste Management Plan must be explained to all employees as part of the environmental education training.
- All construction vehicles must be in sound working order and meet the necessary noise level requirements.
- The Contractor must comply with all municipal by-laws with regards to noise control.
- The Contractor must comply with the Noise Induced Hearing Loss Regulations published under the Occupational Health and Safety Act.
- Construction workers must not make use of portable radios, vehicle radios, whistles, etc., which generate excessive noise, while they are on the construction site.
- Hazardous Chemical Substances Regulations promulgated in terms of the Occupational Health and Safety Act (Act No. 85 of 1993) must be adhered to. This applies to solvents and other chemicals which could potentially be used during the construction phase.
- The storage of fuels and hazardous materials must be located away from sensitive water resources.
- All hazardous substances (e.g. diesel, oil drums, etc.) must be stored in a bunded area.
- The recommendations of the Stormwater Management Plan must be implemented during construction.
- Vehicles should not be refuelled within 50 m of tributaries or any highly sensitive environmental areas.
- Drip trays must be placed under all stationary construction plant.
- If a spill occurs on an impermeable surface, such as fuel or oil, the surface spill must be contained using oil absorbent materials or the appointed ECO must determine the precise method of treatment of polluted soil.
- The Waste Management Plan must be implemented throughout the construction phase.
- All waste must be disposed of at an appropriately licensed landfill site.
- All construction materials must be stored in a central and secure location with an appropriate impermeable surface.
- The recommendations of the Stormwater Management Plan must be implemented to mitigate the impacts of potentially polluted runoff.
- Any stockpiling of gravel, cut, fill or any other material including spoil must only be in areas that have been approved by the ECO within the defined working area.
- The Contractor should ensure that the material does not blow or wash away. If the stockpiled material is in danger of being washed or blown away, the Contractor should spray it with Dustex or cover it with a suitable material, such as hessian or plastic. Stockpiles of topsoil must not be covered with plastic.
- Areas from which the topsoil is to be removed must be cleared of any foreign material which could form part of the topsoil during removal including any waste material, litter, excess vegetation and any other material which could reduce the quality of the topsoil.
- Topsoil stockpiles should not exceed 2 m in height.
- The removal and stockpiling of topsoil must be carried out in accordance with the approved EMPr.
- Stripping of topsoil should be undertaken in such a manner as to minimise erosion by wind or runoff.
- Stockpiled topsoil must not be compacted.
- No stockpiling of any material will be allowed within
- 20 m of any “no-go” areas.

General Impacts - Operational Phase Mitigation for EMPr

- A Waste Management Plan incorporating recycling and waste minimisation must be implemented. The Waste Management Plan must be explained to all employees as part of the environmental induction training.

General Impacts - Decommissioning Phase Recommendations for EMPr

As per the temporal scales indicated in the significance statement for the operational phase in the section above, the proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant. However, it is recommended that the EMPr is updated at the time of

decommissioning, based on the environmental conditions and relevant legislation at the time, and implemented throughout the decommissioning of the Albany Connection and Associated Grid Infrastructure development.

9.1.2 Specialist Impact Recommendations and Mitigation

SPECIALISTS' IMPACTS – PLANNING & DESIGN PHASE MITIGATION FOR EMPR

- Select the shortest and most sensible possible length of new overhead power line to be constructed and the optimal route for this line.
- To mitigate for collision of the relevant species, it is recommended that the conductors on the high bird collision risk sections of the line be fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device.
- This should preferably be a dynamic device, i.e. one that moves as it is believed that these are more effective in reducing collisions, especially for bustards, which are one of the key species (Denham's Bustard) in this area.
- It is recommended that a durable device be used as this area is clearly prone to a lot of strong wind and dynamic devices may be susceptible to mechanical failure.
- It will be either Albany Wind Power or Eskom's responsibility to ensure that these line marking devices remain in working order for the full lifespan of the power line, as we cannot afford to have significant numbers of bird collisions on this new line.
- It is important that these devices are installed as soon as the conductors are strung, not only once the line is commissioned, as the conductors pose a collision risk as soon as they are strung. The devices should be installed alternating a light and a dark colour to provide contrast against dark and light backgrounds respectively.
- Note that 100% of the length of each span needs to be marked (i.e. right up to each tower/pylon) and not the middle 60% as some guidelines recommend. This is based on a finding by Shaw (2013) that collisions still occur close to the towers or pylons. It is also recommended that the stay wires on the met masts on site be installed with these devices as soon as possible.
- In the case of bird electrocution, the power line must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds to perch on them in safety.
- An archaeological walk-through assessment must be conducted when the final layout of the Albany WEF and Albany Connection and Associated Grid Infrastructure is determined. The walk-through assessment will be conducted to assess changes in the positions of the turbines, access roads and cabling between the turbines as well as other associated infrastructure relative to the original footprint. Further mitigatory recommendations may be necessary if any of the changes may impact negatively upon heritage resources.
- The Developer/ECO or construction manager must apply to the ECPHRA for a destruction permit to disturb the stone artefact scatters prior to the commencement of the development.

SPECIALISTS' IMPACTS - CONSTRUCTION PHASE MITIGATION FOR EMPR

- Compensate farmers for what is lost [in terms of grazing].
- Keep the construction period as short as possible.
- Employ dust-supressing practices to protect adjoining grazing land.
- Replace topsoil during rehabilitation and ensure that the soil is well fertilised and rolled.
- Sow seed of local plants that is adapted to the climate.
- Irrigate the soil to ensure germination and establishment of the seed occurs.
- Remove all alien plants and weeds until the plants are well established.
- No unauthorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary.
- The construction period is for a short period. Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions.
- Construction workers must not handle or remove any livestock or wildlife from the site or the surrounding properties.

- Police should be notified if any illegal actions take place.
- Employ dust reduction practices.
- To mitigate for collision of the relevant species, it is recommended that the conductors be fitted on the full length of OHL with the best available (at the time of construction) Eskom and EWT approved anti bird collision line marking device.
- This should preferably be a dynamic device, i.e. one that moves as it is believed that these are more effective in reducing collisions, especially for bustards, which are one of the key species (Denham's Bustard) in this area.
- It is recommended that a durable device be used as this area is clearly prone to a lot of strong wind and dynamic devices may be susceptible to mechanical failure.
- It is important that these devices are installed as soon as the conductors are strung, not only once the line is commissioned, as the conductors pose a collision risk as soon as they are strung. The devices should be installed alternating a light and a dark colour to provide contrast against dark and light backgrounds respectively.
- Note that 100% of the length of each span needs to be marked (i.e. right up to each tower/pylon) and not the middle 60% as some guidelines recommend. This is based on a finding by Shaw (2013) that collisions still occur close to the towers or pylons. It is also recommended that the stay wires on the met masts on site be installed with these devices as soon as possible.
- In the case of bird electrocution, the power line must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds to perch on them in safety.
- Ground truthing must be undertaken within the overhead line corridor to determine the route with the least possible damage to faunal habitats.
- Clearing of vegetation should be kept to a minimum and rocky outcrops and wetlands must be avoided, where possible.
- Construction areas should be demarcated with hazard tape and no clearing must occur outside of these areas.
- All the lizards and tortoises, which are likely to occur within the proposed site that are listed as Schedule II species on the PNCO List, and it is therefore illegal for any construction staff to remove them from the site. It will be difficult to avoid all areas where reptiles are likely to occur, but it is recommended that construction staff are educated with regards to reptile conservation and that all staff employed by the developer ensure that any reptiles encountered are not killed. Any reptiles encountered should be allowed to move away from the area but those which require relocation should be relocated in accordance with local legislation.
- No reptiles must be removed from the site without proper authorisation from the relevant authority.
- A rescue plan should be developed to protect reptiles which could fall into construction pits.
- The construction of gird infrastructure on rocky outcrops should be avoided.
- Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of reptiles being killed along the access roads during construction.
- Driving within the site must be restricted to day-light hours, where feasible.
- It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.
- All frogs and toads are listed as Schedule II species on the PNCO List and it is therefore illegal to remove them from the site without a permit.
- Where possible, the placement of turbine hardstands should avoid all aquatic habitats as they are valuable habitats for protected amphibian species.
- If amphibians are encountered during construction works, all construction staff should be educated with regards to amphibian conservation to ensure that they are not harmed or killed. Any amphibians encountered should be allowed to move away from the area or carefully relocated to an area within the same catchment.
- No amphibians will be allowed to be removed from the site.
- The construction of pylons must avoid the wetland areas.
- Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of amphibians being killed along the roads.
- Driving within the site should be restricted to day-light hours, where feasible.
- Vehicles should be well maintained so as not to leak oils and fuels which could pollute surface water sources.
- Oils and fuels should be stored on impermeable surfaces, and preferably under lock and key, to reduce the likelihood of the pollution of surface water.
- Where possible, existing service/access/haul roads should be used.
- It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.

- In the event of the unearthing of any mole species during construction, all construction staff should be educated with regards to mammal conservation to ensure that they are not killed, and any mammals encountered should be allowed to move away from the area or carefully moved to an area outside of the project activities.
- Speed restrictions (40 km per hour is recommended) should be in place to reduce the likelihood of mammals being killed along the roads.
- Driving within the proposed site should be restricted to day-light hours, where feasible.
- It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.
- Soil stockpiles should be limited to 2 m in height.
- Construction activities such as the digging of trenches, which could result in excessive dust pollution, should preferably cease during period of high winds.
- Newly cleared and exposed areas must be managed for dust and landscaped with indigenous vegetation to avoid soil erosion. Where necessary, temporary stabilization measures must be used until vegetation establishes.
- Speed restrictions (40 km per hour is recommended) should be in place to reduce the amount of dust caused by vehicle movement along the roads.
- Where possible, fine materials should be covered or kept in containers during transportation to avoid contamination of the surrounding areas.
- Driving within the proposed site should be restricted to day-light hours, where feasible.
- A comprehensive Plant Search and Rescue must be undertaken by a suitably qualified specialist prior to vegetation clearance.
- All relevant plant permits must be in place prior to the removal or removal and relocation of protected species.
- Plant SCC found within the proposed site must either be housed in an onsite nursery for use during rehabilitation or be relocated to suitable areas where vegetation clearance will not occur.
- Areas of the proposed site which contain large populations of SCC should be avoided where possible.
- The clearance of vegetation, at any given time, must be kept to a minimum to reduce the possibility of soil erosion.
- The clearing of vegetation and damage to plants may not be permitted in any areas which have been demarcated as no-go areas, these include the Southern Mistbelt Forest patches (Beggars Bush State Forest) as well as the Ecca Local Authority Nature Reserve.
- Where possible, all temporary infrastructure should be placed in areas which have already been transformed.
- A site-specific Alien Vegetation Management Plan must be implemented during the construction phase.
- Alien vegetation, within the development footprints, should be removed from the site and disposed of at a registered waste disposal site.
- The development footprints and immediate surroundings should be monitored for the growth/regrowth of alien vegetation throughout the construction phase.
- Where possible, the placement of pylons should avoid wetlands and tributaries.
- No concrete mixing must take place within 32 m of a watercourse or 500 m of a wetland during the construction phase.
- Concrete mixing must only take place on impermeable surfaces.
- No stationary construction machinery must be stored within 500 m of a wetland or 32m of a watercourse.
- Construction machinery must be maintained regularly to reduce the risk of oil and fuel leaks.
- All stationary machinery should be equipped with drip trays to retain potential oil and fuel leaks.
- Emergency plans must be in place to remedy oil and fuel spill leaks.
- A Rehabilitation Management Plan should be developed and implemented during the construction phase as construction is complete only each section of line.
- Measures should be put in place to prevent the accidental or unintentional introduction of alien vegetation during rehabilitation.
- The development footprints and immediate surroundings should be monitored for the growth/regrowth of alien vegetation throughout the construction phase.
- Indigenous species must be used for rehabilitation.
- If any of the buildings are planned to be demolished during the course of development, a built environment specialist, historical architect should be appointed to assess the buildings proposed for demolition.
- If concentrations of pre-colonial archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888)

so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.

- A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
- If any of the buildings are planned to be demolished during the course of development, a built environment specialist, historical architect should be appointed to assess the buildings proposed for demolition.
- If concentrations of pre-colonial archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.
- A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
- All excavated areas should be examined by a palaeontologist after excavation.
- During any excavations, the ECO should check for any palaeontological material and immediately report any finds or suspected finds to the palaeontologist.
- Maximise local employment (unskilled, semi- and skilled workers) as well as the number of local SMMEs and vendors. Set standards for local employment in the Contractor Services Management Plans.
- Implement a fair and transparent employment process through the EPC contract and employ a Community Employer Relations Officer for the duration of the construction period.
- Implement a SMME skills development programme (training on how to tender, understanding contracts, etc.) at least 4 months prior to inviting SMMEs to tender. The programme should not only assist local small businesses but also aim to do skills development for the local Municipality.
- Communication with the affected communities should be done constructively through one channel, such as the Community Employer Relations Officer through the assistance of the local councillors. This will assist to manage expectations and avoid potential conflict.
- A policy regarding employment equity of minority groups should be formulated and implemented wherever possible.
- As part of the tender documents, the Contractor/s have to provide subcontracting values per package and the plan on how they will meet procurement of minority groups (women, youth, disabled) and SMMEs targets assigned.
- Implement relevant measures should the Contractor/s not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work, etc.).
- Maximise local employment (unskilled, semi- and skilled workers) as well as the number of local SMMEs and vendors. Set standards for local employment in the Contractor Services Management Plans.
- Implement a fair and transparent employment process through the EPC contract and employ a Community Employer Relations Officer for the duration of the construction period.
- Implement a SMME skills development programme (training on how to tender, understanding contracts, etc.) at least 4 months prior to inviting SMMEs to tender. The programme should not only assist local small businesses but also aim to do skills development for the local Municipality.
- Communication with the affected communities should be done constructively through one channel, such as the Community Employer Relations Officer through the assistance of the local councillors. This will assist to manage expectations and avoid potential conflict.
- A policy regarding employment equity of minority groups should be formulated and implemented wherever possible.
- As part of the tender documents, the Contractor/s have to provide subcontracting values per package and the plan on how they will meet procurement of minority groups (women, youth, disabled) and SMMEs targets assigned.

- Implement relevant measures should the Contractor/s not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work, etc.).
- Formulate a local procurement strategy that specifically also aims to increase the local content of the Project to its maximum.
- Involve the Makana LED Department in the early processes and commence discussions with them during financial close already.
- Do a Value-chain analysis of services required (directly and indirectly related to construction such as transport, laundry, catering, uniform supplies, etc.) and communicate this to the Makana LM at least four months prior to the tender process commencing. Do skills development and training for the SMME's and Makana LM to ensure that SMMEs/contractors are prepared and equipped to take part in the tender processes.
- Ensure that the Community Employer Relations Officer has knowledge of the local communities, is educated with good public relation skills, committed to the cause and is accessible for community members.
- Care should be taken to communicate the project requirements and time frames to the local communities to avoid raising unrealistic expectations. Work through limited communication channel such as the Community Employer Relations Officer and ward Councillor.
- Contractually obligate contractors and subcontractors to employ temporary workers through the labour desk/job seeker registration database and make this fact known to the communities. This would address and limit the uncoordinated influx of jobseekers to the site and to the surrounding towns, as they would be unable to secure work if not through the established routes.
- Recruitment of temporary workers at the access to the construction site is not allowed.
- Clearly define the study area and beneficiary communities who would benefit directly through employment, equity, SED and ED spend.
- Collaborate with Waainek Wind Farm to determine the beneficiaries on its Community trust, and how their SED and ED expenditures are allocated. This will ensure that overlapping do not take place. Co-ordinate projects and training programmes wherever possible.
- Monitor social performance of contractors and determine how contractors fair on each KPI.
- Implement relevant measures should the contractors not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work).
- Require larger contractors to work with small SMMEs to train and transfer skills and include this requirement in the CSMP.
- Implement a SMME skills development programme to train and educate SMMEs and other small vendors how to tender, understanding contracts, basic business skills and so forth.
- Partner with consulting firms and initiatives that support the Eastern Cape Department of Economic Development Environment and Tourism's SMME support programme. Conduct workshops for the eligible SMMEs that were selected for tailored support measures, issue SMME Resource Packs, provide one-on-one enterprise development support, provide office space (where feasible), finance and support liaising with relevant government and state-owned agencies.
- Create a point of contact for the public such as a community liaison office, a visitor centre, a website with contact details or even a Facebook group.
- Do a security risk assessment and base the exact security measures on the detailed assessment of the risks at the site.
- Clearly demarcate and/or fence the construction areas, ensure access control and allow no trespassing of workers outside the designated construction areas.
- Security personnel that patrol the wider areas surrounding the turbine construction footprints, and not limited to the construction areas, could be considered pending the outcome of the security risk assessment.
- Fencing surrounding all construction areas, where feasible [i.e. not along the connection route].
- Signboards at the accesses and along the major roads warning motorists of the dangers of a construction site and of heavy vehicles turning.
- Workers should not be allowed to remain in and around the construction site when they are off duty; workers transported to their places of residence after each shift.
- Should electricity or any other service disruptions occur, inform the local landowners/communities thereof in advance and restore the service as quickly as possible.
- Include Makana Local Municipality in all relevant processes from the onset of the Project:
    - Inform Council on a regular basis of expected timelines and issues arising;

  - Establish a Project Steering Committee (PSC) or similar structure for the duration of the construction period. Members of the PSC (Developer, Contractor, Municipality, landowner representatives, etc.) would meet on a quarterly basis to discuss issues that may arise during the course of the construction period;
  - Include the affected local Councillors in the employment process to cooperate with the Community Employer Relations Officer in compiling and managing the job seeker registration database;
  - Involve the relevant LED structure in training and skills development programmes for SMME development and certification;
  - Inform the municipality of the Procurement strategy to be implemented and obtain their inputs, where required and feasible; and
  - Apply timeously for the relevant zonings and permits with Council.
- Establish a protocol for landowners and other affected parties to raise complaints: make a complaints' register available at the entrance to the construction site; make the contact details of the main contractor, CLO, PSC and Ward Councillor available; address complaints speedily.
- Construction workers to wear protective clothing (e.g. masks that minimize dust inhalation and clothing that protects against sunburn) and earplugs.
- Lock away dangerous plant, equipment and material when not supervised or in use.
- Provide safe and clean drinking water and instil regular water breaks to keep workers hydrated.
- Provide sufficient ablution facilities (chemical/portable toilets, etc.) at strategic locations that are cleaned regularly.
- Keep the local police, emergency and ambulance services informed of construction times and progress.
- Ensure that emergency vehicles/ambulance is on stand-by for the duration of the construction period.
- Display “danger” warning signs and “no public access” signs at all potential accesses, paths and along the periphery of the construction areas in English and the local languages.
- Ensure good visibility at the accesses to the site.
- Adhere to the Emergency and Safety plan procedures for the duration of the construction phase.
- Implement all mitigation measures to address individual and family level impacts during the construction phase.
- Implement measures to suppress dust, such as spraying water on gravel roads, surfaces and stockpiles on a regular basis.
- Dispose of the various types of waste generated in the appropriate manner at licensed waste landfill sites at regular intervals.
- Store any materials away from sensitive locations in fenced-off areas.
- Accommodation and facilities of security guards and any other personnel that may stay on site should comply with health and safety standards.
- Inform the Municipality and emergency services if harmful substances are spilled.
- Designate a suitable area for cooking fires (if required).

SPECIALISTS’ IMPACTS – OPERATIONAL PHASE MITIGATION FOR EMPR

- No unauthorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary.
- Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions.
- Maintenance workers must not handle or remove any livestock or wildlife from the site or the surrounding properties.
- Police should be notified if any illegal actions take place.
- Anti-bird collision line marking devices must be maintained throughout the operational phase.
- The site-specific Alien Vegetation Management Plan must be implemented for the first two (2) years of the operational phase. Thereafter, alien vegetation must continue to be monitored and eradicated annually throughout the life of the project.
- Alien vegetation, within the development footprints, must be removed from the site as they appear and must be disposed of at a registered waste disposal site.
- Even though mitigation will not impact on employment significantly, it is proposed to:

  - Make use of local service providers and SMMEs and increase the frequency and number of temporary employment opportunities wherever possible;
  - Through ED contributions do training and capacity building of SMMEs where necessary; and
  - Make employment creation one of the SED program's targets, aims and objectives. Local businesses that apply for SED funding have to demonstrate their commitment to employment creation (criteria for evaluation by the Implementing and Monitoring Agent).
- Mitigate potential intrusion impacts, implement relevant security measures, maintain infrastructure, fencing and roads and implement dust control measures in co-operation with the private landowners to ensure that their property values do not decrease.
- Implement measures to suppress dust on a regular basis, such as spraying water on gravel roads, surfaces and stockpiles.
- Workers on site to wear protective clothing.
- All on-site activities to comply with the Occupational Health and Safety Act and with Standards of conditions of employment.
- Where possible, install safety fencing around the construction areas to prevent illegal trespassing.
- Fire breaks to prevent the spreading of veld fires.
- Display "danger" warning signs and "no public access" signs in English and the local languages at all potential accesses.
- Implement all the safety and security measures as identified in the Security Risk Assessment.
- Make the procedure to lodge complaints available to the surrounding property owners and Ward Councillor/s to enable them to lodge complaints when problems with regards to community and/or environmental health arise. Keep a complaints register at the entrance to the site.

SPECIALISTS' IMPACTS – DECOMMISSIONING PHASE MITIGATION FOR EMPR

The proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant. However, it is recommended that the EMPr be updated, based on the environmental conditions and relevant legislation at the time, and implemented during the decommissioning of the Albany Connection and Associated Grid Infrastructure.

9.2 ASSUMPTIONS, LIMITATIONS AND GAPS IN KNOWLEDGE

This report is based on currently available information and, as a result, the following limitations and assumptions are implicit–

- This report is based on a project description and site plan, provided to CES by the applicant, which has not been approved by DFFE at this stage of the project. The project description and site plan may undergo iterations and refinements before being regarded as final. A project description based on the final design will be concluded once DFFE has provided feedback on the layout provided in this report.
- Descriptions of the natural and social environments are based on limited fieldwork and available literature.
- It should be emphasised that information, as presented in this document, only has reference to the study area as indicated on the accompanying maps. Therefore, this information cannot be applied to any other area without a detailed investigation being undertaken.

9.3 CONCLUSIONS

9.3.1 Summary of Identified Impacts

Table 9.1 and Table 9.2 consist of a summary of the potential general (Table 9.1) and specialist (Table 9.2) impacts associated with the proposed Albany Connection and Associated Grid Infrastructure.

Table 9.1: Summary of the Potential General Impacts.

IMPACT	BOTH LAYOUT ALTERNATIVES		CUMULATIVE	NO-GO ALTERNATIVE
GENERAL IMPACTS	PRIOR TO MITIGATION	POST-MITIGATION		
PLANNING AND DESIGN PHASE				
STORAGE OF HAZARDOUS SUBSTANCES	LOW -	LOW -	MODERATE -	N/A
ENVIRONMENTAL LEGISLATION AND POLICY COMPLIANCE	HIGH -	LOW -	HIGH -	LOW -
STORMWATER MANAGEMENT AND EROSION	LOW -	LOW -	MODERATE -	LOW -
MANAGEMENT OF GENERAL WASTE	MODERATE -	LOW -	MODERATE -	LOW -
CONSTRUCTION PHASE				
NUISANCE DUST	LOW -	LOW -	MODERATE -	LOW -
FIRE	HIGH -	MODERATE -	HIGH -	HIGH -
STORMWATER MANAGEMENT	MODERATE -	LOW -	MODERATE -	LOW -
MANAGEMENT OF GENERAL WASTE	MODERATE -	LOW -	MODERATE -	LOW -
INCREASE IN NOISE LEVELS	LOW -	LOW -	MODERATE -	N/A
HAZARDOUS SUBSTANCES	MODERATE -	LOW -	MODERATE -	N/A
MANAGEMENT OF CONSTRUCTION WASTE	MODERATE -	LOW -	MODERATE -	N/A
TOPSOIL MANAGEMENT	MODERATE -	LOW -	LOW -	N/A
OPERATIONAL PHASE				
WASTE MANAGEMENT	MODERATE -	LOW -	MODERATE -	LOW -
DECOMMISSIONING PHASE				
As per the temporal scales indicated in the significance statement for the operational phase in the impacts tables above, the proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant. However, it is recommended that the EMPr is updated at the time of decommissioning, based on the environmental conditions and relevant legislation at the time, and implemented throughout the decommissioning of the Albany Connection and Associated Grid Infrastructure development.				

Table 9.2: Summary of the Potential Specialist Impacts.

IMPACT	BOTH LAYOUT ALTERNATIVES		CUMULATIVE	NO-GO ALTERNATIVE
GENERAL IMPACTS	PRIOR TO MITIGATION	POST-MITIGATION		
Planning and Design Phase				
COLLISION AND ELECTROCUTION ON OVERHEAD POWER LINES	HIGH -	LOW -	N/A	N/A
ARCHAEOLOGICAL HERITAGE	LOW -	LOW -	N/A	N/A
HERITAGE	MODERATE -	LOW -	N/A	N/A
CONSTRUCTION PHASE				
LOSS OF HIGH POTENTIAL AGRICULTURAL LAND AND CULTIVATED LAND	NO SIGNIFICANCE	NO SIGNIFICANCE	NO SIGNIFICANCE	N/A
LOSS OF CULTIVATED LAND	NO SIGNIFICANCE	NO SIGNIFICANCE	NO SIGNIFICANCE	N/A
LOSS OF GRAZING LAND	LOW -	LOW -	N/A	N/A
LOSS OF AGRICULTURAL PRODUCTION (YIELD AND INCOME)	LOW -	LOW -	N/A	N/A
LOSS OF AGRICULTURAL RESOURCES	LOW -	LOW -	N/A	N/A
INCREASE IN STOCK THEFT AND POACHING	MODERATE -	LOW -	MODERATE -	MODERATE -
ACCESS TO FARMS AND FARMING	NO SIGNIFICANCE	NO SIGNIFICANCE	NO	N/A

IMPACT	BOTH LAYOUT ALTERNATIVES		CUMULATIVE	NO-GO ALTERNATIVE
GENERAL IMPACTS	PRIOR TO MITIGATION	POST-MITIGATION		
INFRASTRUCTURE			SIGNIFICANCE	
BLASTING AND NOISE DURING CONSTRUCTION	MODERATE -	LOW -	MODERATE -	N/A
BIOLOGICAL [IN TERMS OF AGRICULTURE]	MODERATE -	LOW -	MODERATE -	LOW -
COLLISION AND ELECTROCUTION ON OVERHEAD POWER LINES	HIGH -	LOW -	MODERATE -	LOW -
FAUNAL HABITAT LOSS AND FRAGMENTATION	MODERATE -	LOW -	MODERATE -	LOW -
LOSS OF REPTILE DIVERSITY	MODERATE -	LOW -	MODERATE -	LOW -
LOSS OF AMPHIBIAN DIVERSITY	MODERATE -	LOW -	MODERATE -	LOW -
LOSS OF MAMMAL DIVERSITY	LOW -	LOW -	LOW -	LOW -
IMPACT OF NOISE AND DUST ON FAUNAL SPECIES	LOW -	LOW -	N/A	LOW -
LOSS OF VEGETATION COMMUNITIES	MODERATE -	LOW -	MODERATE -	LOW -
REMOVAL OF ALIEN VEGETATION	FEW BENEFITS +	FEW BENEFITS +	N/A	LOW -
POLLUTION OF SURFACE WATER RESOURCES	MODERATE -	LOW -	N/A	N/A
REHABILITATION	MODERATE -	LOW -	N/A	N/A
ARCHAEOLOGICAL HERITAGE	LOW -	LOW -	N/A	N/A
HERITAGE	MODERATE -	LOW -	N/A	N/A
PALAEONTOLOGICAL RESOURCES	HIGH -	MODERATE -	N/A	N/A
EMPLOYMENT OPPORTUNITIES	SOME BENEFITS +	SOME BENEFITS +	SOME BENEFITS +	N/A
EMPLOYMENT EQUITY	FEW BENEFITS +	SOME BENEFITS +	DON'T KNOW	N/A
LOCAL EMPLOYMENT	FEW BENEFITS +	SOME BENEFITS +	DON'T KNOW	N/A
LOCAL ECONOMIC IMPACTS	FEW BENEFITS +	SOME BENEFITS +	SOME BENEFITS +	N/A
IMPACTS ON THE SOCIAL AND DEMOGRAPHIC STRUCTURE OF THE LOCAL MUNICIPALITY	LOW -	LOW -	LOW -	N/A
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY: TRAINING/SKILLS DEVELOPMENT OF INDIVIDUALS/GROUPS/ SMMES	FEW BENEFITS +	FEW BENEFITS +	SOME BENEFITS +	N/A
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY: BENEFICIARY IDENTIFICATION	LOW -	N/A	DON'T KNOW	N/A
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY: COMMUNITY PROJECTS, ED AND SED CONTRIBUTIONS	FEW BENEFITS +	N/A	SOME BENEFITS +	N/A
SECURITY IMPACTS	MODERATE -	LOW -	DON'T KNOW	N/A
GENERAL IMPACTS ON THE MAKANA LOCAL MUNICIPALITY	LOW -	FEW BENEFITS +	MODERATE -	N/A
HEALTH AND SAFETY IMPACTS	MODERATE -	LOW -	DON'T KNOW	N/A
OPERATIONAL PHASE				
INCREASE IN STOCK THEFT AND POACHING	HIGH -	MODERATE -	HIGH -	HIGH -
COLLISION AND ELECTROCUTION ON OVERHEAD POWER LINES	HIGH -	LOW -	MODERATE -	LOW -
INVASION OF ALIEN VEGETATION	MODERATE -	FEW BENEFITS +	N/A	LOW -
DIRECT EMPLOYMENT	FEW BENEFITS +	FEW BENEFITS +	FEW BENEFITS +	N/A
INDIRECT EMPLOYMENT	FEW BENEFITS +	SOME BENEFITS +	SOME BENEFITS +	N/A
GENERAL IMPACTS FOR THE LOCAL ECONOMY	SOME BENEFITS +	SOME BENEFITS +	BENEFICIAL +	N/A
COMMUNITY HEALTH AND SAFETY RISKS	MODERATE -	LOW -	MODERATE -	N/A
DECOMMISSIONING PHASE				
The proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period				

IMPACT	BOTH LAYOUT ALTERNATIVES		CUMULATIVE	NO-GO ALTERNATIVE
GENERAL IMPACTS	PRIOR TO MITIGATION	POST-MITIGATION		
due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant. However, it is recommended that the EMPr be updated, based on the environmental conditions and relevant legislation at the time, and implemented during the decommissioning of the Albany Connection and Associated Grid Infrastructure.				

9.3.2 Cumulative Impact Statement

Overall, the cumulative impact of the proposed Albany WEF and associated infrastructure, when neighbouring existing and authorised WEFs are considered is MODERATE negative. Cumulative impacts are notoriously difficult to mitigate since environmental legislation, related to monitoring, construction and operation, changes over time. Developers are therefore not always prescribed the same standards of environmental care. In addition to this, cumulative impacts can only be assessed using available data and in some cases older EIAs did not assess impacts to the same level of detail, e.g. specialist studies can vary drastically, which means that data is often limited. However, there are standard practice procedures, such as anti-bird collision line divertors, alien vegetation management plans, prescribed socio-economic development budgets and other factors which are present across the board in terms of Renewable Energy facilities. It is therefore easier to state with confidence which impacts are mitigatable across the cumulative board.

9.3.3 Concluding Remarks

It is the opinion of the EAP that the proposed Albany Connection and Associated Grid Infrastructure development is acceptable in terms of the environmental and social setting, as contained in this report. Both Technology Connection Alternatives (OHL or underground lines) and Technology OHL Alternatives (1x 132 kV or 2x 33 kV OHLs) are deemed acceptable and no fatal flaws have been identified. Both Technology Connection Alternatives carry both advantages and disadvantages in terms of sensitivity. The connection must be routed through the least sensitive sections of the assessed connection corridor. The proposed development of the BESS carries risks, such as temperature fluctuations, fire and potentially dangerous chemicals, however, the incorporation of the design mitigation measures (provided in this report) should significantly reduce the identified risks. All impact management actions stipulated in the associated EMPrs must be implemented during the various phases of the Albany Connection and Associated Grid Infrastructure development to reduce the potential and likely adverse impacts and to increase the benefits.

10. APPENDIX A: CURRICULUM VITAE OF THE ENVIRONMENTAL TEAM

- → Dr Alan Carter (CES, *Executive and Principal Consultant*)
- → Ms Caroline Evans (CES, *Principal Consultant*)

ALAN ROBERT CARTER

Curriculum Vitae

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CONTACT DETAILS

Name of Company	**Coastal and Environmental Services (Pty) Ltd. t/a CES**
Designation	East London Branch – Executive
Profession	Executive
Years with firm	18 (Eighteen) Years
E-mail	a.carter@cesnet.co.za
Office number	+27 (0) 43 – 7267809 / 8313
Nationality	South African
Professional Affiliations	SACNASP: South African Council for Natural Scientific Profession EAPSA: Environmental Assessment Practitioners Southern Africa IWMSA: Institute Waste Management Southern Africa TSBPA: Texas State Board of Public Accountancy (USA)
Key areas of expertise	• Marine Ecology • Environmental and coastal management • Waste management • Financial accounting and project feasibility studies • Environmental management systems, auditing and due-diligence

PROFILE

Dr Alan Carter

Alan has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years.

ALAN ROBERT CARTER
Curriculum Vitae

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

EMPLOYMENT EXPERIENCE

- October 2013 – Present: Executive (EOH Coastal & Environmental Services, East London, South Africa)
- January 2002 – September 2013: Director (Coastal & Environmental Services, East London, South Africa)
- January 1999 – December 2001: Manager (Arthur Andersen LLP, Public Accounting Firm, Chicago, Illinois USA)
- December 1996 – December 1998: Senior Accountant/Auditor (Ernst & Young LLP, Public Accounting Firm, Austin, Texas, USA).)
- January 1994 – December 1996: Senior Accountant/Auditor (Ernst & Young, Charteris & Barnes, Chartered Accountants, East London, South Africa)
- July 1991 – December 1994: Associate Consultant (Coastal & Environmental Services, East London, South Africa)
- March 1989 – June 1990: Data Investigator (London Stock Exchange, London, England, United Kingdom)

ACADEMIC QUALIFICATIONS

- Ph.D. Plant Science (Marine) Rhodes University 1987
- B. Compt. Hons. Accounting Science University of South Africa 1997
- B. Com. Financial Accounting Rhodes University 1995
- B.Sc. Hons. Plant Science Rhodes University 1983
- B.Sc. Plant Science & Zoology Rhodes University 1982

CONTINUING PROFESSIONAL DEVELOPMENT

- Environmental Management Systems Lead Auditor Training Course - American National Standards Institute and British Standards Institute (2000)
- ISO 14001:2015 Implementing Changes - British Standards Institute (2015)
- Numerous other workshops and training courses

ALAN ROBERT CARTER
Curriculum Vitae

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

PROFESSIONAL EXPERIENCE

Environmental Impact Assessment, Feasibility and Pre-feasibility Assessments:-

- Managed numerous projects and prepared environmental impact assessment (EIA) reports in terms of relevant EIA legislation and regulations for development proposals including: Infrastructure projects: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc. (2002 – present).
- Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining licence /permit applications.
- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, infrastructure projects, etc.
- Managed project for the East London Industrial Development Zone (ELIDZ) to develop a Conceptual Framework for a Mariculture Zone within the ELIDZ (2009).
- Managed pre-feasibility study to establish a Mariculture Zone within the Coega Industrial Development Zone (2014).
- Assisted City of Johannesburg in the process to proclaim four nature reserves in terms of relevant legislation (2015-2016).
- Acted as Environmental Control Officer (ECO) for numerous projects including solar and wind farms, roads, industrial processes, etc.

Strategic Environmental Assessment:-

- Managed Strategic Environmental Assessment (SEA) project toward the development of a Biofuel Industry in the Eastern Cape Province of South Africa (2014-2016)
- Managed Strategic Environmental Assessment (SEA) projects for two South African ports (2006 – 2007).
- Managed Strategic Environmental Assessment (SEA) projects for five (5) local municipalities in the Eastern Cape as part of the municipal Spatial Development Framework plans (2004 – 2005).
- Involved in the financial assessment of various land-use options and carbon credit potential as part of a larger Strategic Environmental Assessment (SEA) for assessing forestry potential in Water Catchment Area 12 in the Eastern Cape of South Africa (2006).

Climate change, emissions trading and renewable energy:-

- Provided specialist peer review services for National Department of Environmental Affairs relating to climate change impact assessments for large infrastructure projects (2017-2018).
- Conducted climate change impact assessment for a proposed coal-fired power station in Africa (2017-2018).

- Participated in the development of a web-based Monitoring & Evaluation (M&E) system for climate change Mitigation and Adaptation in South Africa for National Department of Environmental Affairs (DEA) (2015-2016.
- Managed project to develop a Climate Change Strategy for Buffalo City Metro Municipality (2013).
- Managed projects to develop climate change strategies for two district municipalities in the Eastern Cape Province (2011).
- Conducted specialist carbon stock and greenhouse gas emissions impact and life cycle assessment as part of the Environmental, Social and Health Impact Assessment for a proposed sugarcane to ethanol project in Sierra Leone (2009 - 2010) and a proposed Jatropha bio-diesel project in Mozambique (2009 - 2010).
- Managed project to develop the Eastern Cape Province Climate Change Strategy (2010).
- Managed project to develop a Transnet National Ports Authority Climate Change Risk Strategy (2009)
- Participated in a project to develop a Renewable Energy roadmap for the East London Industrial Development Zone (ELIDZ) (2013).
- Participated in a project for the East London Industrial Development Zone (ELIDZ) and Eastern Cape Government to prepare a Renewable Energy Strategy (2009).
- Contributed to the development of Arthur Andersen LLP's International Climate Change and Emissions Trading Services (2001).
- Conducted carbon credit (Clean Development Mechanism - CDM) feasibility assessment for a variety of renewable energy projects ranging from biogas to solar PV.
- Participated in the preparation of CDM applications for two solar PV projects in the Eastern Cape.

Waste Management:-

- Managed project to develop Integrated Waste Management Plans for six local municipalities on behalf of the Sarah Baartman District Municipality in the Eastern Cape Province (2016).
- Managed project to develop Integrated Waste Management Plans for four local municipalities on behalf of Alfred Nzo District Municipality in the Eastern Cape Province (2015).
- Managed project to develop Integrated Waste Management Plans for eight local municipalities on behalf of Chris Hani District Municipality in the Eastern Cape Province (2011).
- Managed a project to develop a zero-waste strategy for a community development in the Eastern Cape Province (2010).
- Managed waste management status quo analysis for a District Municipality in the Eastern Cape Province (2003).
- For three consecutive years, managed elements of the evaluation of the environmental financial reserves of the three largest solid waste companies (Waste Management, Inc., Republic Services, Inc., Allied Waste, Inc.) and number of smaller waste companies in the USA as part of the annual financial audit process for SEC reporting purposes. Ensured compliance with RCRA and

CERCLA environmental regulations.

- Managed elements of the evaluation of the environmental financial reserves of the largest hazardous waste company in the USA (Safety-Kleen, Inc.), as part of the audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.

Environmental Due Diligence and Business Risk:-

- Conducted environmental due diligence projects on behalf of the German Development Bank for a forestry pulp and paper operation in Swaziland (2010) and for a large diversified South African agricultural/agro-processing company (2011)
- Managed project for the Transnet National Ports Authority to identify the environmental risks and liabilities associated with the operations of the Port of Durban as part of a broader National initiative to assess business and financial risks relating to environmental management (2006).
- Managed project to determine the financial feasibility of various proposed tourism developments for the Kouga Development Agency in the Eastern Cape Province (2006)
- Contributed significantly to a study to determine the financial and environmental feasibility of three proposed tourism development projects at Coffee Bay on the Wild Coast (2004).
- Conducted sustainability and cost/benefit analysis of various waste water treatment options (including a marine pipeline at Hood Point) for the West Bank of East London (2004).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).
- Involved in the determination of the historical cost element of environmental remediation insurance claims for a number of multinational companies, including Dow Chemicals, Inc. and International Paper, Inc.
- Evaluated the environmental budgeting process of the US Army and provided best practice guidance for improving the process.

Policy and Guidelines:-

- Development of Administration / Application Fee Structure for the Reclamation of Land, Coastal Use Permits, Coastal Waters
- Discharge Permits, Dumping Of Waste at Sea, Off-Road Vehicle Regulations Promulgated in Terms of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 Of 2008) (2017).
- Managed project to develop an Estuarine Management Plan for the Buffalo River Estuary for the National Department of Environmental Affairs (2017).
- Managed project to develop a Coastal Management Programme for Amathole District Municipality, Eastern Cape (2015 – 2016).
- Managed project to develop a sustainability diagnostic report as part of the development of the Eastern Cape Development Plan and Vision 2030 (2013).
- Managed project for the Department of Environmental Affairs and Tourism, Marine & Coastal Management to determine the cost implications associated

with the implementation of the Integrated Coastal Management Act (2007).

- Managed project to develop a Conservation Plan and Municipal Open Space System (MOSS) for Buffalo City Municipality (2007)
- Managed project to develop a Sanitation Policy and Strategy for Buffalo City Municipality, Eastern Cape (2004 – 2006).
- Managed project to develop an Integrated Environmental Management Plan and Integrated Coastal Zone Management Plan for Buffalo City Municipality, Eastern Cape (2004 – 2005).
- Managed projects to develop and implement an Environmental Management System (EMS) for the Chris Hani and Joe Gqabi (formerly Ukhahlamba) District Municipalities in the Eastern Cape generally in line with ISO14001 EMS standards (2004 – 2005).
- Managed project to develop a State of the Environment Report and Environmental Implementation Plans for Amathole, Chris Hani, OR Tambo and Joe Gqabi District Municipalities in the Eastern Cape Province (2005 – 20010).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).

Environmental auditing and compliance:-

- Conducted environmental legal compliance audit for various large Transnet Freight Rail facilities (2018).
- Managed projects to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for three (3) wind farms in South Africa (2015-2018).
- Managed project to develop an Environmental & Social Management System (ESMS) in line with IFC Performance Standards for a telecoms company in Zimbabwe on behalf of the German Development Bank (2013)
- Participated in numerous ISO14001 Environmental Management System (EMS) audits for large South African corporations including SAPPI, BHP Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others (2002 – present).
- Reviewed the SHE data reporting system of International Paper, Inc. (IP) for three successive years as part of the verification of the IP SHE Annual Report, which included environmental assessments of 12 IP pulp and paper mills located throughout the USA.
- Conducted Environmental Management System (EMS) reviews for a number of large US corporations, including Gulfstream Aerospace Corporation

Public financial accounting:-

- While with Ernst & Young LLP, (USA), functioned as lead financial auditor for various public and private companies, mostly in the technology business segment of up to $200 million in annual sales. Client experience included assistance in a $100 million debt offering, a $100 million IPO and SEC annual and quarterly reporting requirements.
- Completed three years of articles (training contract) in fulfilment of the certification requirements of the South African Institute of Chartered

Accountants which included auditing, accounting and preparation of tax returns for many small to medium sized commercial entities.

Refereed Publications:-

- Carter, A.R. 1985. Reproductive morphology and phenology, and culture studies of Gelidium pristoides (Rhodophyta) from Port Alfred in South Africa. Botanica Marina 28: 303-311.
- Carter, A.R. 1993. Chromosome observations relating to bispore production in Gelidium pristoides (Gelidiales, Rhodophyta). Botanica Marina 36: 253-256.
- Carter, A.R. and R.J. Anderson. 1985. Regrowth after experimental harvesting of the agarophyte Gelidium pristoides (Gelidiales: Rhodophyta) in the eastern Cape Province. South African Journal of Marine Science 3: 111-118.
- Carter, A.R. and R.J. Anderson. 1986. Seasonal growth and agar contents in Gelidium pristoides (Gelidiales, Rhodophyta) from Port Alfred, South Africa. Botanica Marina 29: 117-123.
- Carter, A.R. and R.H. Simons.1987. Regrowth and production capacity of Gelidium pristoides (Gelidiales, Rhodophyta) under various harvesting regimes at Port Alfred, South Africa. Botanica Marina 30: 227-231.
- Carter, A.R. and R.J. Anderson. 1991. Biological and physical factors controlling the spatial distribution of the intertidal alga Gelidium pristoides in the eastern Cape Province, South Africa. Journal of the Marine Biological Association of the United Kingdom 71: 555-568.

Published reports:-

- Water Research Commission. 2006. Profiling Estuary Management in Integrated Development Planning in South Africa with Particular Reference to the Eastern Cape. Project No. K5/1485.
- Turpie J., N. Sihlophe, A. Carter, T, Maswime and S. Hosking. 2006. Maximising the socio-economic benefits of estuaries through integrated planning and management: A rationale and protocol for incorporating and enhancing estuary values in planning and management. Un-published Water Research Commission Report No. K5/1485

Conference Proceedings:-

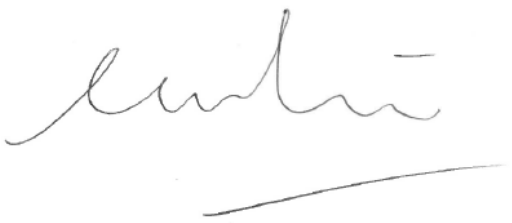
- Carter, A.R. 2002. Climate change and emission inventories in South Africa. Invited plenary paper at the 5th International System Auditors Convention, Pretoria. Held under the auspices of the South African Auditor & Training Certification Association Conference (SAATCA).
- Carter, A.R. 2003. Accounting for environmental closure costs and remediation liabilities in the South African mining industry. Proceedings of the Mining and Sustainable Development Conference. Chamber of Mines of South Africa, Vol. 2: 6B1-5
- Carter, A.R. and S. Fergus. 2004. Sustainability analysis of wastewater treatment options on the West Bank of East London, Buffalo City. Proceedings of the Annual National Conference of the International Association for Impact

Assessment, South African Affiliate: Pages 295-301.

- Carter, A., L. Greyling, M. Parramon and K. Whittington-Jones. 2007. A methodology for assessing the risk of incurring environmental costs associated with port activities. Proceedings of the 1st Global Conference of the Environmental Management Accounting Network.
- Hawley, GL, McMaster AR and Carter AR. 2009, Carbon, carbon stock and life-cycle assessment in assessing cumulative climate change impacts in the environmental impact process. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate.
- Hawley, GL, McMaster AR and Carter AR. 2010. The Environmental and Social Impact Assessment and associated issues and challenges. African, Caribbean and Pacific Group of States (ACP), Science and Technology Programme, Sustainable Crop Biofuels in Africa.
- Carter, A.R. 2011. A case study in the use of Life Cycle Assessment (LCA) in the assessment of greenhouse gas impacts and emissions in biofuel projects. 2nd Environmental Management Accounting Network- Africa Conference on Sustainability Accounting for Emerging Economies. Abstracts: Pages 69-70.

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



Alan Robert Carter Date: 22 January 2020

CAROLINE ANN EVANS
Curriculum Vitae

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CONTACT DETAILS

Name of Company	**CES – Environmental and Social Advisory Services**
Designation	Grahamstown Branch
Profession	Principal Environmental Consultant
Years with firm	7 Years
E-mail	c.evans@cesnet.co.za
Office number	+27 (0)46 622 2364
Nationality	South African
Professional Body	SACNASP, South African Council for Natural Scientific Profession, Professional 2017 IAIA
Key areas of expertise	➢ Project Management ➢ Renewable Energy

PROFILE

Ms Caroline Evans

Ms Caroline Evans is a Principal Environmental Consultant based in the Grahamstown branch. She holds a BSc degree in Zoology and Environmental Science (with distinction) and a BSc Honours degree in Environmental Science (with distinction), both from Rhodes University. Caroline has completed accredited courses in environmental impact assessments and wetland assessments.

Caroline's primary focuses include Project Management, the general Environmental Impact Assessment Process, Visual Impact Assessments and Wetland Impact Assessments. Examples of fields in which Caroline was the project manager and lead report writer include Wind Energy Facilities and the associated infrastructure (including powerlines), Solar PV, Waste Water Treatment Works, Housing Developments and Agricultural Developments. Her experience with wind energy facilities and associated infrastructure includes the project management and report writing for the Umsobomvu WEF, Dassiesridge WEF, Scarlet Ibis WEF, Albany WEF, Waaihoek WEF and the Great Kei WEF.

Caroline is well versed in South African policy and legislation relating to development, particularly in the Eastern Cape Province. In addition, Caroline's project management experience has helped her gain knowledge and experience in the technical and financial management and coordination of large specialist teams, competent authority and stakeholder engagement, and client liaison.

CAROLINE ANN EVANS
Curriculum Vitae

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

EMPLOYMENT EXPERIENCE

CES, Senior Environmental Consultant
August 2020 – present
- Project Management
- Renewable Energy Consultant

EOH Coastal and Environmental Services, Senior Environmental Consultant
August 2016 – July 2020
- Project Management
- Renewable Energy Consultant
- Wetland Specialist

EOH Coastal and Environmental Services, Environmental Consultant
November 2013 – July 2016

Rhodes University, Department of Environmental Science, Graduate Assistant
January 2010 – January 2012

ACADEMIC QUALIFICATIONS

Rhodes University, Eastern Cape, South Africa
B.Sc. Honours Environmental Science (with distinction)
2011

Rhodes University, Eastern Cape, South Africa
B.Sc. Zoology & Environmental Science (with distinction)
2007-2010

COURSES

- Rhodes University, Eastern Cape
"Tools for Wetland Assessment" 2010. (with distinction)
- Rhodes University, Eastern Cape
"Urban Ecology" 2010. (with distinction)
- Rhodes University, Eastern Cape
"Post Graduate Statistics" 2010. (with distinction)
- Rhodes University, Eastern Cape
"Environmental Impact Assessment" 2013. (with distinction)

CONSULTING EXPERIENCE

ENVIRONMENTAL IMPACT ASSESSMENTS:
- Project: Albany Wind Energy Facility (Grahamstown, EC)
Role: Project Manager and Report Production
- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoort, NC)
Role: Project Manager and Report Production
- Project: Waainek Wind Energy Facility Post-Construction Bird and Bat Monitoring (Grahamstown, EC)

CAROLINE ANN EVANS
Curriculum Vitae

Role: Project Manager and Report Production

- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)
  Role: Project Manager and Report Production
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)
  Role: Project Manager and Report Production
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)
  Role: Project Manager and Report Production
- Project: Great Kei Wind Energy Facility (Komga, EC)
  Role: Assistant Project Manager and Report Production
- Project: Doorndraai Citrus Plantation (Cookhouse, EC)
  Role: Project Manager and Report Production
- Project: Fishwater Flats WWTW Biogas (Port Elizabeth, EC)
  Role: Report Production
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)
  Role: Report Production

BASIC ASSESSMENTS:

- Project: Albany Powerline (Grahamstown, EC)
  Role: Project Manager and Report Production
- Project: Scarlet Ibis Wind Energy Facility (NMBM, EC)
  Role: Project Manager and Report Production
- Project: Grey Jade Waterfall Feedlot Biogas (Berlin, EC)
  Role: Project Manager and Report Production
- Project: Black Lite Solar 5MW PV (Berlin, EC)
  Role: Project Manager and Report Production
- Project: Sitrusrand Kirkwood Citrus (Kirkwood, EC)
  Role: Project Manager
- Project: Kareekrans Middleton Pivot (Middleton, EC)
  Role: Project Manager
- Project: Uitsig Boerdery Kirkwood Citrus (Kirkwood, EC)
  Role: Project Manager

OTHER REPORTS:

- Project: Eastern Cape Biofuels Strategic Environmental Assessment (EC)
  Role: Report Production
- Project: Coega Industrial Development Zone (EC)

CAROLINE ANN EVANS
Curriculum Vitae

Role: Report Production

- Project: Umsobomvu WEF EA Amendments (EC & NC)
  Role: Project Manager and Report Production
- Project: Dassiesridge WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Great Kei WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Ukomeleza WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Motherwell WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Golden Valley II WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Peddie WEF and PV EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Nqamakwe WEF and PV EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Thomas River Renewable Energy Facility EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Qunu WEF and PV EA Amendments (EC)
  Role: Project Manager and Report Production

SPECIALIST REPORTS:

- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoort, NC)
  Role: Visual Impact Assessment
- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)
  Role: Visual Impact Assessment
- Project: Great Kei Wind Energy Facility (Komga, EC)
  Role: Visual Impact Assessment
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)
  Role: Visual Impact Assessment & Wetland Impact Assessment
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)
  Role: Visual Impact Assessment
- Project: Oyster Bay Wind Energy Facility (Oyster Bay, EC)
  Role: Wetland Impact Assessment

CAROLINE ANN EVANS
Curriculum Vitae

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

CAROLINE ANN EVANS Date: June 2019

11. APPENDIX B: EAP DECLARATION

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

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

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

PROJECT TITLE

PROPOSED ALBANY CONNECTION AND ASSOCIATED GRID INFRASTRUCTURE NEAR MAKHANDA, EASTERN CAPE PROVINCE.

Kindly note the following:

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

Departmental Details

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

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

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

1. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP Company Name:	**Coastal and Environmental Services (Pty) Ltd**			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	**1**	Percentage Procurement recognition	**135%**
EAP name:	**Dr Alan Carter**			
EAP Qualifications:	**PhD, Plant Sciences, Rhodes University 1987** **B.Compt Hons. Accounting Science, University of South Africa 1997** **BSc (Honours), Plant Science, Rhodes University 1983** **BSc, Plant Science & Zoology, Rhodes University 1982**			
Professional affiliation/registration:	**SACNASP: South African Council for Natural Scientific Profession** **EAPSA: Environmental Assessment Practitioner Southern Africa** **IWMSA: Institute Waste Management Southern Africa** **TSBPA: Texas State Board of Public Accountancy (USA)** **IAIA: International Association of Impact Assessment**			
Physical address:	**39 Harewood Drive, Nahoon Mouth, East London**			
Postal address:	**P.O. Box 8145. Berea, East London**			
Postal code:	**5214**	Cell:	**+27 (0)83 379 9861**	
Telephone:	**+27 (0)43 726 7809**	Fax:	**+27 (0)43 726 8352**	
E-mail:	**a.carter@cesnet.co.za**			

The appointed EAP must meet the requirements of Regulation 13 of GN R982 of 04 December 2014, as amended.

2. DECLARATION BY THE EAP

I, **Dr Alan Carter**, declare that –

- I act as the independent environmental assessment practitioner in this application;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the application and any report relating to the application;
- I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the Competent Authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- I will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the Environmental Assessment Practitioner

Coastal and Environmental Services (Pty) Ltd. t/a CES

Name of Company:

15.09.2021

Date

Details of EAP, Declaration and Undertaking Under Oath

Page 3 of 4

3. **UNDERTAKING UNDER OATH/ AFFIRMATION**

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

Signature of the Environmental Assessment Practitioner

Coastal and Environmental Services (Pty) Ltd. t/a CES
Name of Company

15.09.2021
Date

Signature of the Commissioner of Oaths

15TH SEPTEMBER 2021
Date

Details of EAP, Declaration and Undertaking Under Oath

Page 4 of 4

12. APPENDIX C: SPECIALIST REPORTS & DECLARATIONS

PLEASE SEE THE SEPARATE SPECIALIST REPORTS, AS LISTED BELOW.

- Agricultural Impact Assessment (Index, February 2020)
- Avifaunal Impact Assessment (Wildskies Ecological Services, January 2020)
- Ecological Impact Assessment (CES, October 2020)
- Heritage Impact Assessment (Booth Heritage Consulting, August 2020)
- Hydrological Groundwater Study (Kap River) (SRK Consulting, November 2019)
- Palaeontological Impact Assessment (Rob Gess Consulting, August 2020)
- Socio-Economic Impact Assessment (Index, March 2021)

13. APPENDIX D: SITE PHOTOGRAPHS

14. APPENDIX E: ENVIRONMENTAL MANAGEMENT PROGRAMMES

PLEASE SEE THE SEPARATE GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMMES

15. APPENDIX F: PROOF OF PPP

Caroline Evans

From: Caroline Evans
Sent: Friday, 14 October 2022 16:37
To: Alan Carter
Subject: ALBANY GRID CONNECTION INFRASTRUCTURE | Public Participation Process, Basic Assessment Report - 14/10/2022 until 14/11/2022

Dear Albany Stakeholder / I&AP

You are hereby notified of the commencement of the Draft Basic Assessment Public Review Period for the proposed Albany Grid Connection Infrastructure, Makhanda, Eastern Cape (DFFE Ref: TBA). The documentation is available (as detailed below) for a period of 30 days from the 14th of October of 14th of November 2022.

The documentation will be available at the following locations from the 14th of October until the 14th of November 2022:

- ***Soft Copy:*** **The CES website at the following link:** http://www.cesnet.co.za/albany-grid-infrastructure-makhanda; **and**
- ***Hard Copy:*** **The Grahamstown Public Library: 45 Hill Street, Grahamstown, 6139.**

If you are a Government Stakeholder who traditionally receives hard copy documents and would prefer to revert back to this method then kindly let the undersigned know as soon as possible.

Please do not hesitate to contact me should you have any queries. Please ensure that the EAP, Dr Alan Carter, is copied into any correspondence.

Kind regards
Caroline

You are also hereby reminded of the following important information:
NOTICE: POPIA (Protection of Personal Information Act) Disclaimer. All Stakeholder and I&AP Databases need to adhere to the Act from the 1st of July 2021. Should you wish to register as an I&AP on the Stakeholder and I&AP Database, as the administrators of the Albany WEF and Grid Connection WEF Stakeholder and I&AP Database we require your consent to be part of this database. As such you are herewith notified that you are entitled to refuse such consent and you may exercise such a right by withdrawing from this database in writing at any stage of the process. Should you elect to remain in this group, it will be accepted that you have consented to being a part of this database and to your personal information (being your name, affiliation, contact details and written comments) being noticeable to any person interested in this project and in the public domain. In this regard, we implore all members of this database NOT to make use of such personal information for whatsoever reason without obtaining the consent from the relevant person(s).

Caroline Evans

From:	Microsoft Outlook
To:	tim.kinnell@comply360.co.za; nickorph@iafrica.com; Joe.Harding@rina.org; M.Powell@ru.ac.za; sagesadesign@gmail.com; andrew@wfa.africa; glenboydreserve@gmail.com; EstelleP@l2b.co.za; wyliesdairy@gmail.com; gillianwylie.dairy@gmail.com; info@eccapasshunt.co.za; sgwabeni@makana.gov.za; ralph@genesis-eco.com; jeshuttleworth4@gmail.com; william@amakhala.co.za; carinswart@gmail.com; Zandri.Hill@abo-wind.com; Kristal.maze@sanparks.org; Catherine.Dreyer@sanparks.org; nick.degoede@sanparks.org; maretha.alant@sanparks.org; bruce.cleary@genesis-eco.com; abrahams@wkn-windcurrent.com; boplaas@igen.co.za; charles.timm@kempston.co.za; gwylie@vodamail.co.za; voetspore@gmail.com; growingdk@gmail.com; xngcikhwe@yahoo.com; scole@telkomsa.net; Wendy@steelrode.co.za; Richard@summersinc.co.za; neale@pehotels.co.za; sandy.tarr@yahoo.com; kgb@makana.gov.za; ina@kwandwe.co.za; zuben.jessa@plan-8.co.za; welicousins@gmail.com; rudiventer@border.co.za; avdspuy@iafrica.com; rosewood@telkomsa.net; nicofick@hotmail.com; bushmansgorge@hotmail.com; wpotemajeje@gmail.com; lionel@lyssossafaris.co.za; cheryth@lantic.net; pumbareserve@pehotels.co.za; tally.palmer@ru.ac.za; rdscheepers@hotmail.com; heo@hotmail.co.uk; manager@amakhala.co.za; hylton@utth.co.za; RyanDA@arcusconsulting.co.za; info@lankasafaris.com; lew@lankasafaris.com; colin@game4africa.co.za; ch.folscher@gmail.com; safari@glenmelville.co.za; steven.lang@gmail.com; danzstockigt@icloud.com; knikhil@gdresearchcenter.com; veronique@g7energies.com; eia@g7energies.com; peter@surveyec.co.za; ruwaynej@strutfast.co.za; patsy@itsnet.co.za; RoxanneM@l2b.co.za; L.Greyling@ru.ac.za; admin@amarokquarries.co.za; basparg@gmail.com; G.Antrobus@ru.ac.za; naasferreira42@gmail.com; anton@limestonehill.co.za; ph@emeraldskysafaris.co.za; c.doyle@telkomsa.net; xgsimakuhle@gmail.com; graeme@kwandwe.co.za; angus@kwandwe.co.za; pkn@mbb.co.za; pje@mbb.co.za; ljforster1@gmail.com; glenn@wessons.co.za; Sally@11worcesterondurban.co.za; timothybull05@aol.com; f.way-jones@am.org.za; spricesmith@gmail.com; termic@mweb.co.za; philip.machanick@gmail.com; Patrick.Maqabangqa@drdlr.gov.za; sean@fortgovernors.com; jo@fortgovernors.com; williemengu9@gmail.com; xmatole7@gmail.com; sylvia.erasmus@gmail.com; clarice@summersinc.co.za; Kirstin@summersinc.co.za
Sent:	Friday, 14 October 2022 16:38
Subject:	Relayed: ALBANY GRID CONNECTION INFRASTRUCTURE | Public Participation Process, Basic Assessment Report - 14/10/2022 until 14/11/2022

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

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3

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Subject: ALBANY GRID CONNECTION INFRASTRUCTURE | Public Participation Process, Basic Assessment Report - 14/10/2022 until 14/11/2022

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Caroline Evans

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Subject: ALBANY GRID CONNECTION INFRASTRUCTURE | Public Participation Process, Basic Assessment Report - 14/10/2022 until 14/11/2022

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forestry, fisheries & the environment

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PER MAIL / E-MAIL

Dear Dr Carter

COMMENTS ON THE DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED ALBANY CONNECTION AND ASSOCIATED GRID INFRASTRUCTURE NEAR MAKHANDA, EASTERN CAPE PROVINCE.

The application form and Draft Basic Assessment Report (BAR) dated September 2022, received by this Department on, 14 October 2022 and acknowledged on the 18 October 2022.

This letter serves to inform you that the following information must be included to the final BAR:

(a) Listed Activities

(i) For listed activities applied for under listing notice 3, you indicated that the project is located within 5km from a protected area. You are therefore require to amend the project description provided to include the name of the protected area identified in terms of NEMPAA. You must also ensure that comments are obtained from the management authority of this protected area.

(ii) 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.

(iii) 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 Department's application form template has been amended and can be downloaded from the following link: https://www.environment.gov.za/documents/forms.

(iv) 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

(b) Public Participation Process

(i) Comments must be obtained from this Department's Biodiversity Conservation Directorate at BCAdmin@dffe.gov.za
(ii) The Public Participation Process must be conducted in terms of Regulation 39, 40 41, 42, 43 and 44 of the EIA Regulations 2014, as amended.
(iii) Please ensure that all issues raised and comments received during the circulation of the draft BAR from registered Interested and Affected Parties (I&APs) and organs of state, as listed in your I&APs Database, and others that have jurisdiction in respect of the proposed activity are adequately addressed and included in the final BAR.
(iv) Copies of original comments received from I&APs and organs of state, which have jurisdiction in respect of the proposed activity are submitted to the Department with the final BAR.
(v) 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. In terms of Regulation 41(2)(b) of the EIA Regulations, 2014, as amended, please provide proof of written notice for the availability of the BAR for comment.
(vi) All issues raised and comments received during the circulation of the draft BAR from I&APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed in the final BAR, including comments from this Department, and must be incorporated into a Comments and Response Report (CRR).
(vii) The CRR report must be a separate document from the main report and the format must be in the table format as indicated in Annexure 1 of this comments letter.
(viii) Please refrain from summarising comments made by I&APs. All comments from I&APs must be copied verbatim and responded to clearly. Please note that a response such as "noted" is not regarded as an adequate response to an I&AP's comments.
(ix) Minutes and attendance registers (where applicable) of any physical/virtual meetings held by the Environmental Assessment Practitioner (EAP) with Interested and Affected Parties (I&APs) and other role players must be included in the final BAR.

(c) Cumulative Assessment

(i) Taking into 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:
   a) 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.
   b) 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.
   c) The cumulative impacts significance rating must also inform the need and desirability of the proposed development.
   d) A cumulative impact environmental statement on whether the proposed development must proceed

(d) Validity period and auditing frequency

(i) Please ensure that the final BAR includes the period for which the Environmental Authorisation (EA) is required, the date on which the activity will be concluded and the post construction monitoring requirements finalised, as per Appendix 1(3)(1)(q) of the NEMA EIA Regulations, 2014, as amended.

(e) Specialist Assessments

(i) Please ensure that specialist studies conducted provide a detailed description of their methodology, as well as all other associated infrastructures that they have assessed and are recommending for the authorisation.

(ii) The specialist studies must also provide a detailed description of all limitations to their studies.
(iii) If the specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defendable reasons; and were necessary, include further expertise advice.
(iv) Please include a table in the BAR summarising the specialist studies required by the Screening Tool including the sensitivity rating of Screening Tool (very high, high, medium, low), a column indicating the sensitivity of the site after the EAP/Specialist has conducted the Site Verification Assessment and a column indicating whether these studies were conducted or compliance statement attached.
(v) It is further brought to your attention that the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols"), and in Government Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal species) have come into effect. Please note that specialist assessments must be conducted in accordance with these protocols, except where the applicant provides proof to the competent authority that the specialist assessment affected by these protocols had been commissioned before the date on which the protocols came into effect, in which case Appendix 6 of the Environmental impact Assessment Regulations, 2014, as amended, will apply to such applications. Please indicate in the EIAr whether the protocols were applied.
(vi) Please also ensure that the specialist studies conducted as per requirements of the protocols also include the Site Verification Report that confirms the level of sensitivity from what has been identified by the screening report
(vii) Please note that the Protocols require the specialists to be SACNASP registered. Proof of registration in the form of valid SACNASP certificate must be submitted for each specialist conducted
(viii) For the themes that have been identified as medium which requires compliance statements, please ensure that these compliance statements are attached to the BAR and that they comply with the requirement of the protocols.Please ensure that Specialist Declaration of Interest for all specialist studies conducted are submitted together with the final BAR.

General

You are further reminded to comply with Regulation 19(1)(a) of the NEMA EIA Regulations, 2014, as amended, which states that: *"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 – (a) a basic assessment report, inclusive of any specialist reports, an EMPr, a closure plan in the case of a closure activity and where the application is a mining application, the plans, report and calculations contemplated in the Financial Provisioning Regulations, 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".*

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 public participation process, you are required to comply with Regulation 19(1)(b) of the NEMA EIA Regulations, 2014, as amended, which states: *"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 documents contemplated in sub-regulation 1(a) 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 documents which changes or information was not contained in the original documents consulted on during the initial public participation process contemplated in sub-regulation (1)(a) and that the revised documents will be subjected to another public participation process of at least 30 days."*

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.

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.

Yours sincerely

Ms Milicent Solomons
Acting Chief Director: National Integrated Authorisations
Department of Forestry, Fisheries and the Environment
Signed by: Dr Danie Smit
Designation: Deputy Director: National Integrated Authorisation Projects
Date: 03/11/2022

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17 November 2022

Attention: Ms Caroline Evans

Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve comments on Albany Grid Connection Infrastructure Basic Assessment Report

Dear Ms Evans,

Please find under cover of this letter, Indalo Private Game Reserve Association ("Indalo") and Buffalo Kloof Private Game Reserve ("Buffalo Kloof") comments on the Albany Grid Connection Infrastructure Basic Assessment Report.

We note that the comment period ended on 14th November 2022 and that these comments are 3 days late. We hereby request condonation for the late submission. The writer of this letter, and scientific and technical advisor to Indalo and Buffalo Kloof, Theo Fischer, fell ill on Monday 14th November and has been unable to complete the comments until today, 17th November 2022. A medical certificate to this effect can be provided if required. We submit that this 3-day period is negligible under the circumstances and that is not prejudicial to the rights of the applicant. In contrast, Indalo and Buffalo Kloof would be prejudiced, should their comments not be considered and responded to.

Yours faithfully

Mr Theo Fischer (on behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve)

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Page 1

COMMENTS ON THE ALBANY GRID CONNECTION INFRASTRUCTURE BASIC ASSESSMENT REPORT

November 2022

By Mr T Fischer, EScience Associates (Pty) Ltd On behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve

1

1. LAND USE AND ALTERNATIVES

1.1 The Indalo Private Game Reserves (PGRs) and Buffalo Kloof Private Game Reserve are concerned with nature and wildlife tourism as a key protected area goods and service (as are many others in South Africa and in Africa in general). The unique background, character, nature-based tourism services, and community development by these 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. The Albany Grid Connection Infrastructure and its associated WEF will significantly affect the unique wilderness experience offered by the region, which may cause serious economic harm to some parties.

1.2 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

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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 in the Eastern Cape. The BAR 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 Albany Grid Infrastructure at the proposed location.

1.3 The report doesn't not describe the current zoning of the properties on which the BESS is proposed and thus does not touch on the compatibility (or incompatibility) of a 1.3 hectare industrial development within in an area defined by agriculture and ecotourism. The BESS is an industrial development that will fragment and intrude on landscape and current land use (conservation tourism)

1.4 Location alternatives for the substation and BESS are only superficially dealt with in table 6.1. An important question is – is this the best place for the battery considering that such an industrial development this will fragment an intrude on landscape and land use (conservation tourism)? This is question is not answered by the alternatives assessment.

1.5 Table 6.1 indicates that Alternative locations 1 and 2 are both worthy of further consideration or assessment, but there is no further analysis of the two against one another. A BESS adjacent to the existing Albany substation which is on the outskirts of Makana, on the face of it, seems like a more appropriate location than the preferred alternative, but the BAR does not properly assess the tow location alternatives against one another, thus not allowing IAPs or the Competent Authority to make informed comments and/or decisions.

1.6 In the Albany WEF EIR the statement "Location 1 has already been agreed to" on page 99 is problematic. So is the reference in the previous line that "Albany Wind Energy and landowners have formally agreed to the proposed development on the site and are in full support of the use of this area." The location of the grid infrastructure in this location 1 is the same grid infrastructure layout in the Albany Connection and Associated Grid Infrastructure BAR (page 7). However, in this BAR there is no mention that the location was already agreed to. However, this is not a valid ground for failure to perform a proper investigation to alternative sites. Although it is important that the applicant has secured the support of the landowners for the so-called "Location 1" (from the WEF EIR), their approval does not place any legal obligation on the DFFE to

2

accept Location 1. The competent authority cannot be expected to rubber stamp Location 1 regardless of the result of the EIA and notwithstanding the significant environmental impact of the development from that location, because the EIR 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

1.7 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 Albany Grid Connection Infrastructure application is not such a case.

1.8 The lack of a proper investigation about alternative site locations in accordance with the prescribed requirements of the EIA Regulations is a material mistake in the BAR and cannot be lawfully condoned by the DFFE.

1.9 A significantly more desirable activity in the context of the location is Solar PV plus Battery Storage adjacent to the existing Albany substation. This would achieve the same outcomes of additional renewable energy capacity, with less severe visual and socio-economic impacts. The WEF and Grid infrastructure EIA processes do not assess this compelling activity alternative.

1.10 The BAR lists battery technology alternatives (Lithium-ion, Vanadium Redox , Zinc-Hybrid) however it only briefly describes the advantages/disadvantages of each in a table. Only the preferred technology (Li-ion) is delved into further with regard to safety

risks. Best practice would require that the relative safety risks of each technology are of the more important considerations in selecting a preferred alternative.

2. VISUAL IMPACT

2.1 There was no Visual Impact Assessment undertaken for the proposed Albany Grid Connection Infrastructure.

2.2 This directly contradicts the DFFE Screening Tool Report (Page 10) which indicates that a "Landscape/Visual" assessment is required.

2.3 The BESS was not included at all in the Albany WEF Visual Impact Assessment. Since the WEF cannot exist without the additional grid infrastructure, this makes the visual impact assessment incomplete. The BESS and WEF are industrial infrastructure elements that will convert natural and wilderness views into an energy landscape.

2.4 The draft BAR (Page 26) states that a "Potential increase in visual impact" is a disadvantage to the project. However, without having conducted a proper VIA, there is no basis for this statement, and it seems it is there to appease stakeholders who are opposed to the project, rather than having a factual backing.

3. NEED AND DESIRABILITY

3.1 The BAR offers has a section titled "Need and Desirability" which does little more than list Policy and Legislation. the Environmental Impact Assessment (EIA) regulations require environmental assessment practitioners (EAPs) who undertake environmental assessments, to have knowledge and take into account relevant guidelines, and what is conspicuous in its absence from the Section on Need and Desirability is the consideration of the Need and Desirability Guideline Document (DEA 2017).

3.2 Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA, and provided for in various policies and plans, including the National Development Plan 2030 (NDP). Addressing the need and desirability of a

development is a way of ensuring sustainable development – in other words, that a development is ecologically sustainable and socially and economically justifiable .

3.3 Need and Desirability Guideline Document (DEA 2017) sets out a list of questions which should be addressed when considering need and desirability of a proposed development. These are divided into questions that relate to ecological sustainability and justifiable economic and social development. The questions that relate to ecological sustainability include how the development may impact ecosystems and biological diversity; pollution; and renewable and non-renewable resources which it may be reasonably expected that questions will be covered directly or indirectly, however, these are not addressed and it may be noted that a number of key questions concerning need and desirability has been avoided as follows:

a) How will this development (and its separate elements/aspects) impact on the ecological integrity of the area? Not answered -in this respect the EAP omits detail the extent to which the development will have significant impact to protected area viability.

b) How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? Not answered - in this respect the EAP and VIA specialist omits to document impact to the national estate comprised of protected areas and some of the most scenic views of the Eastern Cape.

c) Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio- economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)? Not answered - No consideration was afforded to the socioeconomic impact is required by the Guideline on Need and Desirability (DEA (2017)) and the proposed Albany Grid Infrastructure has not been demonstrated to be socially sustainable for lack of assessment of the opportunity

costs in terms of jobs that may be lost / potential jobs that may be lost in wildlife and nature tourism that is substantially more job intensive.

3.4 The BAR confirms on page 14, Chapter 4, that the need and desirability is in essence built on a foundation of the need and desirability of the proposed Albany WEF:

"The proposed Albany Connection and Associated Grid Infrastructure is required to supplement the development of the proposed Albany Wind Energy Facility (WEF), as indicated in Figure 4.1. Therefore, the project need and desirability also relates to the need and desirability of renewable energy on a local, district, provincial, national and international level."

Indalo has made submissions in the Albany WEF Public participation and appeal process that the development of the Albany WEF comprising of highly intrusive turbines and infrastructure within a visually sensitive nature and wildlife tourism area, is clearly undesirable for a number of reasons, only some of which are repeated here:

- The Albany WEF receiving environment is highly sensitive from a visual perspective. This means that it is not ideally suitable for wind farm development where the wilderness character forms the basis for nature and wildlife tourism (and more so if this is the basis for Protected Area establishment and upkeep by biodiversity stewardship).
- The destructive impact of these wind energy developments on tourism employment overshadows their nominal employment benefits to be provided by the WEF.
- The Albany WEF is not ecologically sustainable because it will significantly impact on the primary financial source for the extensive private sector environmental stewardship programmes with government to conserve biodiversity and expand Protected Areas.

3.5 Although both protected area expansion and WEF economic activities have a key role to play in local economic development and are both needed, the development of a WEF in a location that would degrade the environmental goods and service

offerings and specifically the tourism product and diminish the possibility of protected area expansion initiatives is not desirable.

3.6 there are already a substantial number of WEF sites that have been authorised for the purposes of bidding into the REIPPP – in fact the currently authorised projects indicate that there is a multiple of 10.6 times capacity to meet the IRP target over the next 5 years and indeed enough capacity to meet the proposed updated 2030 target. Furthermore the Eastern Cape alone with authorised WEFs of over 3 GW has approximately 2.5 times more wind energy capacity than that which is required to meet the proposed updated IRP 2019 target over the next 5 years and but wind energy in the Eastern Cape is limited by the maximum export or evacuation capacity of the Eastern Cape which currently stands at 1 740 MW. The proposed Albany WEF will not be ecologically sustainable as required by section 24(b) of the Constitution and connote demonstrate desirability, and although the need for renewable energy is beyond dispute, the need for further WEF development in the Eastern Cape in the short to medium term cannot be demonstrated in the face of oversupply and grid capacity constraints. Since the Albany WEF is undesirable, it follows that the Albany Grid Infrastructure and Battery Storage is undesirable in this location.

4. PUBLIC PARTICIPATION

4.1 The public participation undertaken for the proposed Albany Grid Connection Infrastructure application is insufficient. The draft BAR states that the reason for the no public meeting is due to the Covid-19 pandemic, the use of COVID-19 as an excuse for the lack of public meetings in November 2022 is unacceptable and procedurally unfair considering the current diminished threat posed by the virus, the low infection rates, and the absence of any COVID-19 safety protocols in South Africa over the last year.

4.2 The Albany WEF and grid infrastructure should have formed part of one report and one public participation process. The splitting up of co-dependent activities leads to public participation fatigue. They should have been part of one BAR even if served by two separate applications to make planning more functional and public participation productive and not wasteful of public's time. The splitting of the applications into two

reports and two PP processes is not functional or fair and results in contorted and confused overall assessment, participation and decision-making processes.

5. PROCEDURAL

5.1 In terms of Appendix 1 (3) of the EIA Regulations, a Basic Assessment Report (BAR) must include:

> *"(e) A description of the policy and legislative context within which the development is proposed including (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."*

The BAR, under chapter 3, lists relevant legislation and states in table form how the development should respond or comply to each, but it does not indicate what the legislation states or what its purpose is, thus not providing an adequate description of the policy and legislative context within which the development is proposed. Furthermore, the report only lists legislation but does not list and describe any guidelines, spatial tools, municipal development planning frameworks.

5.2 It is claimed in the table on page iv, that chapter 9 includes "A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed" as is required by the EIA Regulations. However, chapter 9 does not include any such description.

RICHARD SUMMERS INC.
ATTORNEYS

CES - Environmental and Social Advisory Services
Grahamstown
Attention: Ms. Caroline Evans

Our ref: RWS/cfa/CSP20-001
DFFE Ref. No.: TBA

Per email: c.evans@cesnet.co.za

14 November 2022

Dear Caroline

RE: COMMENTS ON THE DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED ALBANY CONNECTION AND ASSOCIATED GRID INFRASTRUCTURE DATED FEBRUARY 2022 (DFFE REFERENCE NUMBER: TBA)

These comments on the abovementioned Draft Basic Assessment Report ("DBAR") for the proposed Albany Grid Infrastructure are prepared on behalf of Kwandwe Private Game Reserve ("Kwandwe") and Wilderness Foundation Africa.

VISUAL IMPACTS

1. The visual impact of the proposed Albany Grid Infrastructure has not been assessed. The fact that no specialist visual impact assessment ("VIA") was undertaken is confirmed in an email dated 2 November 2022 from Ms. Caroline Evans of CES.

2. The DFFE Screening Tool Report (on Page 10) indicates that a "*Landscape/Visual*" assessment is a requirement to be addressed in an application. Please explain on what basis a VIA for the proposed Albany Grid Infrastructure was omitted. Put differently, the EAP is required to motivate why no information on visual impacts is presented to the decision-maker in respect of the DBAR?

3. In the absence of any assessment or specialist study of visual impacts in connection with the proposed Albany Grid Infrastructure, please explain how the EIA Regulations are complied with, particularly Appendix 6 (1)(1)(f) and (1)(1)(h) which provide that a specialist report in terms of

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the EIA Regulations must contain:

3.1. (f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives (emphasis supplied);

3.2. (h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers (emphasis supplied).

4. We note that page 26 of the DBAR expressly identifies one of the "Disadvantages" of the project as "*Potential increase in visual impact*". Please explain how this conclusion was reached as the baseline for this conclusion has not been reported in the DBAR and no specialist study undertaken in connection with visual impacts pertaining to this Application and the subject infrastructure.

AVIFAUNAL IMPACT

5. Many of the collision sensitive species identified in the Avifaunal Impact Assessment are considered threatened in southern Africa. The Red List species vulnerable to power line collisions are generally long-living, and slow-reproducing species under natural conditions. In other words, they are particularly vulnerable to collision impacts and therefore the assessment of avifaunal impacts must be comprehensive, accurate and informed by the precautionary principle. The report does not satisfy this threshold.

6. The Avifaunal Impact Assessment was undertaken in 2020 and the DBAR was released in October 2022 and are out of date as they should have integrated all current and applicable guidelines such as BirdLife South Africa's Guidelines for the Verreaux's Eagle and Wind Farms in (November 2021). Neither the DBAR nor the Avifaunal Impact Assessment has incorporated the latest Guidelines.

7. The Avifaunal Impact Assessment confirms that the specialist conducted four seasons of pre-construction bird monitoring but this was undertaken more than 5 years ago 2016 and 2017, and as the environment is constantly changing more data regarding target species is available the assessment should be updated.

8. Whilst the Avifaunal Impact Assessment claims to have assessed the potential impacts of both the proposed Albany WEF and the proposed Albany Grid Infrastructure, the number of formal site visits over a period spanning May-June 2016 to January 2020 (the date of the Avifaunal Impact Assessment) is also inadequate.

9. Regarding the statement in the Avifaunal Impact Assessment that "*Collision and electrocution of birds on overhead power lines on site is anticipated to be of HIGH NEGATIVE significance. Both of these impacts can be mitigated successfully in our opinion to reduce the significance to*

LOW NEGATIVE", please explain how this rating and conclusion have been arrived at.

10. Please explain how the sensitivity map aligns with the avifauna specialist's conclusions regarding the Medium to High risk associated with several target species identified across the site.

11. Please confirm and explain how the measures identified in the DBAR / specialist assessment (summarised below) will be made binding on the proponent (and its successors in title) and how they will be implemented and what oversight regarding compliance will be provided. Further detail is necessary as many of these key mitigation measures are speculative and left to be dealt with at a future unspecified time and date:

11.1. The identification, and specification of overhead cables on the spans identified as high risk for the purposes of mitigation.

11.2. Ensuring that the overhead cables on the spans identified as high risk are fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device.

11.3. The power line must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds (such as eagles) to perch on them in safety.

11.4. None of the on-site power line between turbines and between turbines and the site substation be built above ground.

11.5. The only above ground power line should be the grid connection power line.

12. The Avifaunal Impact Assessment states with regard to the cumulative impacts of wind energy facilities that the specialists are aware of only two other wind energy facilities in the area, namely: Grahamstown Plan8 Wind Energy Facility and Waainek Wind Energy Facility. It is clear that not all similar developments have been assessed by the avifaunal specialist. The assessment of cumulative impacts is flawed and must be redone in order to scope all other similar developments in the receiving environment. Section 5.5 of the Avifaunal Impact Assessment which states that in areas where multiple facilities may be built, "*it is important to consider the overall or cumulative impact of these facilities on birds. Consideration of each project in isolation may not adequately judge the effect that projects will have on avifauna when combined.*" In the absence of a comprehensive assessment of all known similar developments in the immediate surrounds, the cumulative impact as presented in the DBAR and Avifaunal Impact Assessment is undetermined and unassessed.

13. The Avifaunal Impact Assessment relies on aspirational statements rather than concrete mitigation. For example, : "*It is recommended that each project within this broader area ensures that no effort is spared in mitigating impacts on avifauna. It is hoped that if each project provides sufficient mitigation, the overall cumulative impact can be reduced.*" This is

meaningless. The assessment has failed to adhere to the specialist's own recommendations regarding the identification and implementation of feasible mitigation measures as well as the obvious fact that the assessment process has not taken into account the full extent of cumulative impacts associated with similar developments in the surrounding area.

14. The assessment of impacts on avifaunal species is inadequate. It is stated that collision and electrocution of birds is potentially of HIGH NEGATIVE significance but can be reduced to LOW NEGATIVE significance with mitigation as follows: "*In both cases the first and foremost approach to mitigation should be the selection of the shortest and most sensible possible length of new overhead power line to be constructed and the optimal route for this line*." This mitigation measure is illogical, and it seems improbable that it will be implemented. Figure 12 on page 56 of the Avifaunal Impact Assessment shows the same route for the overhead line corridor. No alternative that is the "*shortest and most sensible possible length*" is provided in the reports. Therefore, it is totally unknown and unproven as to whether this proposed mitigation is even feasible – yet it is the basis to reduce a HIGH NEGATIVE to LOW NEGATIVE (post mitigation). The DBAR relies on untested and speculative mitigation.

15. The Avifaunal Impact Assessment defers a key aspect of the identification of mitigation measures to the post-authorisation stage in the form of an avifaunal walkthrough of the final layout. This is evidenced by the fact that the Avifaunal Impact Assessment states that "*we are not yet aware of where exactly the grid connection power line will run*". No specifics of the nature, extent and purpose of a post-authorisation avifaunal walkthrough is given in the DBAR nor is any reasonable motivation tendered for the deferral of the final layout of the proposed power line which should have been considered, evaluated and assessed before the Facility was approved. It is illogical to defer the evaluation and efficacy of mitigation measures to the post-authorisation stage in the form of an avifaunal walkthrough of the final layout after a final decision has been rendered on the project.

16. Page 3 of the Avifaunal Impact Assessment identifies key findings relating to target bird species and the risks of such impacts. Please explain why the incorporation of those findings into section 7.7.1 of the DBAR includes the phrase "*(including the Albany OHL and Associated Grid Infrastructure)*" when this text does not appear in the Avifaunal Impact Assessment.

ECOLOGICAL IMPACT

17. The ecological impact assessment identified areas of high ecological sensitivity, in proximity to the proposed development, and classified these as "no-go" areas for the Proposed Albany Grid Infrastructure development. The areas in question included: patches of Southern Mistbelt Forest vegetation (Beggars Bush State Forest); and Ecca Local Authority Nature Reserve.

18. The DBAR does not integrate this key specialist finding but rather states "*Where possible, the routing of the OHL/underground, within the Connection Corridor, will avoid this protected area.*" (DBAR: 47).

19. Please confirm whether these areas are classified these as "no-go" areas for the Proposed Albany Grid Infrastructure or whether they will only be treated as classified these as "no-go" areas "where possible".

20. With regard to the impact identification and assessment in Section 7.2 of the Ecological Assessment Report the identified impacts in connection with the Facility is qualified by the statement that *"... the current layout plan shows turbines and infrastructure within critical biodiversity areas and is therefore not entirely consistent with the land use guidelines in the Eastern Cape Biodiversity Conservation Plan (2007)".* Please explain why no similar qualification is contained within section 8.2 of the Ecological Assessment Report which specifically deals with the grid connection and associated infrastructure. This is particularly important given that the corridor being assessed contains areas which are classified as CBA one, CBA 2, ESA 1, ESA 2 and sections of protected areas (in relation to terrestrial CBAs) and in terms of Aquatic CBAs the majority of the infrastructure site is classified as Ecological Support Areas.

21. Please assess the impact in question and provide an impact rating for the cumulative impact of the establishment and invasion of alien vegetation.

ALTERNATIVES

22. The avifaunal specialist states categorically that one of the critical mitigation measures required to be implemented is to *"Select the shortest and most sensible possible length of new overhead power line to be constructed and the optimal route for this line"* (DBAR: 58). There is no evidence to show that this has been achieved.

23. Only wo alternative powerline routes were considered within one fixed grid corridor only. It is not technically or practically possible (within a predetermined and confined grid) corridor to be able to achieve the shortest possible length of overhead power line to satisfy the avifaunal specialist's identified mitigation. The mitigation measure is incapable of being achieved where only one grid corridor has been evaluated.

24. A mandatory prescribed requirement of the EIA Regulations is to compile a report that enables the competent authority to determine the best practicable option and alternative. Irrespective of whether the applicant owns the land or not, the overriding objective should be to assess more than one grid corridor as there is no justification for choosing only one grid corridor where the applicant doesn't own any of the land on which the proposed Albany Grid Infrastructure will be located.

25. The inescapable inference is that the specialist mitigation measures identified in the assessment process are incapable of being achieved due to the constraint in the selection and assessment of alternatives. The flawed methodology and approach adopted in regard to obtaining authorisation for the Facility prior to the grid infrastructure (and the constraint of relying on one grid corridor only) automatically excludes the possibility of any meaningful consideration, evaluation and assessment of alternatives.

MITIGATION INCAPABLE OF IMPLEMENTATION

26. A fundamentally critical aspect of the mitigation hierarchy is the efficacy of measures to avoid bird mortality / injuries associated with collision with overhead powerlines. The relevant operational phase mitigation measure in question is defined as "*To mitigate for collision of the relevant species, it is recommended that the conductors on the high bird collision risk sections of the line be fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device*" [DBAR: 61]. The mitigation measure in question is compromised because (1) it is subject to Eskom approval and (2) it is entirely dependent on line marking devices remaining in working order for the full lifespan of the power line. Neither the installation nor the obligation and responsibility for full lifespan implementation and maintenance is satisfactorily addressed in the DBAR.

27. In amplification of the above comment, page 58 of the DBAR records the Avifaunal specialist's recommendation as follows: "*It will be either Albany Wind Power or Eskom's responsibility to ensure that these line marking devices remain in working order for the full lifespan of the power line, as we cannot afford to have significant numbers of bird collisions on this new line.*" By the specialist's own admission, the mitigation measure in question is a *sine qua non* for achieving effective impact avoidance. If the mitigation measure in question is incapable of implementation or if the cost is deemed prohibitive it renders it susceptible to non-implementation. The DBAR fails to prove that the identified mitigation measure is capable of achieving the objective in question.

28. Based on the above comments, it is irrational and unreasonable to conclude that: (1) that the significance rating for direct impacts is High (pre-mitigation) and Low for such impacts in terms of post-mitigation; and (2) that the significance rating for cumulative impacts is Moderate (pre-mitigation) and Low for such impacts (post-mitigation). The simple reason for this is that certain fundamental, necessary and critical mitigation measures are left unspecified or undetermined in terms of certainty of performance (execution or implementation) and responsibility and due to the non-binding nature of the measures in question.

SIGNIFICANCE RATING

29. The impact and significance ratings described in the DBAR inexplicably reduce the significance rating for the cumulative impact associated with collisions and electrocution on overhead power lines from High (direct impact) to Moderate (cumulative impact) for no apparent, justifiable or rational reason. Please explain the scientific basis for this conclusion as something more is required other than a subjective value judgement which has no bearing on scientific evaluation or rational connection to the specialist findings in question.

30. The avifauna specialist was at pains to point out the danger of cumulative impacts and that no further losses could or should be tolerated by virtue of the installation of a new overhead powerline (Cf DBAR page 58). The inescapable inference is that the cumulative impact of

constructing a new overhead power line will only increase the nature, severity and duration of the impact (avifaunal mortality / injury).

31. The EAP's conclusion in this regard flies in the face of the impact ratings given to every other project-related impact identified and reported on in the DBAR. Please explain the driver behind the manner in which the DBAR plays down (by inexplicably reducing the significance rating) the clear danger inherent with cumulative impacts of this nature, particularly in relation to avifaunal impacts.

PUBLIC PARTICIPATION

32. The scope of public participation contemplated as part of the proposed Albany Grid Infrastructure application is inadequate. The reason offered for limited engagement with I&APs in the DBAR is that: *"Due to the Covid-19 pandemic, no public meetings will be held during the release of the Draft BAR for public review. However, all comments received via telephone and SMS will be included in the Comments and Responses Report to accommodate those that do not have access to the internet, those that are illiterate and those with disabilities. In addition, a brief project background can be provided verbally during telephone discussions, where necessary."*

33. The reliance on Covid protocols in November 2022 as a basis for justifying no public meetings is manifestly flawed and unjustified considering the scale and implications of the project. The absence of in person public meetings is unacceptable and procedurally unfair. A public meeting should be held in connection with the DBAR. Consultation is not possible without direct engagement with the affected community.

IMPACTS ON WATER RESOURCES

34. Drought conditions, water resource scarcity, and the unsustainable use and abstraction of groundwater prevail as key environmental constraints in the receiving environment concerned. Much of the Eastern Cape including the area in which the proposed Albany Grid Infrastructure is situated, is water scarce and subject to on-going drought. In this context, a comprehensive assessment of the impacts of the proposed Albany Grid Infrastructure on water resources is undoubtedly appropriate, in addition to being necessary to meet the EIA requirements for a description and assessment of all environmental issues and risks that were identified during the EIA process and in terms of section 2 NEMA principles.

35. The DBAR states at page 37 the following with regard to surface water and the geohydrological study undertaken: *"SRK Consulting undertook a Groundwater Investigation to determine the impact of the proposed larger WEF site development on the Kap River catchment system."* The statement misrepresents the nature and scope of the assessment. The SRK investigation states that the purpose of the study is *"to determine whether the wind turbines on the south-eastern section of the Site will influence the Kap River catchment system. From a groundwater perspective, SRK understands that their client is interested in the effect that the turbines may*

have on the infiltration of groundwater into the groundwater system, and potentially on the Kap River".[1]

36. The geohydrological study dated 19 November 2019 by SRK Consulting is 3 years old and outdated. The type of infrastructure mentioned in the study includes: 23 turbines; 23 laydown areas beside each turbine; 23 areas for switchgear/ transmitters; roads – approx. 14.6m long x 8m wide. It does not assess the groundwater impacts of the grid infrastructure specifically.

37. The impact of the grid infrastructure cumulatively with the wind energy facility is not assessed and neither is the impact this will have on the catchment area and the groundwater system.

38. The SRK investigation does not deal with the Albany Grid Infrastructure application. In the absence of any information which serves to confirm that the area considered (i.e. *"the south-eastern section of the Site")* encompasses the entire Grid corridor, there is no basis for I&APs to conclude that the investigation is in any way relevant to the application at hand.

39. A geohydrological specialist study is included in the DBAR, but grid infrastructure is not mentioned in this report by SRK Consulting.

HERITAGE IMPACTS

40. The Heritage Impact Assessment ("HIA") is titled *"Revised Report: Phase 1 Archaeological Impact Assessment of the Proposed Albany Wind Energy Facility and Associated Infrastructure"* prepared by Booth Heritage Consulting (Pty) Ltd (August 2020) and forms part of the DBAR.

41. The HIA is identical to that which was attached to the FEIR submitted to the DFFE in relation to the Albany WEF. For this reason, comments submitted on behalf of our clients in respect of the WEF and specifically comments by Sarah Winter dated 30 August 2021 and 6 April 2022 concluded that the HIA is limited to an Archaeological Impact Assessment, which does not meet the minimum requirements for an HIA as set out in section 38(3) of the National Heritage Resources Act[2] ("NHRA"). Previous comments on the HIA report dated August 2020 have not yet been addressed and therefore these comments remain valid.

42. Given the scale and nature of the Albany WEF development of which the grid connection is a key component, the consideration of landscape issues should be the primary driver of any meaningful and credible heritage assessment.

43. The failure to address heritage and cultural significance impacts at the level of a cultural landscape assessment is a material deficiency in the report and fails to meet the requirements of section 38(3) of the NHRA.

[1] Geohydrological Study dated 19 November 2019 by SRK Consulting.
[2] Act 25 of 1999.

44. The HIA lacks a broader landscape perspective, and fails to incorporate Kwandwe and Great Fish River Nature Reserves and a stretch of the Great Fish River Corridor (being of possible Grade II heritage status in terms of the NHRA).

45. The assessment of heritage impacts of the proposed Albany Grid Infrastructure has not been adequately undertaken in terms of the following:

45.1. The HIA report is essentially a Phase 1 Archaeological Impact Assessment, which does not meet the provisions of section 38(3) of the NHRA.

45.2. The project should be assessed holistically incorporating all project components. In the absence of an HIA that adequately addresses cultural landscape issues, it is not possible to make an informed decision on the proposed Albany Grid Infrastructure from a heritage perspective.

45.3. The report focuses on archaeological issues but fails to assess the impacts of the project on the cultural landscape and associated sense of place.

45.4. There is an absence in the report of any assessment of impacts of cultural landscape, and critically no integration of heritage and visual assessments in terms of impacts on landscape representivity and integrity.

46. There is a broader landscape perspective clearly missing from the HIA report which is critical to decision-making in terms of adequately addressing cultural landscape issues. The current level of assessment and reporting in the HIA report does not enable the assessment required by the NHRA.

SPLIT ASSESSMENT

47. A crucial deficiency of environmental assessment of the Albany Project is that the development is split and assessed as two separate applications. I&APs were informed during the public participation process for the Facility that the application and assessment process would be split and the assessment of the Facility and the Grid Infrastructure undertaken separately. One application pertains to the assessment of the Albany Wind Energy Facility – wherein the impact of turbines was assessed, and the grid connection and grid infrastructure were *"considered"*[3] – and the current second application pertaining to the Grid Connection Infrastructure specifically. The split is artificial.

48. Splitting and undertaking the assessment the project in discrete applications has compromised the assessment process of <u>both</u> the Facility and the Grid Infrastructure applications. Splitting a

[3] The Albany WEF Draft Environmental Impact Report ("DEIR") dated March 2022 at page 7; the Albany WEF Revised DEIR dated May 2021 at page 9; and the Albany WEF Final Environmental Impact Report ("FEIR") dated November 2021 at page 9.

project for the purposes of the environmental assessment undermines the EIA process regulated in terms of the NEMA and the EIA Regulations.[4] As explained herein, the splitting compromises the public participation process by creating confusion regarding the scope of what is being assessed.

49. The split approach is reinforced in all the iterations of the Facility EIA reports which state that *"The project will also require grid connection infrastructure. Due to the fact that this infrastructure will be owned and managed by Eskom, should the project receive Environmental Authorisation and be selected as a preferred bidder, it has been assessed in a separate report"*[5] (emphasis supplied). If it is the case that the applications are separately assessed, how can it be that specialist reports submitted in respect of the DBAR for the proposed Albany Grid Infrastructure are so-called "combined" specialist assessments that also assess the impacts of the Albany Facility?

50. The explanation provided in the Draft Environmental Impact Report ("DEIR") for the Albany WEF (DEA Reference Number: 14/12/16/3/3/2/1131) is inadequate – it stated that: *"The information regarding the grid infrastructure has been included in this report and in the specialist reports in order to ensure that the entire development is considered in each application, despite the applicant seeking separate authorisations for the two components."*[6] This statement was repeated in terms of the Revised DEIR dated May 2021[7] and the Final Environmental Impact Report ("FEIR") dated November 2021[8]. The explanation is devoid of merit. In terms of EIA best practice, a project should be assessed as one indivisible development.

51. Phrases used by the EAP such as *"... the entire development is considered..."* confirm that the Facility and Grid are critical integral components of the same project and should be assessed together to avoid project-related impacts being downplayed between the two separate applications and separate assessment processes. At various points, the EAP has emphasised the interrelation between these two indivisible components of the same Project. Yet, inexplicably, the proposed Albany Grid Infrastructure is treated as a separate application for environmental authorisation. The explanation that this infrastructure will be owned and managed by Eskom is artificial and has no bearing whatsoever on EIA best practice. The same proponent / applicant is responsible for both such applications.

52. The approach and methodology of splitting the impact assessment process across two separate applications has rendered the evaluation, consideration and assessment of the proposed Grid Infrastructure purely academic. On the one hand it is *"considered"* together for the purposes of the Facility, and yet the environmental assessment thereof is notionally processed in terms of a discrete application. This thwarts and undermines the cardinal rule of impact assessment – as reflected in the EIA Regulations - that a project proponent must assess (not "consider") all

[4] GN R982 in *Government Gazette* 38282 dated 4 December 2014, as amended.
[5] DEIR at page 7; Revised DEIR at page 9; and FEIR at page 9.
[6] Page 7 of the DEIR.
[7] Page 9 of the Revised DEIR.
[8] Page 9 of the FEIR.

the listed activities and project-related impacts of a proposed development. The project or proposed development is the Albany Project i.e. the Albany WEF and associated Grid Infrastructure.

53. Neither NEMA nor the EIA Regulations make any provision for selectively assessing component parts of a project by applying for those components in terms of separate applications at different points in time. The proposed Albany Grid Infrastructure is a critical and indivisible component for the Albany Project or proposed development. Neither the Albany WEF nor its associated grid infrastructure exists as a feasible development independently of the other. They ought to have been assessed together as part of one application so that the competent authority could make an informed decision regarding ALL project-related impacts BEFORE any final decision was taken to approve the development in question.

54. Both components of the project (i.e. the Facility and the Grid Infrastructure) should have been applied for and assessed simultaneously as part of the same application. Submitting separate applications for the Facility and the Grid Infrastructure respectively is both substantively and procedurally flawed. The flawed assessment methodology and approach is evidenced by inter alia the following:

54.1. I&APs were advised during the Facility application by the EAP that the Facility application was limited to assessment of the Facility only and that the Grid Infrastructure would be assessed by way of separate application at a later date.

54.2. I&APs were led to believe that the assessment – and specialist studies - undertaken during the Facility application centered around and indeed was limited to the Facility only and excluded the Grid Infrastructure.

54.3. Because of the EAP's stated intent and approach to splitting the project into two different assessments, the public participation process in connection with the Facility application did not present I&APs with a meaningful opportunity to interrogate specialist studies in connection with the proposed Albany Grid Infrastructure, as it was made clear to I&APs that the Facility application related to the wind turbines only.

54.4. The current Grid Infrastructure application shows that various specialist studies undertaken during the Facility application purportedly assessed not only the Facility but also the Grid Infrastructure, but the proposed Albany Grid Infrastructure was not the subject of that application. The split application and the straddling of Grid related information across two different applications has caused confusion among I&APs.

54.5. I&APs' expectation of the EAP's split approach was that the proposed Albany Grid Infrastructure application would be underpinned by current studies applicable to the Grid Infrastructure. However, this is not the case as the Grid application is largely devoid of accurate, relevant and current specialist assessments pertaining to the Grid Infrastructure specifically. The Grid application is being motivated and applied for now on the basis of

specialist studies which were undertaken before 2020 as part of the Facility application. It is difficult to avoid the conclusion that I&APs are prejudiced by this approach to spitting the project into two discrete applications, when in reality the split is not carried over into the actual specialist assessments undertaken. If the specialists assessments for the Facility and the Grid applications are identical, how then can it be claimed that the applications for the Facility and the Grid were separately assessed?

54.6. The EAP relies on the consideration of the Grid Infrastructure included with the Facility application, but which I&APs were informed does not form part of the Facility application. I&APs ought to have been provided with one opportunity to engage with both the Facility and the Grid Infrastructure under the banner of one the assessment and one application. The EAP can't defensibly sustain an approach where the Grid Infrastructure has been included in the Facility application (as a subset of information) but that the formal engagement and public participation with the Grid Infrastructure is held over until a later separate application.

54.7. I&APs have – through the splitting of the application been deprived of a meaningful opportunity to engage with the range of project-related impacts holistically and during one comprehensive EIA process that deals simultaneously with all project impacts.

54.8. By splitting the project into two separate applications and first obtaining authorisation for the Facility, the EAP has rendered the assessment of the proposed Albany Grid Infrastructure (and its alternatives) moot as the determination of the best practicable environmental option is constrained by the pre-existing (approved) Facility.

55. As early as 2019, I&APs raised concerns about the merit and efficacy of the approach of split assessments. Concerns were raised by Richard Summers Inc (in 2021 and 2020) and Andre van der Spuy Environmental Consultants (in 2019) regarding the failure to undertake a composite project assessment for both the Facility and its associated Grid Infrastructure in terms of one application. Comments raised during the public participation process together with the EAP's responses are included below as extracted from the Issues and Responses Trial for the Albany Facility.

Page reference	Stakeholder Comment	Stakeholder	EAP Response
Page 82-83 of 311	COMPOSITE PROJECT ASSESSMENT 102. Substations and transmission line were excluded from the project description in the previous DEIR (2020) and an assessment of the project is	Richard Summers On behalf of Kwandwe Private Game Reserve 30/08/2021	The proposed Albany Connection and Associated Grid Infrastructure forms part of a separate Application for Environmental Authorisation. The specialist assessments which are relevant to both the proposal Albany WEF development and

	incomplete without it. This concern has not been addressed in terms of the amended DEIR. 103. There is also a level of inconsistency insofar as some of the specialist studies did include substations and transmission lines in the project descriptions. While the Avifaunal Report appears to have considered the transmission line, the revised VIA did not do so. This degree of inconsistency brings into question the assessment as a whole. 104. The proposed Albany WEF and transmission line are not two independent projects. The proposed Albany WEF consists of a transmission line and hence, the transmission line should form part and parcel of the project description and assessment of the proposed Albany WEF project. 105. While the project description has improved in the amended DEIR in terms of describing the number of turbines, the absence of reference to relevant infrastructure is a crucial gap.		the Albany Connection and Associated Grid Infrastructure, have compiled combined assessments due to the interrelation between these developments. An example of a specialist assessment which is significant to the proposed Albany WEF development is the Bat Impact Assessment, whereas as this assessment has little relevance to the proposed Albany Connection and Associated Grid Infrastructure development. In addition, take note of the comparison in the identified specialist assessments section and the relevant sensitivity theme section included in a National Screening Tool Report for different Application Categories in the same area.
P 253 of 311	2.9. The scope of assessment is defective as it excludes substations and transmission lines which comprise core	Richard Summers Inc Attorneys On behalf of	Both the first and second draft EIRs include a full project description, including all information regarding the grid

	infrastructure for the proposed Albany WEF and which infrastructure ultimately dictates the location of the project and the development footprint.	Kwandwe Private Game Reserve 13/07/2020	infrastructure, footprint calculations, localities, etc. The specialist reports were also prepared, by design, to include and assess all infrastructure in individual reports which are used for both the EIA and BA processes.
P 304 of 311	21. A fundamental failure of the DRS (Draft Scoping Report) and the Plan of Study of Scoping is its failing to intend to consider all of the impacts of the proposed AWEF. Give the legal requirement of the proposed AWEF to have to consider all of the potential impacts associated with its development it will be necessary for the proposed AWEF EIA to include all of the potential impacts of its dependant components and auxiliary functions, such as the powerline and the back-up (probably fossil fuel) power facilities. The DSR advises that the powerline component will be the subject of a separate environmental application. If this is so, then the current application will still need to consider the findings of the powerline EIA process as well, even if this requires that its decision-making process is placed on hold until such time	Mr Andre van der Spuy ANDRE VAN DER SPUY ENVIRONMENTAL CONSULTANTS 19/07/2019 [SUBMITTED ON BEHALF OF THE FOLLOWING CLIENTS: Mr Angus Sholto-Douglas; Mr Nolan Sparg; Mr Colin Coetzee; Mr Terry Stewart; Mr Aiden Sparrow; Mr Basil Peinke; Ms Bevan Peinke; Mr Sean van Zyl; Mr Hennie Brink; Mr Charles Timm; Mr Kevin Bates; Mr Lionel Wicks; Longwood Trust; Mr Greg Dixon; Mr Murray Crous; Mr Nico Fick; Mr Peter Wood; and Mr Rudi Venter]	21. The specialist reports for the proposed Albany WEF and Albany Grid Connection (powerline) will be contained in one shared document. This means that each specialist (where relevant) will be assessing both the WEF and the Grid Connection (powerline) in their reports. While the WEF and the Powerline will be submitted in separate applications, the impacts associated with each will be outlined by both the specialists and the EAP. This means that the WEF EIR will include the specialist and EAP findings of the WEF and Grid Connection (powerline) and the Grid Connection BA will including the specialist and EAP findings of the Grid Connection (powerline) and WEF. The Albany WEF and Albany Grid Connection are being undertaken by separate applicants and cannot be contained within the same application / documentation.

	as the powerline EIA findings are known and can be considered. Likewise the impacts of the proposed AWEF on existing power supply facilities, Eskom and the distribution network must be assessed and included in the overall decision-making process. Failure to do so will amount to incremental development which is illegal.		

56. I&APs noted the crucial importance of the Facility application needing to consider the impacts of the Grid Infrastructure at that stage, as a failure to do so will result in incremental development.

57. At this current stage in time, the EA has already been granted without the impacts of the entire development having been taken into account in decision making. It is unclear as to why the Grid infrastructure are being subjected to a separate EIA and application process when Grid infrastructure is included in the project description within the Albany FEIR.[9] In fact, Table 7.1 of the Albany Facility FEIR[10] demonstrates that the location of the proposed Albany Facility in relation to existing Eskom grid infrastructure is offered as an advantage for the project. There is reference to the impacts of the proposed Facility and Grid Connection Infrastructure in the various sub-sections in Chapter 8. Each sub-section deals with the impacts of the proposed Facility and Grid Connection Infrastructure as reported in the various specialist studies.[11] The Grid Connection Infrastructure is, however, not mentioned in relation to palaeontological impacts, social impacts and visual impacts in the Albany Facility FEIR. No explanation is provided for this disjointed and inconsistent approach. Neither is the rationale for submitting two separate applications for the same project given. Since the proposed Albany Facility is entirely dependent on Grid Infrastructure, it is scientifically illogical to separate the WEF from the infrastructure that is required for it to distribute the very power that it produces.

SPECIALIST STUDIES

58. It is unclear how composite specialist impact assessments could be used to support decision making for separate applications. The same specialist reports undertaken for the Facility were

[9] Pages 9-11 of the FEIR.
[10] Page 99 of the FEIR.
[11] For examples, see pages 106, 108, 112 of the FEIR.

released with the DBAR for the proposed Albany Grid Infrastructure. In terms of the specialist reports supplied, some even failed to deal with the Grid Infrastructure and only dealt with the Albany Facility (see for example Appendix 5 of the Albany DBAR: Geohydrological Groundwater Study of the Kap River). The DBAR is also silent on why other impacts (such as visual impacts) relevant to the Grid Infrastructure were not assessed when this was an identified impact. This selective and arbitrary picking of which Grid Infrastructure impacts should be assessed is unacceptable.

59. The EAP's reliance on the specialist studies prepared for the Albany Facility EIA in 2019/2020 is flawed because the specialists were only required to *"consider"* (and not assess) the connection and grid infrastructure at the time of the Facility application due to the EAP's approach of splitting the project into different applications and deferring the assessment of the grid impacts.

60. Several specialist reports prepared in connection with the Facility application did not mention or *"consider"* the grid connection or the grid infrastructure in connection with the Facility, thus proving this aspect was not comprehensively assessed.

61. The specialist reports previously submitted as part of the Facility application are now regurgitated in connection with the Grid application. This approach is unacceptable as those specialist reports were not updated for the purposes of the current Grid application. The specialist reports are outdated and some are over three years old dating from November 2019.[12]

NEED AND DESIRABILITY

62. The requirement regarding need and desirability enquiry contemplated in GNR 982 Appendix 1(3)(1)(r) of the EIA Regulations and the DFFE "Need and Desirability Guideline" (2017) is skewed in the DBAR and biased in favour of the project proponent. Negative aspects and impacts are inadequately quantified or described in the DBAR in relation to this theme.

63. The need and desirability is exclusively considered against energy generation with scant reflection on need and desirability for other sectors affected by the project such as eco-tourism and biodiversity conservation.

64. Need and desirability is not assessed against other "competing" sectors. This is a remnant and persistent fatal flaw carried over from the Albany Facility application in 2020.

65. There is no evidence that a systematic consideration of the questions in the DFFE Guideline has been undertaken.

66. Information that is critically relevant to need and desirability, such as biodiversity plans, have

[12] Appendix 5 of the Albany DBAR: Albany Grid Geohydrological Groundwater Study of the Kap River.

not been considered in the DBAR.

67. Desirability of the proposed location compared to other sites is not discussed at all since only one grid corridor was considered.

68. Cumulative impacts are also not addressed or referenced at all insofar as need and desirability is concerned.

69. The DBAR does not include a comprehensive discussion on whether the proposed Albany Grid Infrastructure is in line with or deviates from all relevant and applicable plans and strategies. All policies outside of the paradigm of infrastructure development, energy and climate change must be considered. None of the policies or plans considered by the EAP is solely concerned with sustainable development or ecological sustainability. Such information is central to the question of desirability and whether this is the right place for locating the type of activity being proposed.

70. The DBAR focusses solely on policies related to climate change and renewable energy insofar as the proposed project's need and desirability is concerned. It is self-evident that a project that is associated with renewable energy will be aligned with policies, guidelines or strategies that are concerned with renewable energy, energy security and climate change.

GROUNDWATER / SURFACE WATER IMPACTS

71. No surface water or groundwater impact assessment is undertaken or planned in connection with the assessment process underpinning the proposed Albany Grid Infrastructure application. This is despite the fact that the DBAR records that water resources will be affected by the Grid connection.

72. It is not lawful to defer the assessment of the impacts on surface water or groundwater to the water use licence application process under the National Water Act if the Albany Project achieves preferred bidder status in the Renewable Energy Independent Power Producer Procurement Programme and before construction starts.

73. The DFFE must have before it all relevant information regarding the bio-physical and socio-economic impacts of the Project to make a legally sound decision on the application. The competent authority cannot do so or discharge its responsibilities in terms of NEMA if the impacts on water resources in the receiving environment have not been identified, evaluated or assessed.

74. It is therefore necessary for a specialist groundwater / surface water impact assessment to be undertaken as part of the EIA process.

ADDITIONAL KEY ISSUES AND CONCERNS

75. The maps that are provided are generally poor and difficult to read because they are so small. Insufficient locality information is given.

76. In the case of all the tables in Section 8.2 and 8.5 of the proposed Albany grid infrastructure project the following statement appears in the top row "*PLEASE NOTE: SHOULD ANY OF THE MITIGATION MEASURES IN THIS GENERAL IMPACTS SECTION CONTRADICT THE MITIGATION MEASURES WHICH HAVE BEEN RECOMMENDED BY THE SPECIALISTS, THE SPECIALISTS' MITIGATION MEASURES SHOULD BE PRIORITISED*". This is not acceptable – it is the EAP's responsibility to analyse whether the mitigation measures given in these tables correlate with those given by the specialists. Please identify where contradictions or conflicts lie between mitigation measures.

77. Insofar as the specialist impacts and assessment are concerned (Section 8.3) decommissioning impacts are not considered but it is stated that: *"The proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be relevant."* The assumption that decommissioning impacts will be similar to construction impacts is untested and not explained.

78. There is a disconnect between the statement on decommissioning in the grid infrastructure DBAR and the Final EIR for the proposed Albany WEF, where it is stated that the WEF is not permanent and will be decommissioned. The statement "*...decommissioning is not foreseen in the near future...*" is meaningless. Please explain what is meant by "near future"?

79. The assessment of impacts reported in the DBAR is generally vague and non-specific. For example, it is stated for construction phase impacts on amphibians "*It is likely that some of the amphibian species, which occur within the proposed site near surface water habitats, will be disturbed or killed due to construction activities. However, as amphibians are primarily associated with surface water, the likelihood of directly encountering amphibians during construction and operation is lower than that of reptiles. Although, the increase in traffic in the area could result in road fatalities, especially the fatalities of amphibians moving between the wetlands, rivers and streams within the site.*" This entire description is vague, nebulous and is superfluous in terms of assessing the impact on amphibians. The impact should consider what will happen to amphibians against a no development or pre-development baseline. In this context, comparing the potential for deaths of amphibians against reptiles is totally meaningless and says nothing about the actual impact on amphibians. The fact that there may be a lower risk of amphibian deaths relative to reptiles during construction is not a factor for assessment or an informant of significance of impacts on amphibians.

80. Based on the information on the assessment of impacts and their significance, NO certainty can be placed on the predicted impacts and their significance – terms such as "may" "can" "could" and "it is likely" that are used throughout. No confidence can be placed on the severity rating and the probability rating, in particular. This is because the impact assessment does not clarify whether there is adequate information on which to base the assessment of impacts. If there was sufficient information then terms such as "it is likely that" – which have an inherent caveat attached to them would not be littered throughout Section 8.3.

81. The assessment of cumulative impacts is unclear. It is not explained exactly what was taken into account when assessing cumulative impacts. Please list and describe all other activities or projects which were taken into account when assessing cumulative impacts?

82. Regarding the impact of poaching:

82.1. Please define and explain how the cumulative impact of the combined activity within the site (due to the maintenance of the Albany overhead line and associated grid infrastructure as well as the maintenance of the Albany WEF) was quantified and assessed?

82.2. Please explain how the following qualify as effective mitigation measures to combat poaching of Endangered Species: (1) No unathorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary; (2) Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions; (3) Maintenance workers must not handle or remove any livestock or wildlife from the site or the surrounding properties;(4) Police should be notified if any illegal actions take place.

82.3. With the introduction of numerous renewable energy facilities and associated infrastructure in the area – which developments will transform the receiving environment for at least the next 20-25 years - please explain how the cumulative impact of increased poaching is classified as an impact of short-term duration.

83. Please identify where the risk and impact of uncontrolled veld fires has been assessed?

84. Please evaluate, consider and assess the cumulative impact of uncontrolled veld fires has been assessed. The protected area network, CBAs and ESA and biodiversity value potential affected is significant.

85. Please explain how the cumulative impact of benefits for the local economy have been quantified and how this would be "further be enhanced" with the implementation of the Albany and Plan 8 WEF's?

86. Please explain the relevance of the Makana Winds of Change Community Trust to the impacts to the local economy in connection with the subject Application?

87. Please explain and expand on the reasons for concluding that *"The cumulative impact of renewable energy projects for the country as a whole is significant."*

88. Please expand and explain how the generic assumption that *"there is a 90% probability that the total resources committed to SED and ED around the 64 approved projects in round one to three of the procurement programme will accumulate to R 570 780 737 million over the next 20 years"* relates to direct socio-economic impacts that are directly relevant to the application at hand and the project in question.

89. Regarding general impacts to local economy (page 77) please list and describe include potential negative impacts on the local tourism economy / sector and the mitigation measures identified relevant to address negative impacts.

Yours sincerely
Richard Summers Inc

Per RW Summers

16. APPENDIX G: COMMENTS & RESPONSE REPORT

Date of comment and Name of Organisation/ I&AP	Comments	Response
03 November 2022 *Email* ***Department of Forestry, Fisheries and the Environment (DFFE): National Integrated Authorisation Projects*** **Acting Chief Director: Ms Milicent Solomons**	COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED ALBANY CONNECTION AND ASSOCIATED GRID INFRASTRUCTURE NEAR MAKHANDA, EASTERN CAPE This letter serves to inform you that the following information must be included to the final BAR: **<u>(a) Listed Activities</u>** I. For listed activities applied for under listing notice 3, you indicated that the project is located within 5km from a protected area. You are therefore required to amend the project description provided to include the name of the protected area identified in terms of NEMPAA. You must also ensure that comments are obtained from the management authority of this protected area. II. 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. III. 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 Department's application form template has been amended and can be downloaded from the following link: https://www.environment.gov.za/documents/forms . IV. It is imperative that the relevant authorities are continuously involved	Thank you for your comments regarding the proposed Albany Grid Infrastructure project. Please kindly see responses to comments submitted below. (a) Listed Activities I. The name of the nature reserve is "Beggars Bush" which forms part of the Thomas Baines Nature Reserve. The Management Authority of the protected area is ECPTA. The application form has been updated to include this information. II. The EAP can confirm that the listed activities are specific to the development. III. The EAP confirms that the listed activities in the BAR and Application Form are aligned to each other. IV. The EAP can confirm that both DEDEAT and ECPTA have been consulted during this process (please see PPP Proofs) and that despite these entities commenting during the WEF process they have not commented on this particular application. It is also brough to your attention that the Stakeholder and I&AP database for the WEF was used for the Grid Infrastructure

Date of comment and Name of Organisation/ I&AP	Comments	Response
	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.	application.
	(b) Public Participation Process **I.** Comments must be obtained from this Department's Biodiversity Conservation Directorate at BCAdmin@dffe.gov.za II. The Public Participation Process must be conducted in terms of Regulation 39, 40 41, 42, 43 and 44 of the EIA Regulations 2014, as amended. III. Please ensure that all issues raised and comments received during the circulation of the draft BAR from registered Interested and Affected Parties (I&APs) and organs of state, as listed in your I&APs Database, and others that have jurisdiction in respect of the proposed activity are adequately addressed and included in the final BAR. IV. Copies of original comments received from I&APs and organs of state, which have jurisdiction in respect of the proposed activity are submitted to the Department with the final BAR. V. 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. In terms of Regulation 41(2)(b) of the EIA Regulations, 2014, as amended, please provide proof of written notice for the availability of the BAR for comment. VI. All issues raised, and comments received during the circulation of the draft BAR from I&APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed in the final BAR, including comments from this Department, and must be incorporated into a Comments and Response Report (CRR).	(b) Public Participation Process I. Comments have been requested from BC Admin. However, none have been received it date. The BC Directorate did comment on the WEF application and the same Stakeholder and I&AP database was used for the Grid Infrastructure process. II. The EAP confirms that PPP has been conducted in terms of Regulation 39-44 of the EIA Regulations 2014, as amended. III. The EAP confirms that all comments received have been included in the Final BAR and that this document (Comments and Response Report) includes responses to comments which were submitted. IV. The EAP confirms that all comments received have been included in the Final BAR and that this document (Comments and Response Report) includes responses to comments which were submitted. V. Proof of correspondence, including sent and received communication, has been included in the final BAR. VI. The EAP confirms that all comments

Date of comment and Name of Organisation/ I&AP	Comments	Response
	VII. The CRR report must be a separate document from the main report and the format must be in the table format as indicated in Annexure 1 of this comments letter. VIII. Please refrain from summarising comments made by I&APs. All comments from I&APs must be copied verbatim and responded to clearly. Please note that a response such as "noted" is not regarded as an adequate response to an I&AP's comments. IX. Minutes and attendance registers (where applicable) of any physical/virtual meetings held by the Environmental Assessment Practitioner (EAP) with Interested and Affected Parties (I&APs) and other role players must be included in the final BAR.	received have been included in the Final BAR and that this document (Comments and Response Report) includes responses to comments which were submitted. VII. All comments were copied verbatim and responded to clearly. "Noted" has not been used as a response to I&AP comments. VIII. This is not applicable to this application.
	(c) Cumulative Assessment I. Taking into 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: a) 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. b) 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. c) The cumulative impacts significance rating must also inform the need and desirability of the proposed development. d) A cumulative impact environmental statement on whether the proposed development must proceed.	(c) Cumulative Assessment a) Please kindly see Chapter 8 Section 8.4 of the Final BAR for information, as per comments a)-d). And Chapter 9 Section 9.3.2.
	(d) Validity period and auditing frequency	(d) Validity Period and Auditing Frequency

Date of comment and Name of Organisation/ I&AP	Comments	Response
	I. Please ensure that the final BAR includes the period for which the Environmental Authorisation (EA) is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised, as per Appendix 1(3)(1)(q) of the NEMA EIA Regulations, 2014, as amended.	I. Please kindly see Chapter 9 Section 9.1 of the Final BAR which states that the EA should be valid for a period of 5 years. With auditing processes being required from commencement of construction to the start of the operational period, on a monthly basis.
	(e) Specialist Assessments I. Please ensure that specialist studies conducted provide a detailed description of their methodology, as well as all other associated infrastructures that they have assessed and are recommending for the authorisation. II. The specialist studies must also provide a detailed description of all limitations to their studies. III. If the specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defendable reasons; and were necessary, include further expertise advice. IV. Please include a table in the BAR summarising the specialist studies required by the Screening Tool including the sensitivity rating of Screening Tool (very high, high, medium, low), a column indicating the sensitivity of the site after the EAP/Specialist has conducted the Site Verification Assessment and a column indicating whether these studies were conducted or compliance statement attached. V. It is further brought to your attention that the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols"), and in Government	(e) Specialist Assessments I. The EAP confirms that the specialist studies include detailed methodology and recommendations. II. The EAP confirms that the specialist studies include limitations to their studies, where applicable. III. The specialists, in the case of this application, do not have contradicting recommendations and additional expertise to resolve contradictions was therefore not required. IV. Please kindly see Chapter 7 Section 7.1. for a table summarising the specialist studies in relation to the National Screening Tool. V. Please note that, based on the EAPs review of the specialist reports the Assessment and Minimum Criteria for Reporting on identified Environmental Themes have been applied. VI. The EAP confirms that site verification processes have been undertaken for the proposed site.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal species) have come into effect. Please note that specialist assessments must be conducted in accordance with these protocols, except where the applicant provides proof to the competent authority that the specialist assessment affected by these protocols had been commissioned before the date on which the protocols came into effect, in which case Appendix 6 of the Environmental impact Assessment Regulations, 2014, as amended, will apply to such applications. Please indicate in the EIAr whether the protocols were applied. VI. Please also ensure that the specialist studies conducted as per requirements of the protocols also include the Site Verification Report that confirms the level of sensitivity from what has been identified by the screening report. VII. Please note that the Protocols require the specialists to be SACNASP registered. Proof of registration in the form of valid SACNASP certificate must be submitted for each specialist conducted VIII. For the themes that have been identified as medium which requires compliance statements, please ensure that these compliance statements are attached to the BAR and that they comply with the requirement of the protocols. Please ensure that Specialist Declaration of Interest for all specialist studies conducted are submitted together with the final BAR.	VII. The EAP confirms that suitably qualified, SACNASP registered specialists were used. Proof is available in the individual specialist reports. VIII. The EAP confirms that compliance statements, for the themes that have been identified as medium, are attached to the Final BAR. Specialist Declarations are included in the Final BAR submission.
	General You are further reminded to comply with Regulation 19(1)(a) of the NEMA EIA Regulations, 2014, as amended, which states that: *"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 – (a) a basic assessment report, inclusive of any specialist reports, an EMPr, a closure plan in the case of a closure activity and where the application is a mining application, the plans, report and calculations contemplated in the Financial Provisioning Regulations, which have been subjected to a public participation process of at least*	Thank you for your comments which have been submitted as the Competent Authority on the proposed Albany Grid Infrastructure project. The timelines are noted and confirmed as being adhered to. It is the opinion of the EAP that no significant additional information has been added and that a Section 19(1)(b) process will not be required for

Date of comment and Name of Organisation/ I&AP	Comments	Response
	30 days and which reflects the incorporation of comments received, including any comments of the competent authority". 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 public participation process, you are required to comply with Regulation 19(1)(b) of the NEMA EIA Regulations, 2014, as amended, which states: *"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 documents contemplated in sub-regulation 1(a) 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 documents which changes or information was not contained in the original documents consulted on during the initial public participation process contemplated in sub-regulation (1)(a) and that the revised documents will be subjected to another public participation process of at least 30 days."* 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. 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.	this application.
17 November 2022 *Email* ***Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve***	COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED ALBANY CONNECTION AND ASSOCIATED GRID INFRASTRUCTURE NEAR MAKHANDA, EASTERN CAPE We note that the comment period ended on 14th November 2022 and that these comments are 3 days late. We hereby request condonation for the late submission. The writer of this letter, and scientific and technical advisor to Indalo and Buffalo Kloof, Theo Fischer, fell ill on Monday 14th November and has been unable to complete the comments until today, 17th November 2022. A medical	The EAP acknowledges that the comments submitted by the I&AP were submitted three (3) days late due to medical reasons. These comments were submitted by Mr Theo Fischer on behalf of Indalo and Buffalo Kloof. Indalo and Buffalo Kloof submitted comments on the primary project (WEF) during those PPP processes.

Date of comment and Name of Organisation/ I&AP	Comments	Response
Mr Theo Fischer, EScience Associates (Pty) Ltd on behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve	certificate to this effect can be provided if required. We submit that this 3-day period is negligible under the circumstances and that is not prejudicial to the rights of the applicant. In contrast, Indalo and Buffalo Kloof would be prejudiced, should their comments not be considered and responded to.	
LAND USE AND ALTERNATIVES		
17 November 2022 *Email* ***Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve*** **Mr Theo Fischer, EScience Associates (Pty) Ltd on behalf of**	The Indalo Private Game Reserves (PGRs) and Buffalo Kloof Private Game Reserve are concerned with nature and wildlife tourism as a key protected area goods and service (as are many others in South Africa and in Africa in general). The unique background, character, nature-based tourism services, and community development by these 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. The Albany Grid Connection Infrastructure and its associated WEF will	The introduction to the role that the Indalo Private Game Reserves and Buffalo Kloof Game Reserve within the area is understood and the stance against the proposed WEF and associated Grid Infrastructure is recorded. The proposed Albany WEF received Environmental Authorisation 2022 and is currently under appeal. The Grid Connection Infrastructure project is dealt with in this BA process. In order to provide a wider context to the link between the Albany WEF (separate process) and the Albany Grid Infrastructure (this project) the Final BAR has been updated to reflect this project in the wider context.

Date of comment and Name of Organisation/ I&AP	Comments	Response
Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve	significantly affect the unique wilderness experience offered by the region, which may cause serious economic harm to some parties.	
	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 in the Eastern Cape. The BAR 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 Albany Grid Infrastructure at the proposed location.	The expansion is currently proposed and is not formally available to the EAP. The proposed development, based on available information as submitted by the I&AP during the Albany WEF PPP processes. The Mega Protected area would post-date the proposed WEF, if/when formalised. In addition to this, based on maps it includes a constructed WEF (Waainek WEF) in the proposed plan. Please kindly see Chapter 4.1.8. of this Final BAR.
	The report doesn't not describe the current zoning of the properties on which the BESS is proposed and thus does not touch on the compatibility (or incompatibility) of a 1.3 hectare industrial development within in an area defined by agriculture and ecotourism. The BESS is an industrial development that will fragment and intrude on landscape and current land use (conservation tourism). Location alternatives for the substation and BESS are only superficially dealt with	The proposed BESS is situated in the centre of the two WEF clusters (west and east). In order to ensure minimal disturbance, need for maintenance and length of connection, the most appropriate location is in the centre of the turbine points, i.e. the location of the IPP Substation. The IPP substation was approved as part of the WEF

Date of comment and Name of Organisation/ I&AP	Comments	Response
	in table 6.1. An important question is – is this the best place for the battery considering that such an industrial development this will fragment an intrude on landscape and land use (conservation tourism)? This is question is not answered by the alternatives assessment. Table 6.1 indicates that Alternative locations 1 and 2 are both worthy of further consideration or assessment, but there is no further analysis of the two against one another. A BESS adjacent to the existing Albany substation which is on the outskirts of Makana, on the face of it, seems like a more appropriate location than the preferred alternative, but the BAR does not properly assess the two location alternatives against one another, thus not allowing IAPs or the Competent Authority to make informed comments and/or decisions.	EIR which received EA in 2022. The BESS is required adjacent to this substation. The preferred BESS location is on private agricultural land, outside of productive agricultural use areas. The site adjacent to the substation is communal agricultural land.
	In the Albany WEF EIR the statement "Location 1 has already been agreed to" on page 99 is problematic. So is the reference in the previous line that "Albany Wind Energy and landowners have formally agreed to the proposed development on the site and are in full support of the use of this area." The location of the grid infrastructure in this location 1 is the same grid infrastructure layout in the Albany Connection and Associated Grid Infrastructure BAR (page 7). However, in this BAR there is no mention that the location was already agreed to. However, this is not a valid ground for failure to perform a proper investigation to alternative sites. Although it is important that the applicant has secured the support of the landowners for the so-called "Location 1" (from the WEF EIR), their approval does not place any legal obligation on the DFFE to accept Location 1. The competent authority cannot be expected to rubber stamp Location 1 regardless of the result of the EIA and notwithstanding the significant environmental impact of the development from that location, because the EIR 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.	The proposed Albany WEF received environmental authorisation in 2022. It is currently under appeal. The proposed Grid Connection Infrastructure includes the assessment of a grid corridor using existing Eskom servitudes, where feasible, and has been designed based on specialist studies and the recommendation to use the shortest available route for the OHL. Micrositing of the route prior to construction, should the Grid Connection Infrastructure received EA, would be required to ensure correct and appropriate placement of pylons. The proposed Grid Connection Infrastructure is ONLY required as part of the Albany WEF and has been designed using this fact, sensitivity data and the shortest technical route available, in mind. Alternative locations for the Grid Connection is

Date of comment and Name of Organisation/ I&AP	Comments	Response
	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 Albany Grid Connection Infrastructure application is not such a case. The lack of a proper investigation about alternative site locations in accordance with the prescribed requirements of the EIA Regulations is a material mistake in the BAR and cannot be lawfully condoned by the DFFE.	therefore neither logical nor different to a mining application as a Grid Connection outside of the WEF area would impose a higher impact (longer line) for the WEF to connect to the existing Eskom Grid Infrastructure.
	A significantly more desirable activity in the context of the location is Solar PV plus Battery Storage adjacent to the existing Albany substation. This would achieve the same outcomes of additional renewable energy capacity, with less severe visual and socio-economic impacts. The WEF and Grid infrastructure EIA processes do not assess this compelling activity alternative.	While this may be an aesthetically more desirable alternative in the opinion of the I&AP it is neither practical nor feasible. The Solar PV generation capacity of the area is low/moderate in comparison to wind which is high/very high. It would therefore NOT achieve the same outcome as huge areas of land would be required to generate the same megawatt output of Solar PV in comparison to wind.
	The BAR lists battery technology alternatives (Lithium-ion, Vanadium Redox , Zinc-Hybrid) however it only briefly describes the advantages/disadvantages of each in a table. Only the preferred technology (Li-ion) is delved into further with regard to safety risks. Best practice would require that the relative safety risks of each technology are of the more important considerations in selecting a preferred alternative.	The Li-ion has the lowest risk with regards to both fires and hazardous waste. The batteries are construction off site. Vanadium Redox and Zinc-Hybrid pose a significantly higher risk which is why there were not considered as viable alternatives and were not assessed further. Chapter 6, Section 6.3 includes the assessment table outlining the advantages and disadvantages around each of the three available BESS technologies. The table clearly states why Vanadium Redox and Zinc

Date of comment and Name of Organisation/ I&AP	Comments	Response
		Hybrid are not viable alternatives and why they do not warrant further assessment.
VISUAL IMPACT		
17 November 2022 *Email* ***Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve*** **Mr Theo Fischer, EScience Associates (Pty) Ltd on behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve**	There was no Visual Impact Assessment undertaken for the proposed Albany Grid Connection Infrastructure. This directly contradicts the DFFE Screening Tool Report (Page 10) which indicates that a "Landscape/Visual" assessment is required. The BESS was not included at all in the Albany WEF Visual Impact Assessment. Since the WEF cannot exist without the additional grid infrastructure, this makes the visual impact assessment incomplete. The BESS and WEF are industrial infrastructure elements that will convert natural and wilderness views into an energy landscape. The draft BAR (Page 26) states that a "Potential increase in visual impact" is a disadvantage to the project. However, without having conducted a proper VIA, there is no basis for this statement, and it seems it is there to appease stakeholders who are opposed to the project, rather than having a factual backing.	Please kindly refer to Chapter 7, Section 7.1. which summarises the National Screening Tool Report and the context around the development in relation to this Report. As the Albany Grid Infrastructure is being proposed on land parallel and adjacent to an existing Eskom servitude. The route was also designed to follow the N2 to reduce environmental impacts. The impact from a visual perspective is therefore negligible, particularly in the context of the WEF. The proposed OHL is a monopole structure of up to 20m in height which will be adjacent to existing powerline structures of a similar height and adjacent to turbine structures of 215m height. In terms of the impacts identified, the proposed Grid Connection Infrastructure will only be constructed as ancillary infrastructure to the proposed Albany WEF and the visual impact of the OHL are therefore directly linked to the proposed WEF. As demonstrated above the turbines will dwarf the OHL structure and the impact cannot be quantified as anything but negligible in comparison.
NEED AND DESIRABILITY		

Date of comment and Name of Organisation/ I&AP	Comments	Response
17 November 2022 *Email* ***Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve*** **Mr Theo Fischer, EScience Associates (Pty) Ltd on behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve**	The BAR offers has a section titled "Need and Desirability" which does little more than list Policy and Legislation. the Environmental Impact Assessment (EIA) regulations require environmental assessment practitioners (EAPs) who undertake environmental assessments, to have knowledge and take into account relevant guidelines, and what is conspicuous in its absence from the Section on Need and Desirability is the consideration of the Need and Desirability Guideline Document (DEA 2017). Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA, and provided for in various policies and plans, including the National Development Plan 2030 (NDP). Addressing the need and desirability of a development is a way of ensuring sustainable development – in other words, that a development is ecologically sustainable and socially and economically justifiable.	Please kindly refer to Chapter 4 which has been updated to provide the need and desirability in the context of the link between the Albany WEF (authorised and under appeal) and the Albany Grid Infrastructure (this application). As the Albany Grid Infrastructure would not be constructed independently from the proposed WEF the context around the WEF in terms of Need and Desirability has been added.
	Need and Desirability Guideline Document (DEA 2017) sets out a list of questions which should be addressed when considering need and desirability of a proposed development. These are divided into questions that relate to ecological sustainability and justifiable economic and social development. The questions that relate to ecological sustainability include how the development may impact ecosystems and biological diversity; pollution; and renewable and non-renewable resources which it may be reasonably expected that questions will be covered directly or indirectly, however, these are not addressed and it may be noted that a number of key questions concerning need and desirability has been avoided as follows: a) How will this development (and its separate elements/aspects) impact on the ecological integrity of the area? Not answered -in this respect the EAP omits detail the extent to which the development will have significant impact to protected area viability. b) How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly	Please kindly refer to Chapter 4 which has been updated to provide the need and desirability in the context of the link between the Albany WEF (authorised and under appeal) and the Albany Grid Infrastructure (this application). As the Albany Grid Infrastructure would not be constructed independently from the proposed WEF the context around the WEF in terms of Need and Desirability has been added. Please see Chapter 4, Section 4.1.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? Not answered -in this respect the EAP and VIA specialist omits to document impact to the national estate comprised of protected areas and some of the most scenic views of the Eastern Cape. c) Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio- economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)? Not answered - No consideration was afforded to the socioeconomic impact is required by the Guideline on Need and Desirability (DEA (2017)) and the proposed Albany Grid Infrastructure has not been demonstrated to be socially sustainable for lack of assessment of the opportunity costs in terms of jobs that may be lost / potential jobs that may be lost in wildlife and nature tourism that is substantially more job intensive.	
	The BAR confirms on page 14, Chapter 4, that the need and desirability is in essence built on a foundation of the need and desirability of the proposed Albany WEF: *"The proposed Albany Connection and Associated Grid Infrastructure is required to supplement the development of the proposed Albany Wind Energy Facility (WEF), as indicated in Figure 4.1. Therefore, the project need and desirability also relates to the need and desirability of renewable energy on a local, district, provincial, national and international level."* Indalo has made submissions in the Albany WEF Public participation and appeal process that the development of the Albany WEF comprising of highly intrusive turbines and infrastructure within a visually sensitive nature and wildlife tourism area, is clearly undesirable for a number of reasons, only some of which are repeated here: o The Albany WEF receiving environment is highly sensitive from a visual perspective. This means that it is not ideally suitable for wind farm development where the wilderness character forms the basis for nature and wildlife tourism (and more so if this is the basis for Protected Area establishment and upkeep by	Please kindly refer to Chapter 4 which has been updated to provide the need and desirability in the context of the link between the Albany WEF (authorised and under appeal) and the Albany Grid Infrastructure (this application). As the Albany Grid Infrastructure would not be constructed independently from the proposed WEF the context around the WEF in terms of Need and Desirability has been added. Please see Chapter 4, Section 4.1.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	biodiversity stewardship). ○ The destructive impact of these wind energy developments on tourism employment overshadows their nominal employment benefits to be provided by the WEF. ○ The Albany WEF is not ecologically sustainable because it will significantly impact on the primary financial source for the extensive private sector environmental stewardship programmes with government to conserve biodiversity and expand Protected Areas.	
	Although both protected area expansion and WEF economic activities have a key role to play in local economic development and are both needed, the development of a WEF in a location that would degrade the environmental goods and service offerings and specifically the tourism product and diminish the possibility of protected area expansion initiatives is not desirable.	Please kindly refer to Chapter 4 which has been updated to provide the need and desirability in the context of the link between the Albany WEF (authorised and under appeal) and the Albany Grid Infrastructure (this application). As the Albany Grid Infrastructure would not be constructed independently from the proposed WEF the context around the WEF in terms of Need and Desirability has been added. Please see Chapter 4, Section 4.1, specifically 4.1.8.
	There are already a substantial number of WEF sites that have been authorised for the purposes of bidding into the REIPPP – in fact the currently authorised projects indicate that there is a multiple of 10.6 times capacity to meet the IRP target over the next 5 years and indeed enough capacity to meet the proposed updated 2030 target. Furthermore, the Eastern Cape alone with authorised WEFs of over 3 GW has approximately 2.5 times more wind energy capacity than that which is required to meet the proposed updated IRP 2019 target over the next 5 years and but wind energy in the Eastern Cape is limited by the maximum export or evacuation capacity of the Eastern Cape which currently stands at 1 740 MW. The proposed Albany WEF will not be ecologically sustainable as required by section 24(b) of the Constitution and connote demonstrate desirability, and although the	The Grid Infrastructure component of this project is critical to the realisation of the Albany WEF within the Eastern Cape. While there are currently grid constraints at an Eskom level within the Eastern Cape, this cannot be solved without the requisite EIA processes for new proposed grid infrastructure. The energy crisis in South Africa is going to rely on independent power producers improving infrastructure and providing energy alternatives.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	need for renewable energy is beyond dispute, the need for further WEF development in the Eastern Cape in the short to medium term cannot be demonstrated in the face of oversupply and grid capacity constraints. Since the Albany WEF is undesirable, it follows that the Albany Grid Infrastructure and Battery Storage is undesirable in this location.	
PUBLIC PARTICIPATION		
17 November 2022 *Email* ***Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve*** **Mr Theo Fischer, EScience Associates (Pty) Ltd on behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve**	The public participation undertaken for the proposed Albany Grid Connection Infrastructure application is insufficient. The draft BAR states that the reason for the no public meeting is due to the Covid-19 pandemic, the use of COVID-19 as an excuse for the lack of public meetings in November 2022 is unacceptable and procedurally unfair considering the current diminished threat posed by the virus, the low infection rates, and the absence of any COVID-19 safety protocols in South Africa over the last year. The Albany WEF and grid infrastructure should have formed part of one report and one public participation process. The splitting up of co-dependent activities leads to public participation fatigue. They should have been part of one BAR even if served by two separate applications to make planning more functional and public participation productive and not wasteful of public's time. The splitting of the applications into two reports and two PP processes is not functional or fair and results in contorted and confused overall assessment, participation and decision-making processes.	The PPP which has been undertaken as part of this application was done so in terms of NEMA Chapter 6. The PPP legislation does not include mandatory public meetings. In addition to this, it is imperative to highlight the fact that the same Stakeholder and I&AP database was maintained for both processes. As per the answer to the comment earlier in this IRT, the Grid Infrastructure was applied for separately as the Grid Infrastructure would be owned, managed and maintained by separate entity to the WEF. The information regarding the Grid Infrastructure was clearly defined in the WEF EIA process, and the WEF has been clearly defined in the Grid Infrastructure process.
PROCEDURAL		
17 November	In terms of Appendix 1 (3) of the EIA Regulations, a Basic Assessment Report (BAR)	Please kindly see Chapter 3 which has been

Date of comment and Name of Organisation/ I&AP	Comments	Response
2022 *Email* ***Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve*** **Mr Theo Fischer, EScience Associates (Pty) Ltd on behalf of Indalo Private Game Reserve Association and Buffalo Kloof Private Game Reserve**	must include: *"(e) A description of the policy and legislative context within which the development is proposed including (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."* The BAR, under chapter 3, lists relevant legislation and states in table form how the development should respond or comply to each, but it does not indicate what the legislation states or what its purpose is, thus not providing an adequate description of the policy and legislative context within which the development is proposed. Furthermore, the report only lists legislation but does not list and describe any guidelines, spatial tools, municipal development planning frameworks. It is claimed in the table on page iv, that chapter 9 includes "A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed" as is required by the EIA Regulations. However, chapter 9 does not include any such description.	updated to demonstrate the legislative requirements in terms of the broader developer (i.e. in the context of the proposed Albany WEF and Albany Grid Infrastructure). Please see Chapter 9, Section 9.2. where the information is now itemised as its own sub-section for ease of reference.
VISUAL IMPACTS		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation***	The visual impact of the proposed Albany Grid Infrastructure has not been assessed. The fact that no specialist visual impact assessment ("VIA") was undertaken is confirmed in an email dated 2 November 2022 from Ms. Caroline Evans of CES. The DFFE Screening Tool Report (on Page 10) indicates that a "*Landscape/Visual*" assessment is a requirement to be addressed in an application. Please explain on what basis a VIA for the proposed Albany Grid Infrastructure was omitted. Put	Please kindly refer to Chapter 7, Section 7.1. which summarises the National Screening Tool Report and the context around the development in relation to this Report. As the Albany Grid Infrastructure is being proposed on land parallel and adjacent to an existing Eskom servitude. The route was also

Date of comment and Name of Organisation/ I&AP	Comments	Response
Africa **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa**	differently, the EAP is required to motivate why no information on visual impacts is presented to the decision-maker in respect of the DBAR? In the absence of any assessment or specialist study of visual impacts in connection with the proposed Albany Grid Infrastructure, please explain how the EIA Regulations are complied with, particularly Appendix 6 (1)(1)(f) and (1)(1)(h) which provide that a specialist report in terms of the EIA Regulations must contain: ○ (f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives (emphasis supplied); ○ (h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers (emphasis supplied). We note that page 26 of the DBAR expressly identifies one of the "Disadvantages" of the project as "*Potential increase in visual impact*". Please explain how this conclusion was reached as the baseline for this conclusion has not been reported in the DBAR and no specialist study undertaken in connection with visual impacts pertaining to this Application and the subject infrastructure.	designed to follow the N2 to reduce environmental impacts. The impact from a visual perspective is therefore negligible, particularly in the context of the WEF. The proposed OHL is a monopole structure of up to 20m in height which will be adjacent to existing powerline structures of a similar height and adjacent to turbine structures of 215m height. In terms of the impacts identified, the proposed Grid Connection Infrastructure will only be constructed as ancillary infrastructure to the proposed Albany WEF and the visual impact of the OHL are therefore directly linked to the proposed WEF. As demonstrated above the turbines will dwarf the OHL structure and the impact cannot be quantified as anything but negligible in comparison.
AVIFAUNAL IMPACT		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa***	Many of the collision sensitive species identified in the Avifaunal Impact Assessment are considered threatened in southern Africa. The Red List species vulnerable to power line collisions are generally long-living, and slow-reproducing species under natural conditions. In other words, they are particularly vulnerable to collision impacts and therefore the assessment of avifaunal impacts must be comprehensive, accurate and informed by the precautionary principle. The report does not satisfy this threshold. The Avifaunal Impact Assessment was undertaken in 2020 and the DBAR was released in October 2022 and are out of date as they should have integrated all	The proposed OHL section of this application MUST be fitted with anti-bird collision divertors across the entire OHL line length. The recommendation has been updated to state the following: "To mitigate for collision of the relevant species, it is recommended that the conductors be fitted on the full length of OHL with the best available (at the time of construction) Eskom and EWT approved anti bird collision line marking device."

Date of comment and Name of Organisation/ I&AP	Comments	Response
Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa	current and applicable guidelines such as BirdLife South Africa's Guidelines for the Verreaux's Eagle and Wind Farms in (November 2021). Neither the DBAR nor the Avifaunal Impact Assessment has incorporated the latest Guidelines. The Avifaunal Impact Assessment confirms that the specialist conducted four seasons of pre-construction bird monitoring but this was undertaken more than 5 years ago 2016 and 2017, and as the environment is constantly changing more data regarding target species is available the assessment should be updated. Whilst the Avifaunal Impact Assessment claims to have assessed the potential impacts of both the proposed Albany WEF and the proposed Albany Grid Infrastructure, the number of formal site visits over a period spanning May-June 2016 to January 2020 (the date of the Avifaunal Impact Assessment) is also inadequate. Regarding the statement in the Avifaunal Impact Assessment that "*Collision and electrocution of birds on overhead power lines on site is anticipated to be of HIGH NEGATIVE significance. Both of these impacts can be mitigated successfully in our opinion to reduce the significance to LOW NEGATIVE",* please explain how this rating and conclusion have been arrived at. Please explain how the sensitivity map aligns with the avifauna specialist's conclusions regarding the Medium to High risk associated with several target species identified across the site. Please confirm and explain how the measures identified in the DBAR / specialist assessment (summarised below) will be made binding on the proponent (and its successors in title) and how they will be implemented and what oversight regarding compliance will be provided. Further detail is necessary as many of these key mitigation measures are speculative and left to be dealt with at a future	Verreaux's Eagle were not recorded on this site and this legislation does not apply. In addition to this it's important to note that the Grid Infrastructure component is strengthened by the fact that the full area had monitoring undertaken for the WEF component. Avifaunal monitoring is not required for OHL developments. Anti-bird collision line marking devices are widely accepted as crucial mitigation for bird collisions and advocated by EWT, Vulpro and BirdLife RSA. Historically these devices were not used and the impact pre and post fitting is evident of their effectiveness. The OHL route MUST be microsited prior to layout finalisation to ensure that at the time nearing construction the most appropriate pylon placement is achieved. This will include consultation with the various specialists who will have to undertake additional site verification process, inclusive of permitting (where relevant at the time). This process, known as EMPr and Layout finalisation, includes a mandatory 30-day PPP process, which means that all documentation is made available to Stakeholders and I&APs for comment prior to submission of the final layout (within the assessed corridor).

Date of comment and Name of Organisation/ I&AP	Comments	Response
	unspecified time and date: ○ The identification, and specification of overhead cables on the spans identified as high risk for the purposes of mitigation. ○ Ensuring that the overhead cables on the spans identified as high risk are fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device. ○ The power line must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds (such as eagles) to perch on them in safety. ○ None of the on-site power line between turbines and between turbines and the site substation be built above ground. ○ The only above ground power line should be the grid connection power line. The Avifaunal Impact Assessment states with regard to the cumulative impacts of wind energy facilities that the specialists are aware of only two other wind energy facilities in the area, namely: Grahamstown Plan8 Wind Energy Facility and Waainek Wind Energy Facility. It is clear that not all similar developments have been assessed by the avifaunal specialist. The assessment of cumulative impacts is flawed and must be redone in order to scope all other similar developments in the receiving environment. Section 5.5 of the Avifaunal Impact Assessment which states that in areas where multiple facilities may be built, "*it is important to consider the overall or cumulative impact of these facilities on birds. Consideration of each project in isolation may not adequately judge the effect that projects will have on avifauna when combined*." In the absence of a comprehensive assessment of all known similar developments in the immediate surrounds, the cumulative impact as presented in the DBAR and Avifaunal Impact Assessment is undetermined and unassessed. The Avifaunal Impact Assessment relies on aspirational statements rather than concrete mitigation. For example, : "*It is recommended that each project within this broader area ensures that no effort is spared in mitigating impacts on*	

Date of comment and Name of Organisation/ I&AP	Comments	Response
	avifauna. It is hoped that if each project provides sufficient mitigation, the overall cumulative impact can be reduced." This is meaningless. The assessment has failed to adhere to the specialist's own recommendations regarding the identification and implementation of feasible mitigation measures as well as the obvious fact that the assessment process has not taken into account the full extent of cumulative impacts associated with similar developments in the surrounding area. The assessment of impacts on avifaunal species is inadequate. It is stated that collision and electrocution of birds is potentially of HIGH NEGATIVE significance but can be reduced to LOW NEGATIVE significance with mitigation as follows: "*In both cases the first and foremost approach to mitigation should be the selection of the shortest and most sensible possible length of new overhead power line to be constructed and the optimal route for this line*." This mitigation measure is illogical, and it seems improbable that it will be implemented. Figure 12 on page 56 of the Avifaunal Impact Assessment shows the same route for the overhead line corridor. No alternative that is the "*shortest and most sensible possible length*" is provided in the reports. Therefore, it is totally unknown and unproven as to whether this proposed mitigation is even feasible – yet it is the basis to reduce a HIGH NEGATIVE to LOW NEGATIVE (post mitigation). The DBAR relies on untested and speculative mitigation. The Avifaunal Impact Assessment defers a key aspect of the identification of mitigation measures to the post-authorisation stage in the form of an avifaunal walkthrough of the final layout. This is evidenced by the fact that the Avifaunal Impact Assessment states that "*we are not yet aware of where exactly the grid connection power line will run*". No specifics of the nature, extent and purpose of a post-authorisation avifaunal walkthrough is given in the DBAR nor is any reasonable motivation tendered for the deferral of the final layout of the proposed power line which should have been considered, evaluated and assessed before the Facility was approved. It is illogical to defer the evaluation and efficacy	

Date of comment and Name of Organisation/ I&AP	Comments	Response
	of mitigation measures to the post-authorisation stage in the form of an avifaunal walkthrough of the final layout after a final decision has been rendered on the project. Page 3 of the Avifaunal Impact Assessment identifies key findings relating to target bird species and the risks of such impacts. Please explain why the incorporation of those findings into section 7.7.1 of the DBAR includes the phrase "*(including the Albany OHL and Associated Grid Infrastructure)*" when this text does not appear in the Avifaunal Impact Assessment.	
ECOLOGICAL IMPACT		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness**	The ecological impact assessment identified areas of high ecological sensitivity, in proximity to the proposed development, and classified these as "no-go" areas for the Proposed Albany Grid Infrastructure development. The areas in question included: patches of Southern Mistbelt Forest vegetation (Beggars Bush State Forest); and Ecca Local Authority Nature Reserve. The DBAR does not integrate this key specialist finding but rather states "*Where possible, the routing of the OHL/underground, within the Connection Corridor, will avoid this protected area.*" (DBAR: 47). Please confirm whether these areas are classified these as "no-go" areas for the Proposed Albany Grid Infrastructure or whether they will only be treated as classified these as "no-go" areas "where possible". With regard to the impact identification and assessment in Section 7.2 of the Ecological Assessment Report the identified impacts in connection with the Facility is qualified by the statement that "*… the current layout plan shows turbines and infrastructure within critical biodiversity areas and is therefore not entirely consistent with the land use guidelines in the Eastern Cape Biodiversity Conservation Plan (2007)".* Please explain why no similar qualification is contained	The consensus from all specialists and the EAP is that the OHL line must follow the northern most boundary of the assessed route. This must be ground truthed prior to layout finalisation. This is critical from an aquatic, avifaunal and ecological perspective. The Southern Mistbelt Forest patches will have to be microsited prior to construction. These areas are NO-GO and the line will need to span over these sections. Micrositing must occur within the year that construction is planned. The timeline regarding construction is not clear at this stage of the project as it requires REIPPPP bid round success. This has not been achieved at this point in time. The impact of alien vegetation on site has been assessed in the BAR and Ecological report. In addition to this there is an Alien Vegetation Management plan which must be implemented during the construction and operational phases of

Date of comment and Name of Organisation/ I&AP	Comments	Response
Foundation Africa	within section 8.2 of the Ecological Assessment Report which specifically deals with the grid connection and associated infrastructure. This is particularly important given that the corridor being assessed contains areas which are classified as CBA one, CBA 2, ESA 1, ESA 2 and sections of protected areas (in relation to terrestrial CBAs) and in terms of Aquatic CBAs the majority of the infrastructure site is classified as Ecological Support Areas. Please assess the impact in question and provide an impact rating for the cumulative impact of the establishment and invasion of alien vegetation.	these projects. In the context of Southern Mistbelt Forest, this will not be cleared and the risk of alien vegetation establishment within this vegetation type is therefore not considered on its own.
ALTERNATIVES		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness**	The avifaunal specialist states categorically that one of the critical mitigation measures required to be implemented is to "*Select the shortest and most sensible possible length of new overhead power line to be constructed and the optimal route for this line*" (DBAR: 58). There is no evidence to show that this has been achieved. Only two alternative powerline routes were considered within one fixed grid corridor only. It is not technically or practically possible (within a predetermined and confined grid) corridor to be able to achieve the shortest possible length of overhead power line to satisfy the avifaunal specialist's identified mitigation. The mitigation measure is incapable of being achieved where only one grid corridor has been evaluated. A mandatory prescribed requirement of the EIA Regulations is to compile a report that enables the competent authority to determine the best practicable option and alternative. Irrespective of whether the applicant owns the land or not, the overriding objective should be to assess more than one grid corridor as there is no justification for choosing only one grid corridor where the applicant doesn't own any of the land on which the proposed Albany Grid Infrastructure will be located.	Based on the location of existing infrastructure (Eskom Albany SS) and proposed WEF infrastructure this corridor route is the shortest and most feasible option to ensure that the western cluster of turbines and eastern cluster are connected and evacuated. This has been confirmed by the various specialists. The location of wind turbines is based on both site sensitivity (as per the WEF EIA) and the wind potential (WEF EIA). All sensitivities which were identified by the WEF process have been carried through into the grid connection process. This was done, by design, to ensure that all sensitivities are considered in determining the most feasible corridor and then within that corridor it has been determined that the northern section of the corridor is most suitable. This must be ground truthed prior to layout finalisation.

Date of comment and Name of Organisation/ I&AP	Comments	Response
Foundation Africa	The inescapable inference is that the specialist mitigation measures identified in the assessment process are incapable of being achieved due to the constraint in the selection and assessment of alternatives. The flawed methodology and approach adopted in regard to obtaining authorisation for the Facility prior to the grid infrastructure (and the constraint of relying on one grid corridor only) automatically excludes the possibility of any meaningful consideration, evaluation and assessment of alternatives.	
MITIGATION INCAPABLE OF IMPLEMENTATION		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa**	A fundamentally critical aspect of the mitigation hierarchy is the efficacy of measures to avoid bird mortality / injuries associated with collision with overhead powerlines. The relevant operational phase mitigation measure in question is defined as "*To mitigate for collision of the relevant species, it is recommended that the conductors on the high bird collision risk sections of the line be fitted with the best available (at the time of construction) Eskom approved anti bird collision line marking device*" [DBAR: 61]. The mitigation measure in question is compromised because (1) it is subject to Eskom approval and (2) it is entirely dependent on line marking devices remaining in working order for the full lifespan of the power line. Neither the installation nor the obligation and responsibility for full lifespan implementation and maintenance is satisfactorily addressed in the DBAR. In amplification of the above comment, page 58 of the DBAR records the Avifaunal specialist's recommendation as follows: "*It will be either Albany Wind Power or Eskom's responsibility to ensure that these line marking devices remain in working order for the full lifespan of the power line, as we cannot afford to have significant numbers of bird collisions on this new line.*" By the specialist's own admission, the mitigation measure in question is a *sine qua non* for achieving effective impact avoidance. If the mitigation measure in question is incapable of implementation or if the cost is deemed prohibitive it renders it susceptible to non- implementation. The DBAR fails to prove that the identified mitigation measure is capable of achieving the objective in question.	The proposed mitigation measure does not require Eskom approval. The OHL will be owned by Eskom and a condition of the EA (if received) MUST be fitted with anti-bird collision line marking devices. In addition to this, the EMPrs ensure that auditing is conducted during the construction and operational phases of the WEF and OHL. This is stated as the OHL will be owned by Eskom UNLESS legislation regarding grid connection infrastructure changes at the time of implementation, in which case Albany Wind Power would own the line. Either party would be responsible for the OHL, in terms of management and maintenance in terms of the EMPr. Anti-bird collision line marking devices are widely accepted as crucial mitigation for bird collisions and advocated by EWT, Vulpro and BirdLife RSA. Historically these devices were not used and the impact pre and post fitting is evident of their effectiveness.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	Based on the above comments, it is irrational and unreasonable to conclude that: (1) that the significance rating for direct impacts is High (pre-mitigation) and Low for such impacts in terms of post-mitigation; and (2) that the significance rating for cumulative impacts is Moderate (pre-mitigation) and Low for such impacts (post-mitigation). The simple reason for this is that certain fundamental, necessary and critical mitigation measures are left unspecified or undetermined in terms of certainty of performance (execution or implementation) and responsibility and due to the non-binding nature of the measures in question.	
SIGNIFICANCE RATING		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness**	The impact and significance ratings described in the DBAR inexplicably reduce the significance rating for the cumulative impact associated with collisions and electrocution on overhead power lines from High (direct impact) to Moderate (cumulative impact) for no apparent, justifiable or rational reason. Please explain the scientific basis for this conclusion as something more is required other than a subjective value judgement which has no bearing on scientific evaluation or rational connection to the specialist findings in question. The avifauna specialist was at pains to point out the danger of cumulative impacts and that no further losses could or should be tolerated by virtue of the installation of a new overhead powerline (Cf DBAR page 58). The inescapable inference is that the cumulative impact of constructing a new overhead power line will only increase the nature, severity and duration of the impact (avifaunal mortality / injury). The EAP's conclusion in this regard flies in the face of the impact ratings given to every other project-related impact identified and reported on in the DBAR. Please explain the driver behind the manner in which the DBAR plays down (by inexplicably reducing the significance rating) the clear danger inherent with cumulative impacts of this nature, particularly in relation to avifaunal impacts.	It is standard practice (for the past 10+ years) to include anti-bird collision line device markers on all new OHLs, whether associated with renewable energy or not. It goes without saying that the devices WILL reduce the significance of the impact and that the surrounding authorised WEFs will be required to use the same technology. Hence the certainty that the cumulative impact, in terms of surrounding WEFs, can be mitigated as all facilities will be using the same mitigation measure. The pre-mitigation significance from a direct and cumulative perspective is high, yet when provenly effective mitigation is applied it goes without saying that this impact would be reduced.

Date of comment and Name of Organisation/ I&AP	Comments	Response
Foundation Africa		
	PUBLIC PARTICIPATION	
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa**	The scope of public participation contemplated as part of the proposed Albany Grid Infrastructure application is inadequate. The reason offered for limited engagement with I&APs in the DBAR is that: "*Due to the Covid-19 pandemic, no public meetings will be held during the release of the Draft BAR for public review. However, all comments received via telephone and SMS will be included in the Comments and Responses Report to accommodate those that do not have access to the internet, those that are illiterate and those with disabilities. In addition, a brief project background can be provided verbally during telephone discussions, where necessary.*" The reliance on Covid protocols in November 2022 as a basis for justifying no public meetings is manifestly flawed and unjustified considering the scale and implications of the project. The absence of in person public meetings is unacceptable and procedurally unfair. A public meeting should be held in connection with the DBAR. Consultation is not possible without direct engagement with the affected community.	The PPP which has been undertaken as part of this application was done so in terms of NEMA Chapter 6. The PPP legislation does not include mandatory public meetings. In addition to this, it is imperative to highlight the fact that the same Stakeholder and I&AP database was maintained for both processes. As per the answer to the comment earlier in this IRT, the Grid Infrastructure was applied for separately as the Grid Infrastructure would be owned, managed and maintained by separate entity to the WEF. The information regarding the Grid Infrastructure was clearly defined in the WEF EIA process, and the WEF has been clearly defined in the Grid Infrastructure process.
	IMPACTS ON WATER RESOURCES	
14 November 2022 *Email* ***Kwandwe***	Drought conditions, water resource scarcity, and the unsustainable use and abstraction of groundwater prevail as key environmental constraints in the receiving environment concerned. Much of the Eastern Cape including the area in which the proposed Albany Grid Infrastructure is situated, is water scarce and	The groundwater investigation was done in response to a comment raised by ECPTA in the WEF EIR process. The study was to ascertain what impact structures on the ridgeline would have (if

Date of comment and Name of Organisation/ I&AP	Comments	Response
Private Game Reserve and Wilderness Foundation Africa **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa**	subject to on-going drought. In this context, a comprehensive assessment of the impacts of the proposed Albany Grid Infrastructure on water resources is undoubtedly appropriate, in addition to being necessary to meet the EIA requirements for a description and assessment of all environmental issues and risks that were identified during the EIA process and in terms of section 2 NEMA principles. The DBAR states at page 37 the following with regard to surface water and the geohydrological study undertaken: *"SRK Consulting undertook a Groundwater Investigation to determine the impact of the proposed larger WEF site development on the Kap River catchment system."* The statement misrepresents the nature and scope of the assessment. The SRK investigation states that the purpose of the study is *"to determine whether the wind turbines on the south-eastern section of the Site will influence the Kap River catchment system. From a groundwater perspective, SRK understands that their client is interested in the effect that the turbines may have on the infiltration of groundwater into the groundwater system, and potentially on the Kap River".* The geohydrological study dated 19 November 2019 by SRK Consulting is 3 years old and outdated. The type of infrastructure mentioned in the study includes: 23 turbines; 23 laydown areas beside each turbine; 23 areas for switchgear/ transmitters; roads – approx. 14.6m long x 8m wide. It does not assess the groundwater impacts of the grid infrastructure specifically. The impact of the grid infrastructure cumulatively with the wind energy facility is not assessed and neither is the impact this will have on the catchment area and the groundwater system. The SRK investigation does not deal with the Albany Grid Infrastructure application. In the absence of any information which serves to confirm that the	any) on the Kap River system. It is included in the submission for continuity. With regards to water impacts. The southern section of the OHL corridor includes a section of critical catchment. The consensus across the board (inclusive of ecological and avifauna) is to ensure that the line routing is along the northern boundary of the corridor, hence avoiding the area of VERY HIGH sensitivity entirely. This must be ground truthed prior to layout finalisation.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	area considered (i.e. *"the south-eastern section of the Site")* encompasses the entire Grid corridor, there is no basis for I&APs to conclude that the investigation is in any way relevant to the application at hand. A geohydrological specialist study is included in the DBAR, but grid infrastructure is not mentioned in this report by SRK Consulting.	
HERITAGE IMPACTS		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa**	The Heritage Impact Assessment ("HIA") is titled *"Revised Report: Phase 1 Archaeological Impact Assessment of the Proposed Albany Wind Energy Facility and Associated Infrastructure"* prepared by Booth Heritage Consulting (Pty) Ltd (August 2020) and forms part of the DBAR. The HIA is identical to that which was attached to the FEIR submitted to the DFFE in relation to the Albany WEF. For this reason, comments submitted on behalf of our clients in respect of the WEF and specifically comments by Sarah Winter dated 30 August 2021 and 6 April 2022 concluded that the HIA is limited to an Archaeological Impact Assessment, which does not meet the minimum requirements for an HIA as set out in section 38(3) of the National Heritage Resources Act2 ("NHRA"). Previous comments on the HIA report dated August 2020 have not yet been addressed and therefore these comments remain valid. Given the scale and nature of the Albany WEF development of which the grid connection is a key component, the consideration of landscape issues should be the primary driver of any meaningful and credible heritage assessment. The failure to address heritage and cultural significance impacts at the level of a cultural landscape assessment is a material deficiency in the report and fails to meet the requirements of section 38(3) of the NHRA. The HIA lacks a broader landscape perspective, and fails to incorporate Kwandwe	The HIA is a Phase 1 Archaeological Impact Assessment of the WEF and associated infrastructure – as its title clearly states. The cultural landscape on which the WEF is proposed was discussed during the WEF EIR process. As the Grid Infrastructure component's visual impact is negligible due to the reasons discussed earlier in this IRT and the fact that the grid component will not be constructed in isolation from the WEF we feel that this has been adequately discussed in the WEF EIR PPP processes.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	and Great Fish River Nature Reserves and a stretch of the Great Fish River Corridor (being of possible Grade II heritage status in terms of the NHRA). The assessment of heritage impacts of the proposed Albany Grid Infrastructure has not been adequately undertaken in terms of the following: ○ The project should be assessed holistically incorporating all project components. In the absence of an HIA that adequately addresses cultural landscape issues, it is not possible to make an informed decision on the proposed Albany Grid Infrastructure from a heritage perspective. ○ The report focuses on archaeological issues but fails to assess the impacts of the project on the cultural landscape and associated sense of place. ○ There is an absence in the report of any assessment of impacts of cultural landscape, and critically no integration of heritage and visual assessments in terms of impacts on landscape representivity and integrity. ○ There is a broader landscape perspective clearly missing from the HIA report which is critical to decision-making in terms of adequately addressing cultural landscape issues. The current level of assessment and reporting in the HIA report does not enable the assessment required by the NHRA.	
SPLIT ASSESSMENT		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard**	Both components of the project (i.e. the Facility and the Grid Infrastructure) should have been applied for and assessed simultaneously as part of the same application. Submitting separate applications for the Facility and the Grid Infrastructure respectively is both substantively and procedurally flawed. The flawed assessment methodology and approach is evidenced by inter alia the following: ○ I&APs were advised during the Facility application by the EAP that the Facility application was limited to assessment of the Facility only and that the Grid Infrastructure would be assessed by way of separate application at a later date. ○ I&APs were led to believe that the assessment – and specialist studies - undertaken during the Facility application centered around and indeed was limited to the Facility only and excluded the Grid Infrastructure. ○ Because of the EAP's stated intent and approach to splitting the project into two	The decision to separate the WEF from the Grid Infrastructure is due to the fact that the Grid Infrastructure would be owned by Eskom post construction. Separate documentation, from a administrative perspective, is therefore required. The project description of the Grid Infrastructure was included in the WEF documentation, and visa versa, to ensure that it is clear that the two developments are linked. In addition to this combined mapping was done to demonstrate the facility as a whole. Specialist reports, which

Date of comment and Name of Organisation/ I&AP	Comments	Response
Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa	different assessments, the public participation process in connection with the Facility application did not present I&APs with a meaningful opportunity to interrogate specialist studies in connection with the proposed Albany Grid Infrastructure, as it was made clear to I&APs that the Facility application related to the wind turbines only. ○ The current Grid Infrastructure application shows that various specialist studies undertaken during the Facility application purportedly assessed not only the Facility but also the Grid Infrastructure, but the proposed Albany Grid Infrastructure was not the subject of that application. The split application and the straddling of Grid related information across two different applications has caused confusion among I&APs. ○ I&APs' expectation of the EAP's split approach was that the proposed Albany Grid Infrastructure application would be underpinned by current studies applicable to the Grid Infrastructure. However, this is not the case as the Grid application is largely devoid of accurate, relevant and current specialist assessments pertaining to the Grid Infrastructure specifically. The Grid application is being motivated and applied for now on the basis of specialist studies which were undertaken before 2020 as part of the Facility application. It is difficult to avoid the conclusion that I&APs are prejudiced by this approach to spitting the project into two discrete applications, when in reality the split is not carried over into the actual specialist assessments undertaken. If the specialists assessments for the Facility and the Grid applications are identical, how then can it be claimed that the applications for the Facility and the Grid were separately assessed? ○ The EAP relies on the consideration of the Grid Infrastructure included with the Facility application, but which I&APs were informed does not form part of the Facility application. I&APs ought to have been provided with one opportunity to engage with both the Facility and the Grid Infrastructure under the banner of one the assessment and one application. The EAP can't defensibly sustain an approach where the Grid Infrastructure has been included in the Facility application (as a subset of information) but that the formal engagement and public participation with the Grid Infrastructure is held over until a later separate application. ○ I&APs have – through the splitting of the application been deprived of a meaningful opportunity to engage with the range of project-related impacts	consider the WEF and powerline separately and as a combined facility were also made available as part of both the WEF and Grid Infrastructure processes. This is not a unique process within the renewable energy field and is directly linked to the fact that IPPs and Eskom own and manage generation and distribution infrastructure separately.

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holistically and during one comprehensive EIA process that deals simultaneously with all project impacts.
○ By splitting the project into two separate applications and first obtaining authorisation for the Facility, the EAP has rendered the assessment of the proposed Albany Grid Infrastructure (and its alternatives) moot as the determination of the best practicable environmental option is constrained by the pre-existing (approved) Facility.

As early as 2019, I&APs raised concerns about the merit and efficacy of the approach of split assessments. Concerns were raised by Richard Summers Inc (in 2021 and 2020) and Andre van der Spuy Environmental Consultants (in 2019) regarding the failure to undertake a composite project assessment for both the Facility and its associated Grid Infrastructure in terms of one application. Comments raised during the public participation process together with the EAP's responses are included below as extracted from the Issues and Responses Trial for the Albany Facility.
<table>
<tr><td>Page reference</td><td>Stakeholder Comment</td><td>Stakeholder</td><td>EAP Response</td></tr>
<tr><td>Page 82-83 of 311</td><td>COMPOSITE
102. Substations and transmission line were excluded from the project description in the previous DEIR (2020) and an assessment of the project is incomplete without it. This</td><td>Richard Summers On behalf of Kwandwe Private Game Reserve

30/08/2021</td><td>The proposed Albany Connection and Associated Grid Infrastructure forms part of a separate Application for Environmental Authorisation. The specialist assessments which are relevant to both the proposal Albany WEF development and the Albany Connection and Associated Grid Infrastructure, have compiled combined assessments due to the interrelation between these developments. An example of a</td></tr>
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Date of comment and Name of Organisation/ I&AP	Comments				Response
			concern has not been addressed in terms of the amended DEIR.	specialist assessment which is significant to the proposed Albany WEF development is the Bat Impact Assessment, whereas as this assessment has little relevance to the proposed Albany Connection and Associated Grid Infrastructure development. In addition, take note of the comparison in the identified specialist assessments section and the relevant sensitivity theme section included in a National Screening Tool Report for different Application Categories in the same area.	

Date of comment and Name of Organisation/ I&AP	Comments	Response
	103. There is also a level of inconsistency insofar as some of the specialist studies did include substations and transmission lines in the project descriptions. While the Avifaunal Report appears to have considered the transmission line, the revised VIA did not do so. This degree of inconsistency brings into question the assessment as a whole. 104. The proposed Albany WEF and transmission line are not two independent projects. The proposed Albany WEF consists of a transmission line and hence, the transmission line should form part and parcel of the project description and assessment of the proposed Albany WEF project. 105. While the project description has improved in the amended DEIR in terms of describing the number of turbines, the absence of reference to relevant infrastructure is a crucial gap.	

Date of comment and Name of Organisation/ I&AP	Comments				Response
	P 253 of 311	2.9. The scope of assessment is defective as it excludes substations and transmission lines which comprise core infrastructure for the proposed Albany WEF and which infrastructure ultimately dictates the location of the project and the development footprint.	Richard Summers Inc Attorneys On behalf of Kwandwe Private Game Reserve 13/07/2020	Both the first and second draft EIRs include a full project description, including all information regarding the grid infrastructure, footprint calculations, localities, etc. The specialist reports were also prepared, by design, to include and assess all infrastructure in individual reports which are used for both the EIA and BA processes.	

Date of comment and Name of Organisation/ I&AP	Comments				Response
	P 304 of 311	21. A fundamental failure of the DRS (Draft Scoping Report) and the Plan of Study of Scoping is its failing to intend to consider all of the impacts of the proposed AWEF. Give the legal requirement of the proposed AWEF to have to consider all of the potential impacts associated with its development it will be necessary for the proposed AWEF EIA to include all of the potential impacts of its dependant components and auxiliary functions, such as the powerline and the back-up (probably fossil fuel) power facilities. The DSR advises that the powerline component will be the subject of a separate environmental application. If this is so, then the current application will still need to consider the findings of the powerline EIA process as well, even if this requires that its decision-making process is placed on hold until such time	Mr Andre van der Spuy ANDRE VAN DER SPUY ENVIRONMENTA LCONSULTANTS 19/07/2019 [SUBMITTED O NBEHALF OF THEFOLLOWING CLIENTS: Mr Angus Sholto-Douglas; Mr Nolan Sparg; Mr Colin Coetzee; Mr Terry Stewart; Mr Aiden Sparrow; Mr Basil Peinke; Ms Bevan Peinke;Mr Sean van Zyl; Mr Hennie Brink; Mr Charles Timm;Mr Kevin Bates; Mr Lionel Wicks; Longwood Trust; Mr Greg Dixon; Mr Murray Crous; Mr Nico Fick; Mr Peter Wood;	21. The specialist reports for the proposed Albany WEF and Albany Grid Connection (powerline) will be contained in one shared document. This means that each specialist (where relevant) will be assessing both the WEF and the Grid Connection (powerline) in their reports. While the WEF and the Powerline will be submitted in separate applications, the impacts associated with each will	

Date of comment and Name of Organisation/ I&AP	Comments					Response
				and Mr Rudi Venter]	be outlined by both the specialists and the EAP. This means that the WEF EIR will include the specialist and EAP findings of the WEF and Grid Connection (powerline) and the Grid Connection BA will including the specialist and EAP findings ofthe Grid Connection (powerline) and WEF. The Albany WEF and Albany Grid Connection are being undertaken by separate applicants and cannot be contained	

Date of comment and Name of Organisation/ I&AP	Comments				Response
				within the same application / documentation.	

Date of comment and Name of Organisation/ I&AP	Comments	Response

	as the powerline EIA findings are known and can be considered. Likewise the impacts of the proposed AWEF on existing power supply facilities, Eskom and the distribution network must be assessed and included in the overall decision-making process. Failure to do so will amount to incremental development which is illegal.		

I&APs noted the crucial importance of the Facility application needing to consider the impacts of the Grid Infrastructure at that stage, as a failure to do so will result in incremental development. At this current stage in time, the EA has already been granted without the impacts of the entire development having been taken into account in decision making. It is unclear as to why the Grid infrastructure are being subjected to a separate EIA and application process when Grid infrastructure is included in the project description within the Albany FEIR.[9] In fact, Table 7.1 of the Albany Facility FEIR[10] demonstrates that the location of the proposed Albany Facility in relation to existing Eskom grid infrastructure is offered as an advantage for the project. There is reference to the impacts of the proposed Facility and Grid Connection Infrastructure in the various sub-sections in Chapter 8. Each sub-section deals with the impacts of the proposed Facility and Grid

Date of comment and Name of Organisation/ I&AP	Comments	Response
	Connection Infrastructure as reported in the various specialist studies.[11] The Grid Connection Infrastructure is, however, not mentioned in relation to paleontological impacts, social impacts and visual impacts in the Albany Facility FEIR. No explanation is provided for this disjointed and inconsistent approach. Neither is the rationale for submitting two separate applications for the same project given. Since the proposed Albany Facility is entirely dependent on Grid Infrastructure, it is scientifically illogical to separate the WEF from the infrastructure that is required for it to distribute the very power that it produces.	
SPECIALIST STUDIES		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation**	It is unclear how composite specialist impact assessments could be used to support decision making for separate applications. The same specialist reports undertaken for the Facility were released with the DBAR for the proposed Albany Grid Infrastructure. In terms of the specialist reports supplied, some even failed to deal with the Grid Infrastructure and only dealt with the Albany Facility (see for example Appendix 5 of the Albany DBAR: Geohydrological Groundwater Study of the Kap River). The DBAR is also silent on why other impacts (such as visual impacts) relevant to the Grid Infrastructure were not assessed when this was an identified impact. This selective and arbitrary picking of which Grid Infrastructure impacts should be assessed is unacceptable. The EAP's reliance on the specialist studies prepared for the Albany Facility EIA in 2019/2020 is flawed because the specialists were only required to *"consider"* (and not assess) the connection and grid infrastructure at the time of the Facility application due to the EAP's approach of splitting the project into different applications and deferring the assessment of the grid impacts. Several specialist reports prepared in connection with the Facility application did not mention or *"consider"* the grid connection or the grid infrastructure in connection with the Facility, thus proving this aspect was not comprehensively assessed.	Please see Chapter 7 Section 7.1 of the Final BAR which demonstrates the specialist studies required and undertaken. The rationale behind the specialists reporting is to ensure that the full picture of the WEF and Grid Infrastructure is assessed and understood to determine the impact as a whole and individually (relevant to each application). As explained in the point above two separate applications were required due to IPP and Eskom owning separate components of a renewable energy facility. However, CES is fully aware of the fact that the two components go hand-in-hand, hence the need for each specialist and each application to fully describe the primary and associated infrastructure. The specialist assessed the facility as a whole in terms of site assessments, with two separate sections dealing with the WEF and the OHL,

Date of comment and Name of Organisation/ I&AP	Comments	Response
Africa	The specialist reports previously submitted as part of the Facility application are now regurgitated in connection with the Grid application. This approach is unacceptable as those specialist reports were not updated for the purposes of the current Grid application. The specialist reports are outdated and some are over three years old dating from November 2019.	ensuring that the bigger picture (full facility) is considered.
	NEED AND DESIRABILITY	
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa**	The requirement regarding need and desirability enquiry contemplated in GNR 982 Appendix 1(3)(1)(r) of the EIA Regulations and the DFFE "Need and Desirability Guideline" (2017) is skewed in the DBAR and biased in favour of the project proponent. Negative aspects and impacts are inadequately quantified or described in the DBAR in relation to this theme. The need and desirability is exclusively considered against energy generation with scant reflection on need and desirability for other sectors affected by the project such as eco-tourism and biodiversity conservation. Need and desirability is not assessed against other "competing" sectors. This is a remnant and persistent fatal flaw carried over from the Albany Facility application in 2020. There is no evidence that a systematic consideration of the questions in the DFFE Guideline has been undertaken. Information that is critically relevant to need and desirability, such as biodiversity plans, have not been considered in the DBAR. Desirability of the proposed location compared to other sites is not discussed at all since only one grid corridor was considered. Cumulative impacts are also not addressed or referenced at all insofar as need and desirability is concerned.	Please kindly refer to Chapter 4 which has been updated to provide the need and desirability in the context of the link between the Albany WEF (authorised and under appeal) and the Albany Grid Infrastructure (this application). As the Albany Grid Infrastructure would not be constructed independently from the proposed WEF the context around the WEF in terms of Need and Desirability has been added. Please see Chapter 4, Section 4.1.

Date of comment and Name of Organisation/ I&AP	Comments	Response
	The DBAR does not include a comprehensive discussion on whether the proposed Albany Grid Infrastructure is in line with or deviates from all relevant and applicable plans and strategies. All policies outside of the paradigm of infrastructure development, energy and climate change must be considered. None of the policies or plans considered by the EAP is solely concerned with sustainable development or ecological sustainability. Such information is central to the question of desirability and whether this is the right place for locating the type of activity being proposed. The DBAR focusses solely on policies related to climate change and renewable energy insofar as the proposed project's need and desirability is concerned. It is self-evident that a project that is associated with renewable energy will be aligned with policies, guidelines or strategies that are concerned with renewable energy, energy security and climate change.	
GROUNDWATER / SURFACE WATER IMPACTS		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard**	No surface water or groundwater impact assessment is undertaken or planned in connection with the assessment process underpinning the proposed Albany Grid Infrastructure application. This is despite the fact that the DBAR records that water resources will be affected by the Grid connection. It is not lawful to defer the assessment of the impacts on surface water or groundwater to the water use licence application process under the National Water Act if the Albany Project achieves preferred bidder status in the Renewable Energy Independent Power Producer Procurement Programme and before construction starts. The DFFE must have before it all relevant information regarding the bio-physical and socio- economic impacts of the Project to make a legally sound decision on the application. The competent authority cannot do so or discharge its	With regards to water impacts. The southern section of the OHL corridor includes a section of critical catchment. The consensus across the board (inclusive of ecological and avifauna) is to ensure that the line routing is along the northern boundary of the corridor, hence avoiding the area of VERY HIGH sensitivity entirely. This must be ground truthed prior to layout finalisation. In addition to this, surface water is assessed in the Ecological Specialist Report. Surface water impacts have been recorded as part of this study and all surface water has been buffered (500m for all wetlands and 32m for all watercourses) in order to protect these resources from being impacted by

Date of comment and Name of Organisation/ I&AP	Comments	Response
Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation Africa	responsibilities in terms of NEMA if the impacts on water resources in the receiving environment have not been identified, evaluated or assessed. It is therefore necessary for a specialist groundwater / surface water impact assessment to be undertaken as part of the EIA process.	infrastructure.
ADDITIONAL KEY ISSUES AND CONCERNS		
14 November 2022 *Email* ***Kwandwe Private Game Reserve and Wilderness Foundation Africa*** **Director: Richard Summers, Richard Summers Inc. on behalf of Kwandwe Private Game Reserve and Wilderness Foundation**	The maps that are provided are generally poor and difficult to read because they are so small. Insufficient locality information is given.	Figure 2.3. has been added to the final BAR to indicate the ancillary infrastructure location in relation to the WEF. The BAR includes cadastral mapping in relation to Makhanda.
	In the case of all the tables in Section 8.2 and 8.5 of the proposed Albany grid infrastructure project the following statement appears in the top row "*PLEASE NOTE: SHOULD ANY OF THE MITIGATION MEASURES IN THIS GENERAL IMPACTS SECTION CONTRADICT THE MITIGATION MEASURES WHICH HAVE BEEN RECOMMENDED BY THE SPECIALISTS, THE SPECIALISTS' MITIGATION MEASURES SHOULD BE PRIORITISED*". This is not acceptable – it is the EAP's responsibility to analyse whether the mitigation measures given in these tables correlate with those given by the specialists. Please identify where contradictions or conflicts lie between mitigation measures.	There are currently no contradicting mitigation measures between specialists or between the specialists and the EAP.
	Insofar as the specialist impacts and assessment are concerned (Section 8.3) decommissioning impacts are not considered but it is stated that: "*The proposed Albany Connection and Associated Grid Infrastructure are likely to be used over an extensive period due to the lifespan of the Albany WEF and decommissioning is not foreseen in the near future. Should the Albany Connection and Associated Grid Infrastructure be decommissioned in the long-term, the impacts associated with the decommissioning phase will be similar to those for the construction phase and the mitigation measures stipulated for the construction phase will therefore be*	It is for the very reason that decommissioning is untested in a South Africa context that the EAP has explicitly stated that an additional assessment, in line with relevant legislation at the time of decommissioning (in 30+ years' time), be conducted prior to commencement of decommissioning. This is to ensure that decommissioning activities are reassessed in a

Date of comment and Name of Organisation/ I&AP	Comments	Response
Africa	*relevant.*" The assumption that decommissioning impacts will be similar to construction impacts is untested and not explained.	localised and updated context.
	There is a disconnect between the statement on decommissioning in the grid infrastructure DBAR and the Final EIR for the proposed Albany WEF, where it is stated that the WEF is not permanent and will be decommissioned. The statement "*…decommissioning is not foreseen in the near future*…" is meaningless. Please explain what is meant by "near future"?	The WEF may be decommissioned after its 20 year lifespan, the grid infrastructure is unlikely to be decommissioned as it will be owned by Eskom and the infrastructure does not have the same time limit as the WEF infrastructure.
	The assessment of impacts reported in the DBAR is generally vague and non-specific. For example, it is stated for construction phase impacts on amphibians "*It is likely that some of the amphibian species, which occur within the proposed site near surface water habitats, will be disturbed or killed due to construction activities. However, as amphibians are primarily associated with surface water, the likelihood of directly encountering amphibians during construction and operation is lower than that of reptiles. Although, the increase in traffic in the area could result in road fatalities, especially the fatalities of amphibians moving between the wetlands, rivers and streams within the site*." This entire description is vague, nebulous and is superfluous in terms of assessing the impact on amphibians. The impact should consider what will happen to amphibians against a no development or pre-development baseline. In this context, comparing the potential for deaths of amphibians against reptiles is totally meaningless and says nothing about the actual impact on amphibians. The fact that there may be a lower risk of amphibian deaths relative to reptiles during construction is not a factor for assessment or an informant of significance of impacts on amphibians.	The impact on reptiles was assessed as the impact prior to the impact on amphibians. Hence, in context of the report it is not meaningless. Taken out of context (extracted on its own) and without the mitigation measures does not provide context of what was assessed in the Ecological Report. The report is an integrated assessment which includes fauna and flora. Comparing taxa is therefore appropriate in the context of an Ecological Study. The report clearly states that there is a risk associated with amphibian road deaths BUT that the risk is lower than the risk to reptiles due to their reliance of water courses. Infrastructure has avoided watercourses therefore the impact is not high. The mitigation measures then provide further recommendations which must be in place to reduce the impact: • All frogs and toads are listed as Schedule II species on the PNCO List and it is therefore illegal to remove them from the site without a permit. • Where possible, the placement of turbine

Date of comment and Name of Organisation/ I&AP	Comments	Response
		hardstands should avoid all aquatic habitats as they are valuable habitats for protected amphibian species. • If amphibians are encountered during construction works, all construction staff should be educated with regards to amphibian conservation to ensure that they are not harmed or killed. Any amphibians encountered should be allowed to move away from the area or carefully relocated to an area within the same catchment. • No amphibians will be allowed to be removed from the site. • The construction of pylons must avoid the wetland areas. • Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of amphibians being killed along the roads. • Driving within the site should be restricted to day-light hours, where feasible. • Vehicles should be well maintained so as not to leak oils and fuels which could pollute surface water sources. • Oils and fuels should be stored on impermeable surfaces, and preferably under lock and key, to reduce the likelihood of the pollution of surface water. • Where possible, existing service/access/haul roads should be used.

Date of comment and Name of Organisation/ I&AP	Comments	Response
		• It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.
	Based on the information on the assessment of impacts and their significance, NO certainty can be placed on the predicted impacts and their significance – terms such as "may" "can" "could" and "it is likely" that are used throughout. No confidence can be placed on the severity rating and the probability rating, in particular. This is because the impact assessment does not clarify whether there is adequate information on which to base the assessment of impacts. If there was sufficient information then terms such as "it is likely that" – which have an inherent caveat attached to them would not be littered throughout Section 8.3.	It is not possible to predict the certainty of animal movement. It is therefore irresponsible to assess something with certainty if the certainty cannot be determined. The fact that the impact was assessed means that it is a possibility and the mitigation measure provided are there to reduce the risk of it happening despite the certainty of it happening being "may" "could" or "likely".
	The assessment of cumulative impacts is unclear. It is not explained exactly what was taken into account when assessing cumulative impacts. Please list and describe all other activities or projects which were taken into account when assessing cumulative impacts? Regarding the impact of poaching: ○ Please define and explain how the cumulative impact of the combined activity within the site (due to the maintenance of the Albany overhead line and associated grid infrastructure as well as the maintenance of the Albany WEF) was quantified and assessed? ○ Please explain how the following qualify as effective mitigation measures to combat poaching of Endangered Species: (1) No unathorised individuals should be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary; (2) Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions; (3) Maintenance workers must not handle or remove any livestock or wildlife from the site or the surrounding properties;(4) Police should be notified if any illegal actions take place. ○ With the introduction of numerous renewable energy facilities and associated	The impact on poaching is based on on-site poaching, not poaching at a broader scale, e.g. of Endangered Species on reserves within a 20km radius of the site. The site MUST have strict access control for the duration of the construction and operational phases. The proposed OHL corridor is adjacent to the N2 along an existing Eskom servitude. The mitigation measures are relevant to onsite management and mitigation of potential poaching activities. The land on which the proposed WEF and associated infrastructure is placed is used for agricultural purposes (i.e. livestock) and Endangered Species at risk of poaching are not present on the site. The construction impact duration is short term, the operational phase impact duration is long

Date of comment and Name of Organisation/ I&AP	Comments	Response
	infrastructure in the area – which developments will transform the receiving environment for at least the next 20-25 years - please explain how the cumulative impact of increased poaching is classified as an impact of short-term duration.	term.
	Please identify where the risk and impact of uncontrolled veld fires has been assessed? Please evaluate, consider and assess the cumulative impact of uncontrolled veld fires has been assessed. The protected area network, CBAs and ESA and biodiversity value potential affected is significant.	The risk of fire is the second impact listed in the General Impacts Table (Section 8.2 of the report). It is clearly explained and rated as HIGH. Mitigation measures are also provided.
	Please explain how the cumulative impact of benefits for the local economy have been quantified and how this would be "further be enhanced" with the implementation of the Albany and Plan 8 WEF's? Please explain the relevance of the Makana Winds of Change Community Trust to the impacts to the local economy in connection with the subject Application? Please explain and expand on the reasons for concluding that "The cumulative impact of renewable energy projects for the country as a whole is significant." Please expand and explain how the generic assumption that "there is a 90% probability that the total resources committed to SED and ED around the 64 approved projects in round one to three of the procurement programme will accumulate to R 570 780 737 million over the next 20 years" relates to direct socio-economic impacts that are directly relevant to the application at hand and the project in question.	Each WEF development includes a set number of jobs, economic spend, etc. Therefore the cumulative positive impact of more than one WEF in a localised area would increase it's benefit to the receiving community. The Makana Winds of Change Community Trust is the ED component of the Waainek Wind Farm which is within the vanity of the WEF associated with this application. The impact that it is having on Makhana is therefore relevant. This has been included to contextualise the impact of renewables and infrastructure on a local spend context. For ease of reference the full statement has been included here: *During the operational phase, the local economy could benefit in the following ways:* • *A possible increase in municipal rates and taxes, as the lease areas would be zoned "Special Use for Renewable*

Date of comment and Name of Organisation/ I&AP	Comments	Response

		Energy Infrastructure", resulting in higher levels of rateable income.
		• *Induced impacts on retail sales, childcare, leisure and hospitality, real estate, etc. as more money circulates in the local economy due to:*
		  ○ *Salaries and wages;*
		  ○ *SED and ED contributions (currently the target set by DMRE is 2.1% of revenue); and*
		  ○ *Shareholding in respect of local ownership (currently expected to be around 26%), which leads to the increase in financial resources for the local community (local ownership dividends start accruing in most projects from year five (5) to fifteen (15) onwards, depending on the project finance structure).*
		Cumulative impact of benefits for the local economy have already been generated and would further be enhanced with the implementation of the Albany and Plan 8 WEF's. Locally, the Makana Winds of Change Community Trust, which emanates from the neighbouring Waainek Wind Farm, is a 26% shareholder in Waainek Wind Power (RF) (Pty) Ltd, which has been operational since 2016. Dividends received are contributed on community development projects/initiatives within a 50 km radius of the wind farm. The cumulative impact of renewable energy projects for the country as a whole is significant. Based on the submitted numbers in the bid documents there is a 90% probability that the total resources committed to SED and ED around the 64 approved projects in round one to three of the procurement programme will accumulate to R 570 780 737 million over the next 20 years. Local ownership is also expected to result in a significant financial value associated with dividends. Summarising the financial commitments of projects in the first three rounds for SED, ED and local ownership, a total of R 1.17 billion has been allocated towards local economic development investments in communities around projects. This is generated and will be available over the next 20 years (Wlokas,2015). In the Eastern

Date of comment and Name of Organisation/ I&AP	Comments	Response
		Cape Province, the IPP projects procured will make a combined SED commitment of R 4.5 billion over the 20-year project life and R 1.2 billion has been committed to ED alone (IPP Office, 2018).
	Regarding general impacts to local economy (page 77) please list and describe include potential negative impacts on the local tourism economy / sector and the mitigation measures identified relevant to address negative impacts.	The impact on tourism is linked to the visual impact of the WEF on the surrounding areas. The OHL, in isolation will have a negligible impact from a visual perspective (as described earlier in this IRT). This is thoroughly addressed in the WEF process. It must be noted that the Associated Grid Infrastructure WILL NOT be constructed if the WEF is not constructed.