

INTEGRATED RURAL AND URBAN DEVELOPMENT EXPERTISE (PTY) LTD

# Socio-economic Impact Assessment Report

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Proposed construction of the Albany  
Wind Energy Facility, Makana Local  
Municipality

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March 2020

Revised Report: March 2021

**Submitted by:**

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## DECLARATION OF INDEPENDENCE

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I, **Marchelle Terblanche**, in my capacity as the Social Impact Assessment consultant, hereby declare that I -

- Act as an independent Social Impact Assessment Practitioners;
- Have 25 years' experience of practice and experience in socio-economic impact and related assessment and community development work. My CV is attached as Annexure, Section 14.4;
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Based on information provided to me by the project proponent, and in addition to information obtained during the course of this study, have presented the results and conclusion within the associated document to the best of my professional judgement.



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Signature

2021/03/06

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Date

## LEGAL REQUIREMENTS

In terms of the NEMA 2014 EIA Regulations contained in GN R982 of 04 December 2014 all specialist studies must comply with Appendix 6 of the NEMA 2014 EIA Regulations (GN R982 of 04 December 2014).

Legal requirement		
(1)	A specialist report prepared in terms of these Regulations must contain—	
	details of-	
(a)	The specialist who prepared the report; and	Page i
	the expertise of that specialist to compile a specialist report including a curriculum vitae;	Section 14.4
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Page ii
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Sections 1.1 and 4.1
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 4.2.6
(e)	a description of the methodology adopted in preparing the report or carrying out the specialized process inclusive of equipment and modelling used;	Section 4.2
(f)	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;	Sections 4.2.4, 4.2.5 and 4.2.7
(g)	an identification of any areas to be avoided, including buffers;	n/a
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Figures 3, 4, 7 and 9
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	Page v
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Sections 10 and 11

SOCIAL IMPACT ASSESSMENT REPORT FOR PROPOSED ALBANY WEF, MAKANA LM

(k)	any mitigation measures for inclusion in the EMPr;	Sections 10 and 11
(l)	any conditions for inclusion in the environmental authorization;	Section 12.2.2
(m)	any monitoring requirements for inclusion in the EMPr or environmental authorization;	Section 12.2.2 and Section 13
(n)	a reasoned opinion—  whether the proposed activity, activities or portions thereof should be authorized; and	Section 0
	if the opinion is that the proposed activity, activities or portions thereof should be authorized, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Sections 10 and 11
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	Sections 4.2.3, 4.2.8; 14.1.4, 14.1.5 and 14.1.6
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	n/a
(q)	any other information requested by the competent authority.	Sections 5.3; 5.4; 11.1.3 and 11.2.1

## GAPS, ASSUMPTIONS AND LIMITATIONS

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- At this stage some of the information required to aid the significance rating of certain impacts are unknown and assumptions were drawn based on previous experiences. The Request for Proposals for the upcoming bid window of the Renewable Energy Independent Power Producer Procurement Programme (“REI4P”) has not been finalised as it is currently being amended and detailing what commitments the Albany WEF makes on each element would not be prudent at this stage as they are unknown. In addition, given the competitive nature of the environment the Independent power Producer (“IPP”) operates in, revealing key confidential information in the public domain would be detrimental to the Project’s success. Where detailed information was not available, data of similar projects in the Eastern Cape was used as baseline to determine the significance of the socio-economic impacts.
- Impacts associated with the decommissioning phase are briefly discussed, but are not subject to detail assessment. This is motivated by the fact that predictions regarding the characteristics of the receiving environment at the time of decommissioning are subject to a large margin of error. In addition, limited information is available as it is likely that new technologies would emerge, thus reducing the accuracy of such an assessment significantly.
- Some of the SIA “soft” impacts, such as ‘sense of place’, are largely framed by people’s perceptions. It is a personal experience, not easily measurable and as such is based on the specialist’s opinion after scrutinizing information obtained from stakeholders and the Visual Impact Assessment. In addition, the magnitude and overall significance of some of the impact/s could alter during the course of time. The results of this analysis are therefore not stagnant and could change due to future developments, policy changes and so forth. Wind farms are also likely to become more common features in the South African landscape, which could contribute to perception changes over the long term.
- Individuals view possible social impacts differently due to their association with the anticipated impact. Impacts could therefore be perceived and rated differently than those contained in the SIA Report.

- A SIA aims to identify possible social impacts that could occur in future. These impacts are based on existing baseline information. There is thus always an uncertainty with regards to the anticipated impact actually occurring, as well as the intensity thereof. Impact predictions have been made as accurately as possible based on the information available at the time of the study.
- At the time of compilation of the SIA report no published literature of the impact of wind turbines and WEFs on the South African tourism market was available. The consultant makes reference to international studies, did interviews and extrapolated information from questionnaires to draw reasonable conclusions.
- All attempts were made to consult with stakeholders and include relevant sources. Additional information that could contradict the findings in this report may however exist and for this reason consultation with stakeholders could still take place during the review period of the EIA report.

## EXECUTIVE SUMMARY

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Albany Wind Power (Pty) Ltd is a special purpose vehicle (“SPV”) of EDF Renewables (Pty) Ltd, a South African based renewable energy generator that develops, finances, builds, operates and maintains commercial wind powered generation facilities. Albany Wind Farm is proposing the establishment of the Albany Wind Energy Facility (“WEF”) (up to 43 turbines), located in the Makana Local Municipal (“LM”), 7 km to the east of Grahamstown/Makhanda and potentially 67 hectares in extent (“The Project”). A Social Impact Assessment (“SIA”) is one of the Specialist studies required for the Project’s Environmental Impact Assessment (“EIA”) and aims to identify and focus on issues and impacts related to the social and socio-economic environment within the Project’s area of influence.

Under the Department of Mineral Resource and Energy’s (“DMRE”) Renewable Energy Independent Power Producer Procurement Programme (“REI4P”), private companies such as EDF Renewables are required to participate in a highly competitive bidding process, in order to be awarded a 20 year long Power Purchase Agreement to sell electricity to Eskom. In order to select winning bids, the DMRE uniformly ranks all projects submitted according to a scorecard which is currently structured as follows:

- 70% of the score is based on the proposed energy tariff of the respective projects; and
- 30% of the score is based on the Economic Development (“ED”) commitments made by the respective projects on the following seven elements of the ED scorecard: job creation; local content; preferential procurement, Black ownership, Black top management, ED and Socio-economic Development (“SED”).

Stakeholders within the Project’s area of influence were identified throughout public participation, EIA and SIA processes. The site specific study area consist of agricultural farms and communal land (municipal land), which is mainly used for grazing purposes by approximately 200 commonage farmers from previously disadvantaged communities. Land uses in the broader study area is mainly agriculture, but predominantly private game reserves and hunting farms that offer high-end luxury tourist accommodation and eco-tourism activities that rely on domestic and international tourists for their economic growth and survival. Residential land uses include Grahamstown/Makhanda and the villages of Bathurst and KwaNdwanyana and scattered homesteads on the surrounding

farms. There are a few open cast mines and quarries and existing infrastructure that include Eskom substation and associated powerlines, the N2 and R67 roads and various smaller access roads.

There are a number of both public and private nature/game reserves within the study area that have formal conservation status either as proclaimed or declared a protected environment in terms of the Protected Areas Act and probably account for about 15 to 20% of the total study area with the biggest contributions being the Indalo Protected Environment (“Indalo”) and the Great Fish Nature Reserve. The Great Fish Nature Reserve managed by the Eastern Cape Parks and Tourism Agency (“ECPTA”), is located at a distance ranging from about 15 to 40 km from the nearest turbines. There are also a number of private game reserves that do not have formal protected status (i.e. zoned Agriculture) and these private nature reserves probably contribute in the order of a further 5% to the total study area (VIA, February 2021).

Tourism contributes R680 million to the Gross Geographic Product (“GGP”) of the Sarah Baartman District Municipality (SBDM IDP, 2019/20 Review). The SBDM’s Tourism Master Plan calculates that tourism supports 1 936 jobs in the tourism industry; a total of 4 413 jobs within the tourism economy; and the equivalent of 294 SMMEs in the tourism economy.

The construction phase of the Albany WEF is labour intensive and stretches over a period of approximately 24 months. It is anticipated that the Project will result in seven (7) positive impacts (LOW to MODERATE significance) for the local economy, employment and skills development.

Ten (10) negative impacts (LOW to MODERATE significance) could potentially manifest for individuals, households and communities, such as health and safety risks, security issues, damage to road infrastructure, intrusion impacts, possible influx of jobseekers, and the likes. Transport of turbine components could result in temporary road closures with HIGH overall significance and cumulative impacts for the wider region. Negative impacts are generally short-term in nature and can be mitigated effectively.

At this stage the Albany WEF is expected to be operational for a 20 to 25 year period. Although this phase is less labour intensive, various socio-economic benefits would manifest for the local and regional economies. The assessment determined that four (4) positive impacts of LOW significance and three (3) positive impacts of MODERATE significance would manifest. These impacts relate to

direct and indirect employment, rental incomes, community projects, SED and ED contributions, skills development and capacity building and general impacts on the local economy.

Five (5) negative impacts of LOW significance and five (5) negative impacts of MODERTE significance could occur. The majority of the issues raised by I&APs relate to impacts on private game reserves and protected areas and the resultant impacts on the tourism/game/hunting industries. Visual and aesthetic concerns raised by I&APs and the subsequent negative impacts the development poses for job losses, devaluation of land and impacts on businesses, livelihoods and investments were the most significant issues raised.

Desktop studies, research documents and publications, consultation and questionnaires formed the basis of the SIA research. The following general conclusions, which relate to impacts on tourism and livelihoods, are made:

- No local research and published surveys could be obtained with regards to impacts on tourism/livelihoods;
- Wind farms and tourist destinations abroad (on which published literature is based) differ from the study area in terms of the tourist product offered, landscapes, communities affected, localities of the wind farms as well as the sizes of the development;
- No consensus exists in the international literature consulted with regards to wind farms' actual impacts on tourism (volumes, experiences, and revenue), tourists' destination of choice and so forth;
- Some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area; whereas others were consistent in their conclusion that wind farms are innocuous in terms of local tourism demand, numbers, revenue and experiences;<sup>1</sup>

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<sup>1</sup> Silva and Delicado, 2017 (Reference is made in their study to Broekel and Alfken, 2015; Riddington et al., 2010, Aitchison, 2012; Frantál and Kunc, 2011; Sousa and Kastenholz, 2015; Warren and McFadyen, 2010).

- Most respondents in the Kwandwe survey indicated a negative response towards such a development and the impact it would have to their experience (Africa and bush experience) and destination of choice;
- Impacts that have manifested for game reserves affected by Cookhouse and Waainek WEF's were mostly as a result of visual aspects (especially night light flicker). Game reserves have had to implement measures to address visual intrusions, i.e. to change game drive routes, do refurbishments and install lighting that distracts from light disturbances;
- The tourism industry is highly competitive, sensitive and susceptible to subtle changes in market conditions and it is recognised that a marginal change in the numbers of tourists could have a significant knock-on economic effect;
- Proximity to turbines and their localities (visual impacts on lodges and strategic viewpoints on the game farms) together with impacts on the sense of place, which could be influenced by changes in landscape (scenic resources), could potentially influence the local tourism market and subsequently livelihoods.

The reduction of the number of turbines with 23 (from 66 to 43 turbines), has addressed some of the visual impacts associated with this Project.<sup>2</sup> It is however acknowledged that visual impacts alone is not the only determining factor and that impacts on the sense of place and changes to the fabric of the landscape (as a result of cumulative impacts) could also influence the community and tourists' perception of the study area and ultimately their choice of destination. A reduction in tourist volumes and rates charged may then result in financial losses, which may result in affected tourist establishments/game farms/hunting farms reducing their workforce. Negative impacts on downstream supporting businesses and existing community projects supported by game reserves could also occur.

Negative local economic impacts on tourism/game/hunting industries, livelihoods and on potential job losses in these industries are 'possible' and rated with an overall MODERATE significance. Confidence in the rating is however 'uncertain' as: (i) no consensus exists with regards to wind

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<sup>2</sup> With the amended only Kwandwe Private Game Reserve (Indalo), Kwandwe West Indalo Protected Environment, Buffalo Kloof Protected Environment, Kwandwe Private Game Reserve (none Indalo) have a moderate to high visual impact (VIA, February 2021).

farms' actual impacts on tourism; (ii) no measurable economic impact on tourism locally or abroad could be obtained; (iii) each tourism market would be sensitive to its own set of circumstances and generalisations cannot be made; and (iv) only four (4) of the game farms/protected environments in the study area are regarded as significantly visually impacted (moderate to high).

Establishment of the Albany WEF will make a 'definite' contribution to employment and the local economy during construction, as well as the lifespan of the Project. Employment during the two-year construction phase is rated with an overall MODERATE significance, whilst operational phase employment would be limited (LOW). However, important contributions towards the local economy in terms of procurement, SED and ED contributions (2.1% of revenue) and shareholding in respect of local ownership (approximately 26%) will manifest (MODERATE significance).

From a socio-economic perspective no issues have been observed or identified that would stop the Project from being implemented, provided that the social and socio-economic related mitigation and management measures, as proposed in the SIA report, be implemented and included in the EMPr where required.

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## **Glossary of Abbreviations**

ART:	Anti-retroviral
BA:	Basic Assessment
BW:	Bid Windows
CPF:	Community Policing Forum
DM:	District Municipality
DMRE:	Department of Mineral Resource and Energy
DRD & LR:	Department of Rural Development and Land Affairs
DoH:	Department of Health
ECPTA:	Eastern Cape Parks and Tourism Agency
EIA:	Environmental Impact Assessment
EMP:	Environmental Management Plan
EPC:	Engineering Procurement Construction
GDP:	Gross Domestic Product
GYD:	Grassroots Youth Development
I&AP:	Interested and Affected Party
IDP:	Integrated Development Plan
IDZ:	Industrial Development Zone
IMA:	Implementation and Monitoring Agent
IPPO:	Independent Power Producer Office
IPPPP:	Independent Power Producers Procurement Programme
LED:	Local and Economic Development
LEDPF:	Local Economic Development Procurement Framework
LEDI:	Local Economic Development Initiative
LILO:	Loop in / Loop out
LM:	Local Municipality
O&M:	Operations and Maintenance
PHC:	Primary Health Care
PSP:	Provincial Strategic Plan
REI4P:	Renewable Energy Independent Power Producer Procurement Programme
SBDM:	Sarah Baartman District Municipality

SED:	Socio-economic development
SIA:	Social Impact Assessment
SDF:	Strategic Development Framework
SMME:	Small, Medium Size Enterprises
SPV:	Special purpose vehicle
STI:	Sexually transmitted disease
TB:	Tuberculosis
WEF:	Wind Energy Facility

# SOCIAL IMPACT ASSESSMENT: ALBANY WIND FARM

## 1. PREAMBLE

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### 1.1 Background

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Albany Wind Power (Pty) Ltd is a special purpose vehicle (“SPV”) of EDF Renewables (Pty) Ltd, a South Africa based renewable energy generator that develops, finances, builds, operates and maintains commercial wind powered generation facilities. CES Environmental and Social Advisory Services (“CES”) has been appointed as independent Environmental Assessment Practitioners to conduct the Environmental Impact Assessment (“EIA”) for the proposed Albany Wind Energy Facility (“WEF”) (“The Project”) in accordance the National Environmental Management Act 107 of 1998 as amended (“NEMA”).

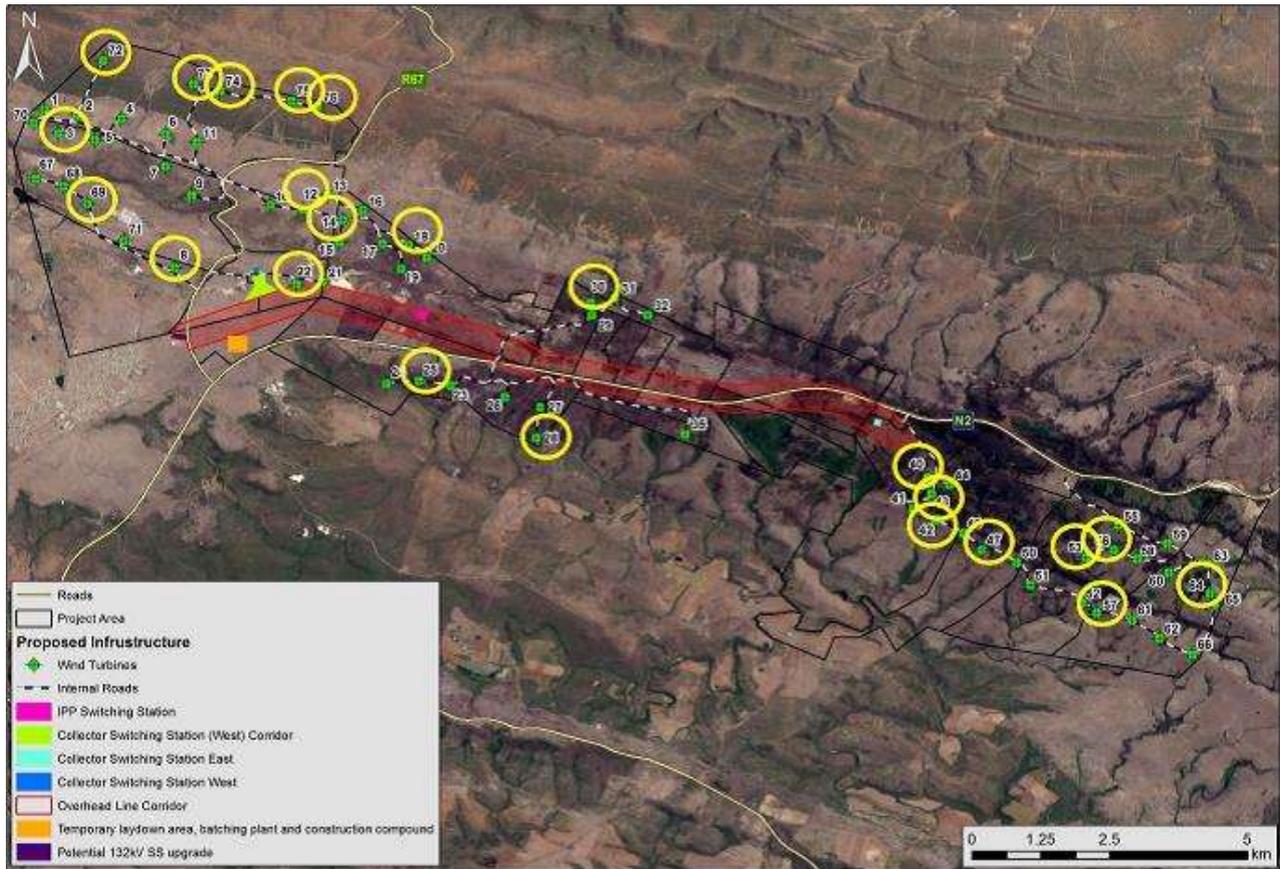
A Socio-economic Impact Assessment (“SIA”) is one of the Specialist studies required for this EIA. The SIA aims to identify and focus on issues and impacts related to the socio-economic environment and reflect empirical socio-economic data of the regional and local area that can also be used in future studies and for monitoring purposes. This SIA aims to determine and provide the following:

- Purpose of a SIA;
- Broad overview of the proposed wind energy project;
- Definition of the project area of influence and the role-players within each of these study areas;
- The socio-economic profile of the region and the social characteristics of the affected environment;
- Concerns, comments and impacts documented during consultation and the data gathering processes;
- Analysis of the findings for the detail assessment phase;
- Identification of impact categories and impact areas, and an analysis of the potential socio-economic impacts with its significance rating for each impact;
- Guidelines for limiting or mitigating negative impacts and optimising benefits of the proposed development;

- Recommendations from a socio-economic perspective; and
- Social management plan.

## 1.2 Change in Project detail

Based substantially on the comments received relating to the draft EIA report and Visual Impact Assessment (“VIA”), the project proponent has reduced the number of turbines from 66 to 43. The figure below indicates the 23 turbines that were removed from the layout, amounting to 35% of the original proposed number of turbines.



**Figure 1. Location of the 23 turbines that were removed (circled)**

*(Source: Visual Impact Assessment Report, CES, February 2021)*

### 1.3 Locality

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The project area is potentially 67 hectares in extent, depending on the final layout design. It is located in the Makana Local Municipal (“LM”) area and lies 7 km to the east of Grahamstown/Makhanda. The N2 freeway and Road R67 connects the study area with Grahamstown and with towns in the south and east, such as Port Alfred and East London.

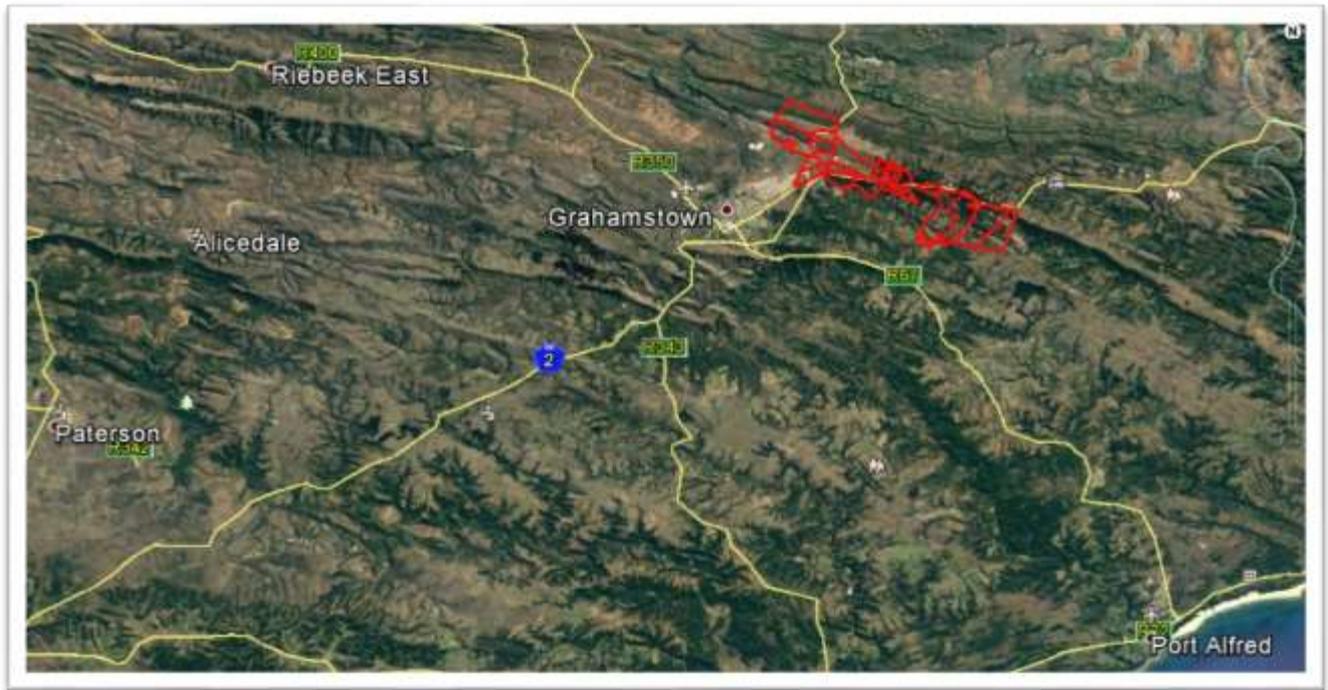
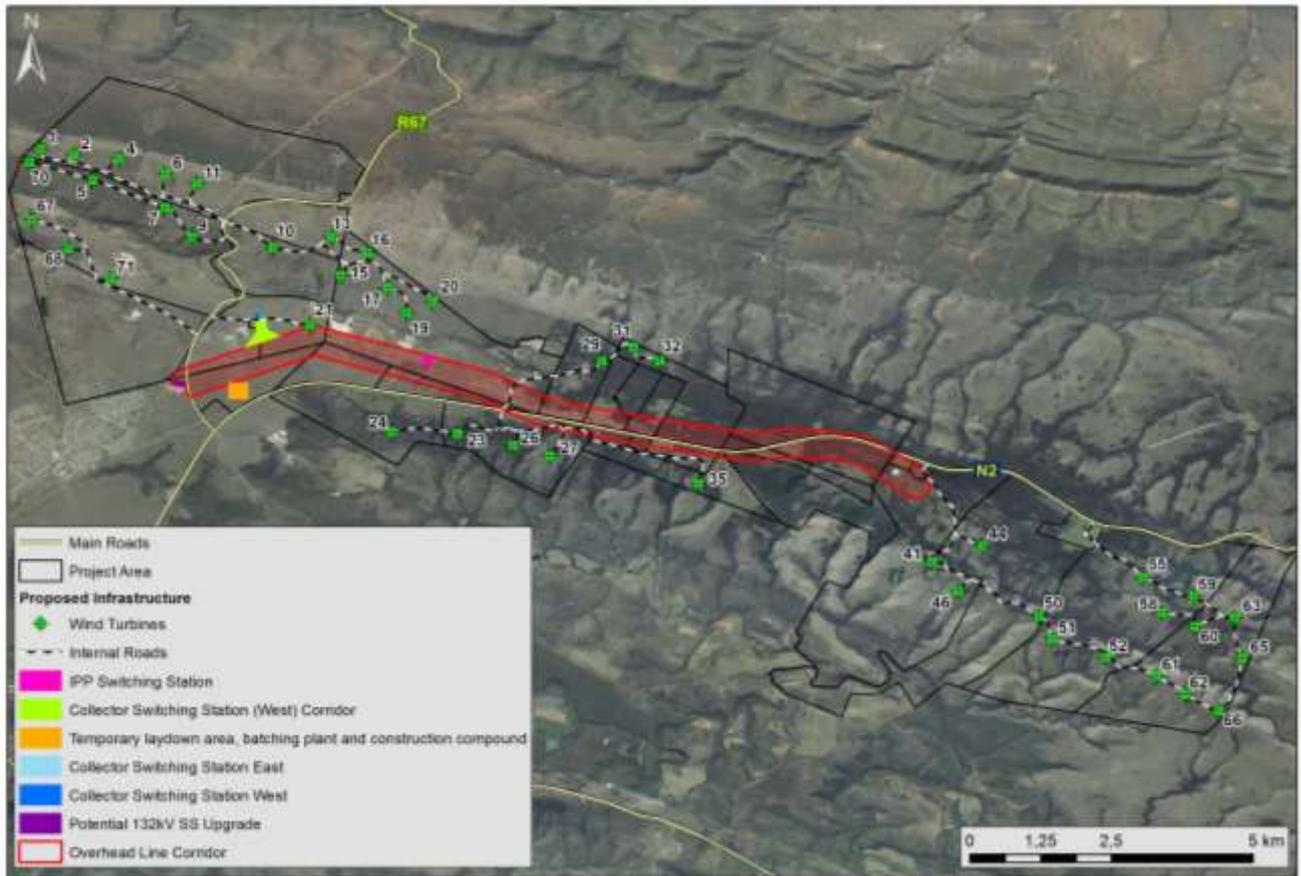


Figure 2. Locality

The locality of the Project and landownership are indicated in the table below.

**Table 1. Location of Project and farm portions**

Farm Number	Farm Portion	Landowner	Area (ha)	
223	RE/2	<i>Valery Audrey Roberts / Leonard Roberts</i>	84,5	
233	3	<i>Adrian Michael Moss</i>	477,0	
334	3		75,4	
234	1		<i>Fanisile Vuso</i>	37,3
235	RE	<i>Rowland Geoffrey Tarr</i>	142,0	
240	7	<i>Makana Municipality</i>	117,0	
240	8		416,0	
240	9		543,0	
240	10		82,4	
240	11		167,0	
240	12		116,0	
241	RE		672,0	
4807	RE		192,0	
334	1		<i>Peter George Wylie</i>	204,0
334	2			210,0
601	RE			125,0
334	4		<i>Antonie Johannes Diedericks</i>	54,4
581		<i>Barry Albert Sweetman</i>	36,0	
582		<i>Lorenzo &amp; Hayle Doyle</i>	51,7	
583	RE	<i>Gaynor Isabel Ferreira</i>	51,8	
599	RE	<i>Willie Erasmus</i>	111,0	
663	RE	<i>Emlanjeni CPA</i>	437,0	
663	RE/1	<i>Kamvulethu CPA</i>	616,7	
358	1		8,3	
358	3		6,7	
663	RE/2	<i>Masibambane CPA</i>	575,8	
663	RE/3		34,2	
663	RE/4	<i>Masizakhe CPA</i>	641,2	
			<b>6285,4</b>	



**Figure 3. Revised proposed layout and farm portions included in the Project**  
 (Source: Visual Impact Assessment Report, CES, February 2021)

## 2. DESCRIPTION OF THE PROJECT

### 2.1 Project details

The proposed Albany Wind Farm will consist of up to 43 turbines, each with a rotor diameter of up to 170 m, a hub height of up to 130 m and blade length of up to 85 m; each capable of generating between 6 and 8MW of power. The current layout allows for a maximum generating output of up to 297 MW, but the final design may be reduced. The turbine footprints and associated facility infrastructure will potentially cover an area of approximately 67 ha depending on the final layout design should the project proceed to the construction phase.

Infrastructure will consist of:

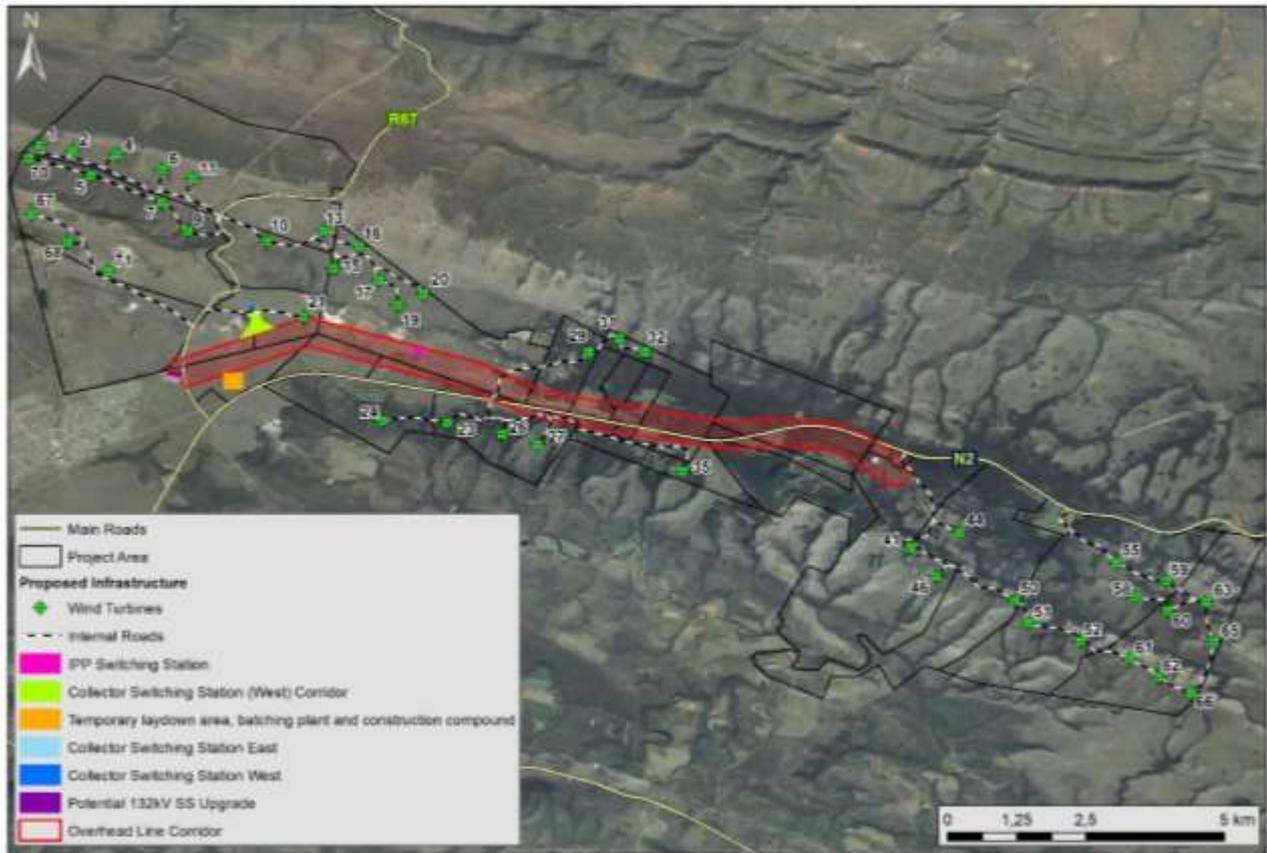
- Foundations (up to 550 m<sup>2</sup>) for each wind turbine;

- A laydown area next to the locations of the proposed wind turbines (3 900 m<sup>2</sup> for crane hardstand per turbine);
- 25 m<sup>2</sup> area for switchgear and/or transformer at each turbine;
- Internal access roads of between 8 m (during operation) and 14 m (during construction, to be part rehabilitated) wide to each turbine;
- Medium voltage cabling between turbines and the switching station, to be laid underground where technically feasible;
- Overhead medium voltage powerlines between turbine rows where necessary;
- Overhead power lines to connect the facility to the electrical grid;
- Existing roads will be used as far as possible. However, where required, internal access roads will be constructed between the turbines;
- Temporary Areas of 90 000m<sup>2</sup> for a Batching plant, laydown facilities, concrete tower manufacturing and steel tower processing and construction compound.

Albany Wind Power plan to develop the following grid infrastructure:

- Option 1 (preferred) - An up to 23 000 m<sup>2</sup> IPP Substation (MV/132 kV) which will include, battery storage and site office area, situated in the middle of the site.
- The grid connection will be a 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<sup>2</sup>, which will include battery storage and a site office area situated in the middle of the site.
- Two collector substations, each 10 000 m<sup>2</sup>, (Collector Substation West and Collector Substation East) will be constructed.
- All turbines will connect, via underground MV lines, either directly to the IPP substation or to a collector. Each collector will in turn connect to the IPP substation via MV or 132 KV overhead line(s) within the grid corridor.
- Grid corridor width is 500 m wide to allow for manoeuvrability for the final line position 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.

The grid connection footprint will potentially cover a total combined area of approximately 4.6 ha during the construction phase. This footprint will be reduced through rehabilitation, resulting in a maximum final total combined footprint of approximately 4.3 ha. The corridor, in which the powerline is proposed, covers of 34 ha in total. This corridor does not need to be cleared, but needs to be trimmed to ensure that the line is accessible, and is only required for maintenance services.



**Figure 4. Revised proposed layout map of Albany WEF and Grid infrastructure**  
 (Source: Visual Impact Assessment Report, CES, February 2021)

## 2.2 Description of the socio-economic process

Under the Department of Mineral Resource and Energy’s (“DMRE”) Renewable Energy Independent Power Producer Procurement Programme (“REI4P”), private companies such as EDF Renewables are required to participate in a highly competitive bidding process, in order to be awarded a 20 year long Power Purchase Agreement to sell electricity to Eskom.

The first bidding window of the REI4P took place in November 2011, while the last bid submission round (i.e. Round 4) closed in March 2014. Under these 4 bid windows the DMRE awarded

contracts to 33 individual wind farm projects for a total installed capacity of approximately 3 300 MW. In each bid window, the DMRE allocates a specific amount of power to be procured (e.g. 1 000 MW). In this instance, all wind energy projects developed across South Africa, which match the qualification criteria of the REI4P tender, compete against each other to secure a portion of the allocation. The competition has become extremely intense, as the allocation stipulated for each bidding round is now significantly oversubscribed.

In order to select winning bids, the DMRE uniformly ranks all projects submitted according to a scorecard which is currently structured as follows:<sup>3</sup>

- 70% of the score is based on the proposed energy Tariff of the respective projects; and
- 30% of the score is based on the Economic Development (“ED”) commitments made by the respective projects on the following seven elements of the ED scorecard:
  - **Job Creation:** Employment of South African Citizens, Black People, Skilled, Unskilled and people residing in the local communities where the project is located.
  - **Local Content:** Components of the facility/project manufactured in South Africa.
  - **Preferential Procurement:** Goods and services procured through South African companies that have a B-BBEE Generic scorecard or who are Qualifying Small Enterprises, Exempt Micro Enterprises and Woman Owned Venders
  - **Black Ownership:** The percentage of Black Ownership in the project.
  - **Black Top Management:** Senior management that are Black people from the Independent Power Producer within the project
  - **Enterprise Development:** the monetary rand contributions made towards Enterprises in the local communities as a percentage of the revenue.
  - **Socio-Economic Development:** the monetary rand contribution made towards Socio-economic challenges in the local communities as a percentage of the revenue.

Jobs and the inflow of funds to the local communities do not occur at once, as the process is staggered. During the bid development phase few project developers liaise with communities and

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<sup>3</sup> DMRE current scorecard, which could change in the future.

cannot commit to promises in terms of local benefits, as the outcomes of the project proposals are uncertain. In the case of a preferred bidder, and during financial close, the companies could consult more with regards to recruitment of workers and trustees for the community trust. Construction follows with the employment of workers and some project companies could even start spending on limited SED and ED projects at this early stage. Once operational, SED and ED spend will usually increase.

Since the beginning of the REI4P, the Eastern Cape Province has attracted sixteen (16) of the 33 wind energy projects which have been selected by the DMRE.

From a socio-economic perspective, the project will undergo the processes as described below.

### **2.2.1 Identification of the beneficiary community**

Communities within a 50 km radius of the Project are eligible to become beneficiaries of the program. However, the Albany Wind Farm will aim to prioritize projects implemented in close proximity to the Project site (e.g. commonage farmers who have grazing rights over the properties owned by the Makana LM which form part of the Project site).<sup>4</sup>



**Figure 5. 50km radius**

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<sup>4</sup> Information obtained from EDF Renewables representative, January 2020.

### **2.2.2 Community trust**

A community trust is the mechanism established for the community to hold ownership of projects, which aims to ensure that a portion of the income generated is directed towards local economic development. At this stage 2,5 to 5% equity should be held by communities although ownership is usually higher. As an example, the Makana Winds of Change Community Trust is a 26% shareholder in Waainek Wind Power (RF) (Pty) Ltd which is operational since January 2016.<sup>5</sup>

The board of trustees is made up of representatives of the Lender, Project owner, and Independent and Community representatives. It is a further requirement that 50% of the trustees have to be black and 50% of the trustees have to be independent (with relevant skills and experience). The contributions received from dividends and allocated towards community development projects are then monitored by an experienced external Trust administrator appointed by the Trust. The administrator is responsible for assisting the Trust in managing the selection of projects, contracting, reporting and monitoring on behalf of the Trust. Additionally, the DMRE's Independent Power Producer Office ("IPPO") requires the Trust to submit information on its funded projects, dividends received and projected dividends. Such information is submitted annually.

There is at this stage uncertainty about the emphasis the DMRE would be placing on community trusts in future, as the benefits of Black Industrialists who may invest larger stakes in renewable energy projects could hold more advantages and could be preferred. For Albany Wind Power, the percentage shareholding of the community trust is yet to be established as the Project is still under development and the tender documents, which may be amended by the DMRE, are yet to be published.

### **2.2.3 Employment**

The employment requirement ensures that a percentage of the South African workforce (12 to 20%) in the project should come from the local community. Figures obtained for BW 1 to 4 (16 IPPs for the Eastern Cape Province) indicate that 53% of jobs were retained in local communities,

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<sup>5</sup> Information obtained from EDF Renewables representative, January 2020.

compared with 51 and 45% in the Northern Cape and Western Cape provinces respectively (McDaid, 2016). In general the local employment component of the renewable energy projects fares much better than originally anticipated.

The Employment process is typically managed under the Engineering Procurement Construction (“EPC”) contract. In order to ensure a fair and transparent employment process a job seeker registration database (skilled and unskilled potential labourers from the local community) would be established and managed by the EPC contractors Community Employer Relations Officer. A random selection software would generate and produce a shortlist of candidates, after which suitable candidates are interviewed and medical examined before a decision for contracting is made.<sup>6</sup>

#### **2.2.4 Socio-economic development (SED) and Enterprise development (ED)**

Project developers have to also make quantitative commitments for SED and ED. The distinction between SED and ED spend is often not clear, which makes the implementation of economic enterprise development somewhat problematic.

SED contributions are allocated towards activities that facilitate sustainable access to the economy for beneficiaries in the areas of rural development, the environment, infrastructure, enterprises, reconstruction of undeveloped areas, development programmes for women or youth, education, health care, arts and culture. ED refers to contributions to black-owned businesses with the specific objective of assisting or accelerating the development, sustainability and ultimate financial and operational independence of that enterprise (McDaid, 2016). The ED aspect of the REI4P appears slow in getting off the ground, although there are some successes in small business development. Most procurement spend are on equipment for the renewable projects and is happening in industrial zones rather than the areas where the projects are located (McDaid, 2016).

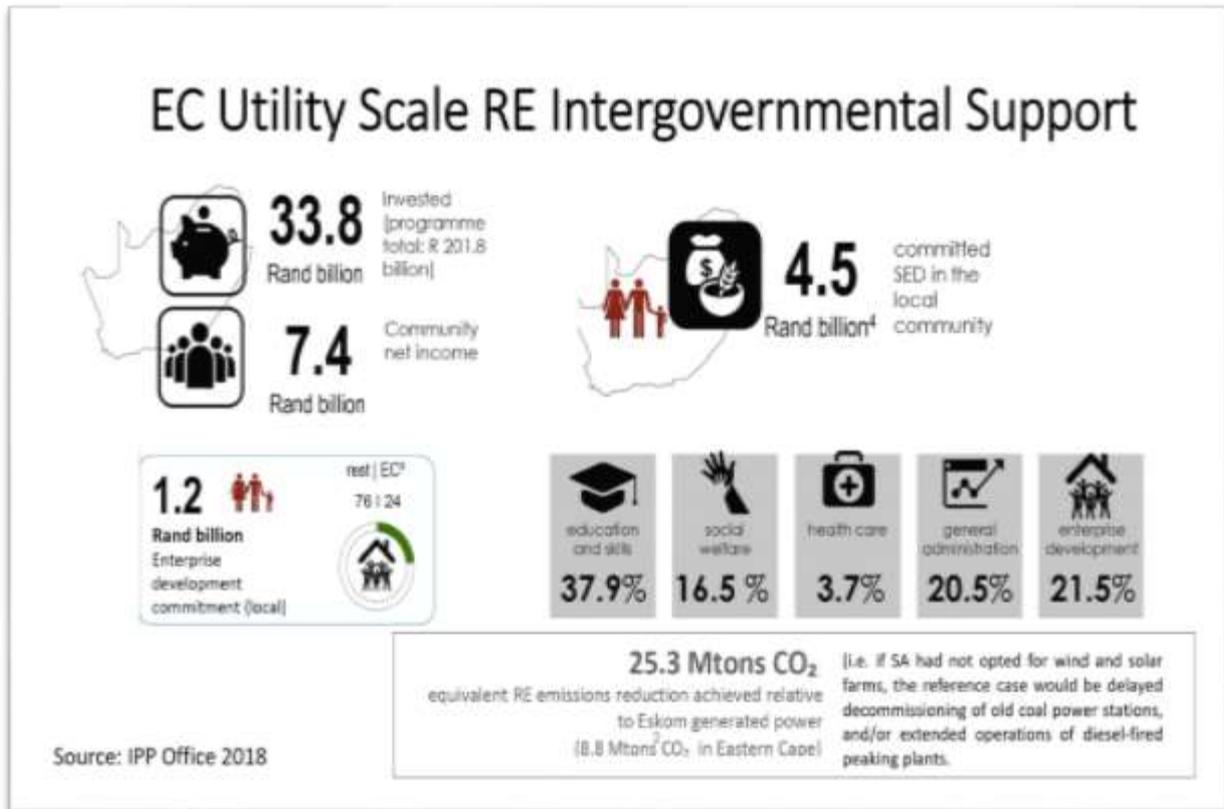
Currently, the target set by the Department in the last version of the tender documents was 2.1% of revenue. Waainek Wind Power has committed to allocating a total of 0.6% of its revenues on ED and 1.5% on SED projects within a 50 km radius form the project. The percentage to be

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<sup>6</sup> Information obtained from EDF Renewables representative, January 2020.

committed for the Albany WEF is not defined yet as it will depend on the content of the tender document which are yet to be released by the DMRE and on EDF Renewables' bidding strategy.

Sixteen (16) wind farm projects in the Eastern Cape have committed to deliver the following monetary values on Community Trusts, ED and SED:



**Figure 6. Eastern Cape Province monetary values (ED, SED and Community Trusts)(Source: IPP Office 2018)**

Pursuant to thorough evaluation by both the Implementing and Management Agent (“IMA”) and the Project, a decision is made by the Project Company to enter into a contract with the beneficiary for a specified duration. Such contract makes provision for a subsequent monitoring period of 6 months after the funding commitment has been fulfilled. Such monitoring is to ensure the project delivers as per its proposal and provide the necessary reports.<sup>7</sup>

<sup>7</sup> Information obtained from questionnaire completed by EDF Renewables representative, January 2020.

### 3. LEGAL FRAMEWORK AND POLICY GUIDELINES

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The legal framework and policy guidelines that guide this project are listed and discussed below, where relevant:

#### 3.1 International guidelines

##### Basic Human Rights

Basic human rights can be defined as universal moral principles or norms that describe certain standards of human behaviour. Each human being is entitled to these fundamental rights, simply because he or she is a human being, regardless of nationality, language, religion, locality, ethnic origin or any other status.

A foundational principle of basic human rights is that States must protect against human rights abuse within their territory and/or jurisdiction, including abuses caused by business enterprises. States should thus exercise adequate oversight in order to meet their international human rights obligations when they contract with, or legislate for, business enterprises to provide services that may negatively impact upon human rights.

In 2011 the UN's Human Rights Council endorsed the "Guiding Principles on Business & Human Rights" and stated the following: "As the basis for embedding their responsibility to respect human rights, business enterprises should express their commitment to meet this responsibility through a statement of policy". The operational principles of corporate responsibility to respect human rights are briefly summarized below. Enterprises should:

- ❖ **Comply with all applicable laws** and respect internationally recognized human rights, wherever they operate;
- ❖ **Formulate and implement policies** to meet their responsibility to respect human rights;
- ❖ **Carry out human rights due diligence** to identify, prevent, mitigate and account for how they address their impacts on human rights. Due diligence should be ongoing, recognizing that the human rights risks may change over time as the business enterprise's operations and operating context evolve;
- ❖ **Identify and assess actual or potential adverse human rights impacts** as a result of their own activities or due to their business relationships;

- ❖ Involve meaningful **consultation** with potentially affected groups and other relevant stakeholders;
- ❖ **Take appropriate action** within the organisation through internal decision-making, budget allocations and oversight processes;
- ❖ **Track the effectiveness of responses** to verify whether adverse human rights impacts are being addresses, based on qualitative and quantitative indicators, and feedback from internal and external sources and stakeholders; and
- ❖ Provide for or co-operate in their **remediation through legitimate processes**, where business enterprises identify that they have caused or contributed to adverse impacts.

### **3.2 National Policy context**

#### The National Environmental Management Act, 1998 (Act 107 of 1998) (“NEMA”)

NEMA stipulates that positive and negative impacts that the proposed activity could have on aspects of the environment and on the community/ies that may be affected (on geographical, physical, biological, social, economic, heritage and cultural levels) be assessed.

Appendix 6 of GN 982 of December 2014 (Gov. Gaz. 38282), issued in terms of this Act, defines minimum information requirements for specialist reports.

#### White Paper on Renewable Energy, November 2003

The White Paper on Renewable Energy recognises that the medium and long-term potential of renewable energy is significant. This Paper sets out Government’s vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa. It also informs the public and the international community of the Government’s vision, and how the Government intends to achieve these objectives; and informs Government agencies and organs of their roles in achieving the objectives.

What is proposed is a strategic programme of action to develop South Africa’s renewable energy resources, particularly for power generation or reducing the need for coal based power generation. This should be done by balancing energy demand with supply resources in concert with safety, health and environmental considerations.

Integrated Energy Planning Report, Department of Energy, 2013

Integrated energy planning is undertaken to determine the best way to meet current and future energy service needs in the most efficient and socially beneficial manner, while maintaining control over economic costs; serving national imperatives such as job creation and poverty alleviation; and minimizing the adverse impacts of the energy sector on the environment.

National Development Plan 2030 (“NDP”)

The NDP focuses on the critical capabilities needed to transform the economy or society. It assists government in confronting the nine primary challenges by providing broad framework to guide key choices and actions that will help government in its drive to grow the economy, create jobs, address poverty and establish social cohesion, i.e.:

- Create jobs and improve livelihoods;
- Expansion of infrastructure;
- Transition to low carbon economy;
- Reversing the spatial effects of apartheid in urban and rural areas;
- Improving the quality of education, training and innovation;
- Quality health for all;
- Social protection;
- Building safer communities;
- Reforming the public sector.

In rural areas the NDP states that general productivity has declined due to increased gravitation of productive labour force to urban areas and less investment in rural areas compounded by limited skills and lack of infrastructure. The NDP makes the following recommendations in regard to this project:

- Identification of non-agricultural opportunities such as tourism and mining especially “green” economy;
- Innovative, targeted and better co-ordinated provision of infrastructure and services provision by the spatial consolidation of rural settlements to enhance densities and associated services;

- Implementing mechanisms to make land markets work more effectively for the poor especially women.

### **3.3 Provincial context**

#### Eastern Cape Provincial Development Plan (Eastern Cape Vision 2030)

Objectives and actions of the Plan include:

- Improved economic infrastructure that promotes new economic activity across all regions of the Eastern Cape;
- Accelerated economic development of rural areas and all other regions;
- Stronger industry and enterprise support;
- Accelerated and completed land reform process; and
- Rapid development of high-potential economic sectors.

To reach social and economic development the Plan targets opportunities for jobs, skills development and income to economically marginalised communities.

The Plan thus aims to develop a growing, inclusive and equitable economy. This includes a larger and more efficient provincial economy that optimally exploits the competitive advantages of the Eastern Cape, increased employment and reduced inequalities of income and wealth.

In terms of this renewable energy project, the predicted advantages of employment, equity and financial growth need to be measured against existing employment and economic contributions tourism and the private game and hunting industries currently make in the study area.

### **3.4 District and Municipal context**

#### Sarah Baartman district Municipality Integrated Development Plan (“IDP”)

This IDP Review primarily reflects the situational analysis of the Sarah Baartman DM from the perspective of both the socio-economic conditions of the population as well as the institutional arrangements, infrastructure and organizational challenges of the Municipality. It identifies the main development priorities in the district as:

- Basic Service Delivery and Infrastructure
- Financial Viability and Management

- Local Economic Development
- Good Governance and Public Participation
- Municipal Transformation and Organisational Development

The document illustrates that, compared to other Districts in the Eastern Cape Province, the population size of this District is low at approximately 8 people per square km. The population figures impacts on the SBDM's fiscal share of the country's equitable allocation which leads to challenges in the delivery of services. The analysis findings indicate that unemployment is very high.

Notwithstanding the above, the IDP establishes that the Sarah Baartman DM has the economic potential to create employment and livelihoods. The SBDM has strong tourism potential and many viable tourist attractions and economic development opportunities, such as game reserves and agriculture. The investment in alternative energy such as wind turbines, solar energy and hydro-electrical power plant(s) are potential projects which will stimulate spin-offs for economic growth.

The Municipality identified the establishment of a development agency as a strategy in enhancing economic growth in Sarah Baartman District. The CACADU Development Agency has embarked on an ambitious programme with the Municipality of unlocking the potential of the District and creating opportunities for much needed employment in the seven local municipalities.

#### Economic Growth and Development Strategy / Socio-economic and Enterprise Development Strategy (SEEDS)

The Economic Growth and Development Strategy has been renamed the Socio-Economic and Enterprise Development Strategy (SEEDS), the acronym for which metaphorically describes the District's core mandate in initiating the facilitation of economic development and subsequently growing the regional economy. The revised strategy guides the District in its development facilitation trajectory for at least the following five years.

The SBDM approach is structured around seven core objectives based both on a review of international trends in rural regeneration strategies as well as a reflection on the experience of SBDM and other institutions in promoting development in the region.

Consistent with the district IDP and all other strategic policy documents, the SMME vision for Sarah Baartman is to promote the creation of vibrant and sustainable SMMEs that contribute towards increased wealth generation, inequality reduction, employment creation and poverty alleviation.

#### Makana local Municipality Integrated Development Plan (“IDP”)

The status of an IDP is concerned with Section 35 of the MSA which states that an IDP adopted by municipal council: -

- a) is the **principal strategic planning instrument** which guides and informs all planning and development issues in the municipality;
- b) **binds the municipality** in the exercise of its executive authority, except to the extent of any inconsistency between a municipality’s IDP and National or Provincial legislation, in which case such legislation prevails; and
- c) binds all other person to the extent that those parts of the IDP impose duties or affect the rights of those people have been passed as a bylaw.

Through inclusive public participation the IDP identifies development priorities, KPIs and projected milestones for each objective.

**Local Economic Development (“LED”)** forms part of the IDP. The Local Economic Development Framework (“LEDF”) considers the strategic development framework for LED, implementation plan, monitoring and evaluation framework and benchmarking of the LED strategy.

The programs for the Makana LED strategy are:

- a) Strategic Partnerships;
- b) Infrastructure Provision And Services;
- c) Investment Attraction;
- d) SMME Promotion;
- e) Tourism Development;
- f) Leveraging of educational capital; and
- g) Agricultural sectoral development.

The first four programs deal with cross cutting issues that have been identified as requiring strategic interventions. Cross cutting issues relate to challenges and opportunities that transcend

sectoral barriers. This can be seen by how the need for strategic partnerships applies across all economic sectors in Makana, how infrastructure promotes development across the economic spectrum, investment attraction is needed by all participants, and SMMEs operate across the board. Cross cutting programs thus apply for the general economic landscape of Makana and are vital for the creation of a conducive and enabling environment for growth and development.

The last three programs provide targeted actions in sectors deemed to be important in shaping the overall future of the economy (tourism, education and agriculture).

## **4. METHODOLOGY**

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### **4.1 Purpose of the Social Impact Assessment**

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The primary purpose of a SIA is to determine and analyse the likely impacts of a proposed development or event on a specific group of people or a community's way of life, character and social cohesion. This is done by assessing and analysing the probable social and socio-economic impacts before the development actually takes place. The aim is for the developer or proponent to realise and optimise the projects' positive impacts and to implement mitigation measures that would minimise the possible negative impacts of the proposed development.

Like any biological, physical, or economic impact, social impacts have to be identified and their significance determined and rated in order to be understood and communicated to the impacted population and the competent authority. SIAs provide an appraisal of possible socio-economic consequences of a project on stakeholders within the study area and does not aim to quantify economic outputs.

Social impacts are largely framed by public perceptions and the intensity and significance thereof could thus alter as and when the receiving environment changes as a result of development, when new policy guidelines are formed, or when stakeholders and other parties become desensitised towards changes in their social environment. A proposed housing development outside the urban edge could, for example, hold negative social impacts of high significance (visual, noise, sense of place, security issues, impacts on movement, etc.) for surrounding landowners who experience their environment as "rural". As the local population density increases through urbanisation, these

negative social impacts remain and could even intensify. However, the severity, as perceived by the receiving environment could reduce, since such impacts are typically associated with a residential area and accepted as the “norm” by the affected parties.

## **4.2 Method for SIA**

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### **4.2.1 Scope of the Assessment**

Based on information received from the Environmental Assessment Practitioner, the scope of work was determined. Photographs and aerial maps orientated the consultant and assisted to determine sensitive receptors and the potential social impacts that could emerge through the process. This SIA aimed to determine and provide the following:

- Purpose of a SIA;
- Broad overview of the proposed wind energy project;
- Definition of the project area of influence and the role-players within each of these study areas;
- The socio-economic profile of the region and the social characteristics of the affected environment;
- Concerns, comments and impacts documented during consultation and the data gathering processes;
- Analysis of the findings for the detailed assessment phase;
- Identification of impact categories and impact areas, and an analysis of the potential socio-economic impacts with its significance rating for each impact;
- Guidelines for limiting or mitigating negative impacts and optimising benefits of the proposed development;
- Recommendations from a socio-economic perspective; and
- Social management plan for implementation.

### **4.2.2 Desktop studies and Literature Review**

Various secondary data sources were used to extrapolate information and to determine and analyse the social and economic characteristics of the study area. Such data included maps, census data, internet searches, municipal documents and additional documentation pertaining to the

project. Data and results of similar studies were extrapolated from documents, journals and case studies obtained from the internet and from the SIA consultant's previous studies. Where relevant, reference is made to the various sources in the report and Section 14.1 contains the extensive list of sources consulted.

#### **4.2.3 Primary data**

##### **Public Participation for Scoping and EIA**

In order to elaborate on the baseline social environment (social setting and characteristics of the study area, as well as the key economic activities) links are established with the public participation process ("PPP") done for the EIA phase of the Project.

Minutes and the Comments and Responses Report ("CRR") compiled for the PPP for EIA were scrutinized. Issues that emerged during PPP and that were considered in the SIA were:

- Economic impacts possibly resulting in job losses in the existing tourism, gaming and hunting industries;
- Visual impacts;
- Devaluation of farm values as a result of visual impacts and a loss in investment interest;
- Security risks (poaching, theft, etc.);
- Littering by contractors;
- Noise and associated health risks;
- Social conflict amongst the local community members as a result of disagreements on the advantages and disadvantages of the project;
- Unequal spread of financial benefits leading to further social conflict;
- Impacts on the sense of place;
- Traffic that impacts on road surfaces and generate dust; and
- Loss of farmland.

##### **Questionnaires**

- The project team compiled and distributed questionnaires to private game farms and land owners in the study area to determine their current economic activities and demographic and socio-economic statuses. Seven I&APs responded, i.e. Kudu Ridge Private Game

Reserve, Bucklands Private Game reserve, Kwandwe Private Game Reserve, Buffalo Kloof Private Game Reserve, Coleridge Game Reserve, Huntshoek lodge and Ms. Catharine Salvatore (private land owner). (Refer Section 14.1.4 for the distribution list)

- Subsequent to the public participation draft EIA report review period, Kwandwe Private Game Reserve did a client survey with their clients. Responses as received from Kwandwe are attached as an Annexure, Section 14.1.6. A conclusion of the responses are included in the SIA report, Section 11.2.1.

#### **4.2.4 Project area of influence**

From a social perspective, the following study areas (project area of influence) are relevant:<sup>8</sup>

##### **SITE SPECIFIC STUDY AREA**

- Directly affected farm portions.
- A 500 m buffer around the Project infrastructure/turbines.

##### **LOCAL STUDY AREA**

- Up to 10 km buffer zone around the Project area.
- Municipal sub-area (Wards 11 and 13).

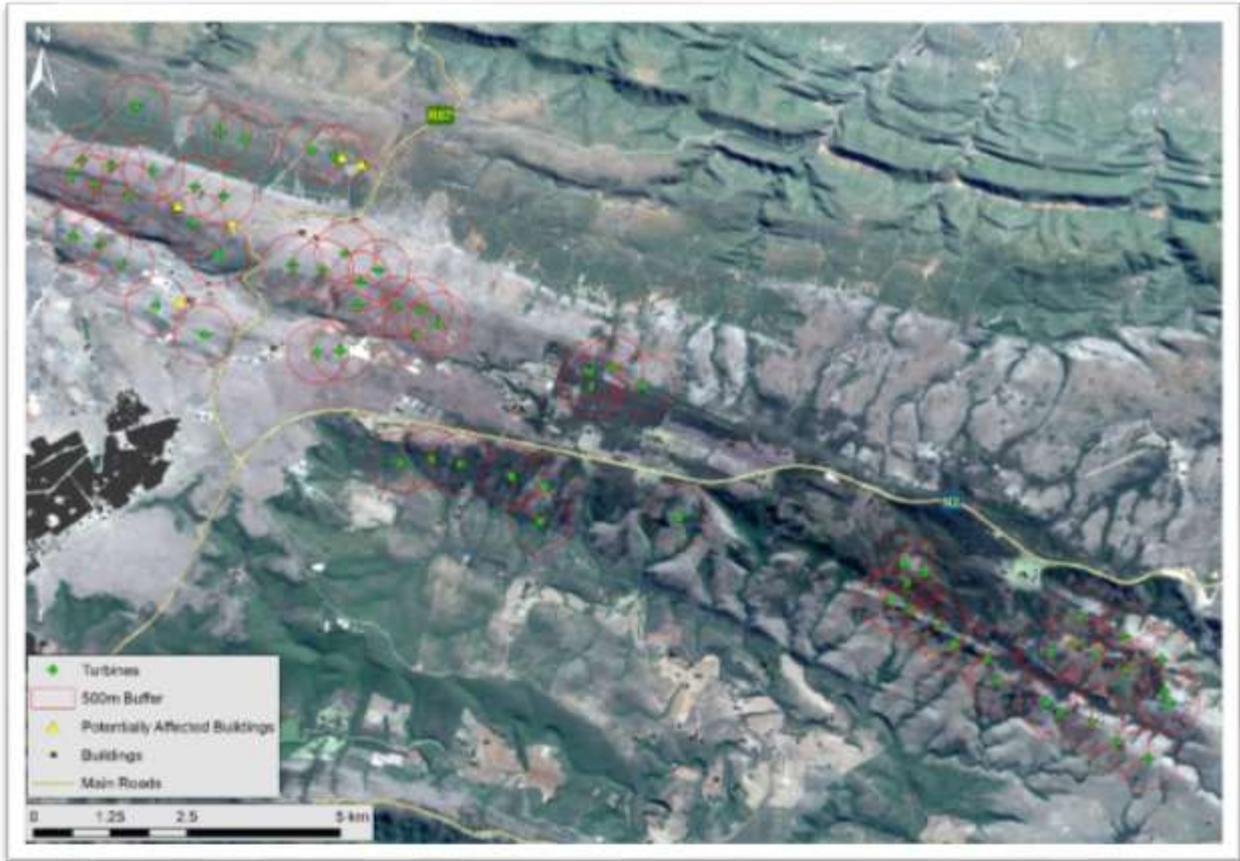
##### **REGIONAL STUDY AREA**

- 10 to 30 km buffer zone around the Project area.
- Broader Makana local municipal area.

The demographic and socio-economic information for these study areas are provided (where available) and where relevant the broader district and provincial social environments are also discussed.

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<sup>8</sup> Due to the size and visibility of wind turbines, the study area was defined considering the VIA's "general perception of wind farms in open landscapes" (refer VIA report, February 2021). Whilst it is acknowledged that cumulative impacts are possible to manifest beyond the local and regional study areas, the SIA determines and analyses the possible impacts to manifest for role-players within this Project's area of influence.



**Figure 7. 500 m buffer around the proposed turbines**  
 Source: Visual Impact Assessment, CES, February 2021

#### **4.2.5 Stakeholder identification**

Stakeholders within the Project’s area of influence were identified throughout PPP, EIA and SIA processes and include:

- Land owners
- Commonage farmers with grazing rights on the subject properties
- Protected areas and game reserves
- Tourists that frequent the game reserves
- Motorists on the N2, R67 and access roads
- Grahamstown / Makhanda residents
- Bathurst and KwaNdwanyana residents
- Makana Local Municipality (LED Unit, etc.) and Ward Councillors
- Fire, Rescue and Emergency Services

- Agricultural Unions
- Labour Unions
- SAPD

#### 4.2.6 Site visit

Information obtained from satellite imagery, specialist reports and desktop study resources were regarded adequate for SIA purposes.

#### 4.2.7 Identification of sensitive receptors

Sensitive receptors for socio-economic purposes were identified using desktop study resources, satellite imagery, consultation and the relevant Specialist Reports done for this Project's EIA and include:

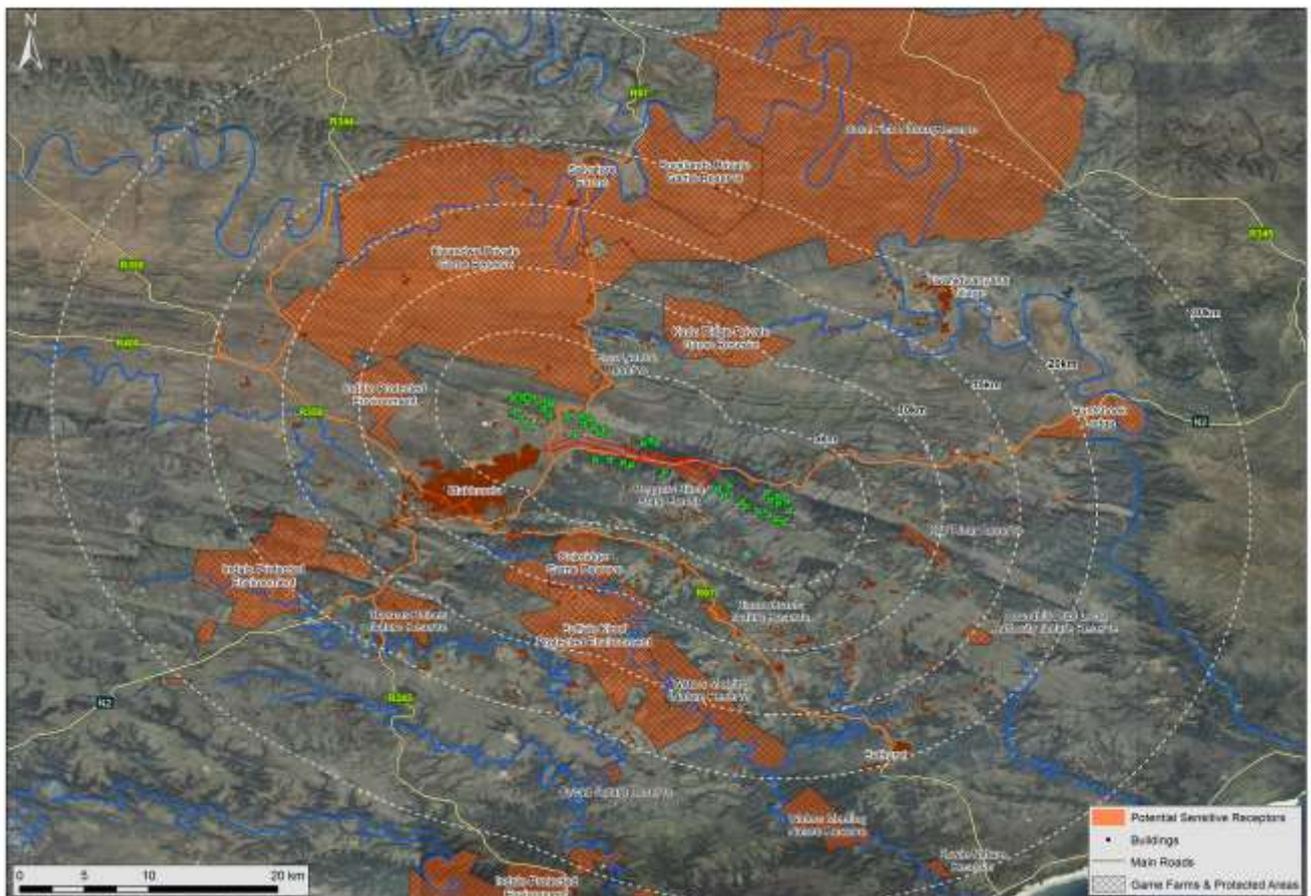
- Residential areas and farmsteads;
- Agricultural activities in close proximity to the turbines and access roads;
- Dams and other surface water resources;
- Graves and archaeological/historical sites;
- Existing roads; and
- Protected areas and Game Reserves.

In terms of visual sensitive receptors, the VIA (February 2021) identified the following public and private nature/game reserves:

**Table 2. Summary of protection status of public and private nature/ game reserves.**

Type of conservation area	Protected Status or zoning	Location relative to project area
<b>Provincial Nature Reserves</b>		
Ecca Nature Reserve	Proclaimed	Within 5 km north
Thomas Baines Nature Reserve	Proclaimed	More than 20 km south west
Waters Meeting Nature Reserve	Proclaimed	More than 20 km south east
Roundhill Oribi Local Authority Nature Reserve	Proclaimed	15 km east
Blaauwkrantz Nature Reserve	Proclaimed	More than 5 km south
Kap River Nature Reserve	Proclaimed	10 km east
Great Fish Nature Reserve	Proclaimed	More than 20 km north
Beggars Bush State Forest	Proclaimed	Immediately adjacent

<b>Private Nature/Game Reserves</b>		
Kwandwe Private Game Reserve (Indalo)	Protected Environment	10 to 20 km north west
Indalo Protected Environment East	Protected Environment	More than 5 km west
Indalo Protected Environment South West	Protected Environment	More than 15 km south west
Buffalo Kloof Protected Environment	Protected Environment	More than 10 km south
Kwandwe Private Game Reserve (non Indalo)	Agriculture	Within 5 to 10 km north
Kudu Ridge Private Game Reserve	Agriculture	More than 5 to 10 km north
Bucklands Private Nature Reserve	Agriculture	More than 15 to 20 km north
Salvatore Farms	Agriculture	More than 15 km north
Coleridge Private Game Reserve	Agriculture	More than 5 km south
Huntershoek Lodge	Agriculture	More than 15 to 20 km north east



**Figure 8. Protected and non protected public and private nature and game reserves within the local and regional study areas**

*Source: Visual Impact Assessment, CES, February 2021*

#### **4.2.8 Consultation and fieldwork**

Interviews were done during January and February 2020. The list of stakeholders consulted is provided in Section 14.1.4.

#### **4.2.9 Secondary data**

As part of the SIA assessment it is required to link with other sources and specialist studies done for this specific Project, since many of the issues of socio-economic relevance are interweaved with environmental concerns. The Specialist Traffic, Visual, Heritage and Noise Assessments were consulted for this purpose and their findings and significance ratings aligned with the SIA.

#### **4.2.10 Impact variables to be assessed**

The following variables are usually assessed within a SIA:

- Population impacts, including population change (ethnic composition, size, etc.); inflow or outflow of temporary workers; presence of seasonal residents; and relocation of individuals and families.
- Socio-economic impacts, including job creation, enhanced economic equity; change in employment equity; impacts on women and possible economic and social vulnerabilities as a result of the Project; and changes in the industrial/commercial focus of the community.
- Individual and family level impacts, including disruption in daily living and movement patterns; disruption in social networks; introduction of new social classes and tourism and leisure impacts.
- Community/institutional arrangements, such as attitude formation; interest group activity; and alteration in size and structure of local government.
- Public health, safety and security impacts.
- Community infrastructure, including changes in community infrastructure; land acquisition and disposal; and effects on known cultural, historical and archaeological sites.
- Intrusion impacts, including noise pollution, light pollution, visual pollution, air pollution and malodour pollution.

Only impacts relevant to this Project were analysed and additional impacts that emerged during the PPP and consultation included.

#### **4.2.11 Significance rating**

Potential impacts associated with the proposed Project are assessed in terms of their overall potential significance on the social and economic environments. The criteria used are (EIA Regulations, 2014):

- Nature of the impact;
- Extent of the impact;
- Duration of the impact
- Probability of the impact occurring;
- Degree to which impact can be reversed;
- Degree to which impact may cause irreplaceable loss of resources;
- Degree to which the impact can be mitigated; and
- Cumulative impacts.

Impact variables are categorised under their 'main impact drivers/categories' and the significance of each individual impact discussed and rated prior to mitigation and after mitigation should be implemented. The Significance Rating methodology is set out in Addendum, Section 14.3.

#### **4.2.12 Mitigation and management**

For each of the 'main impact drivers', mitigation and management measures are proposed, and it is indicated how these would change the rating of extent, intensity, duration, or probability if such measures were implemented. Where applicable, specific areas of concern are highlighted. It is recommended that mitigation and management measures be included in the EMPr wherever applicable.

#### **4.2.13 Conclusion and recommendations**

From a socio-economic perspective, the results of the assessment are concluded; and recommendations made where required.

#### **4.2.14 Social Management Plan and strategies**

Management and monitoring measures for the Social Management Plan component of the Project are provided, which includes their timeframes for implementation, the responsible parties and outputs expected.

## **5. DESCRIPTION OF THE STUDY AREA**

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### **5.1 Makana Local Municipality**

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Makana LM is strategically located between East London and Port Elizabeth, two of the Eastern Cape's largest industrial centers, and is one of the nine Municipalities that form the Sarah Baartman District Municipality ("SBDM")(formerly Cacadu DM). The coastal cities of East London and Port Elizabeth are served by well-equipped container ports and have major airports linking them to Cape Town, Durban and Johannesburg ([www.localgovernment.co.za](http://www.localgovernment.co.za)).

In 2011 the Makana population figure was 80 390 with the largest concentration of people living in Grahamstown/Makhanda. The Local Municipality covers an area of 4 375.62 km<sup>2</sup> and constitutes 7.5% of the Sarah Baartman District.

Grahamstown is famous as one of the leading cultural, educational and tourist centres and hosts the National Arts Festival in South Africa. It is the primary location of Rhodes University and other prominent and internationally acclaimed primary and high schools/colleges are found in Grahamstown (Makana LM IDP).



**Figure 9. Locality of Makana Local Municipality**

Makana LM continuous to confront various challenges in terms of service delivery, administration and financial management, and many of these have recurred over long periods of time. Development priorities that emerged through the IDP public participation processes are:

- Infrastructure Development;
- Capacity Building and Support to local municipalities;
- Economic Development;
- Community Services; and
- Institutional Development.

## **5.2 Affected wards**

In 2011 Makana was delineated into fourteen (14) wards. The largest portion of the Project area is located in Ward 13, a portion is in Ward 11 and it borders Wards 9 and 6 in Grahamstown.

Figure 10. Ward 13

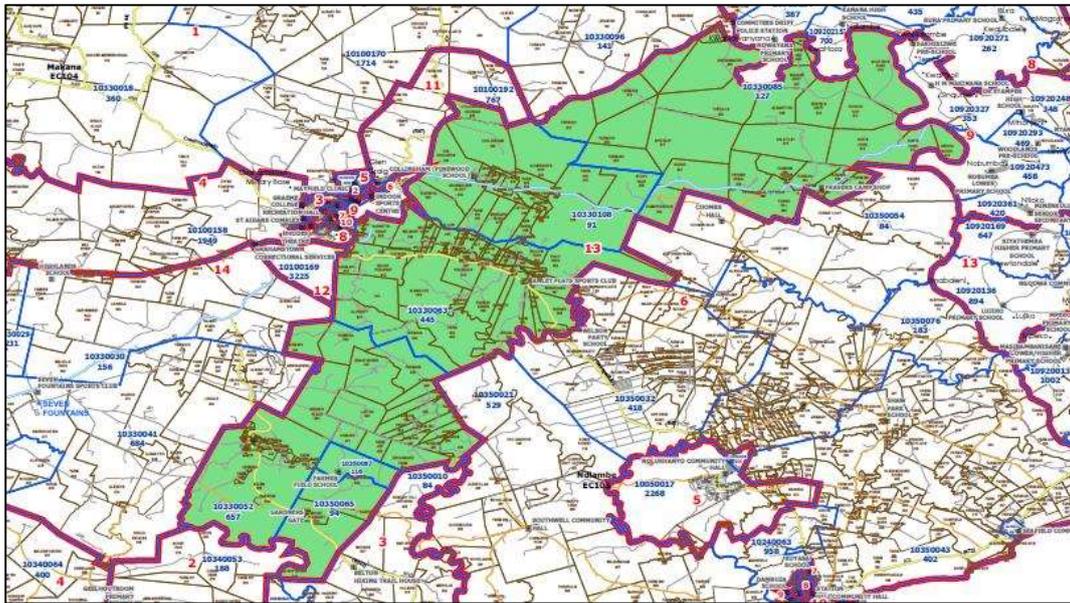
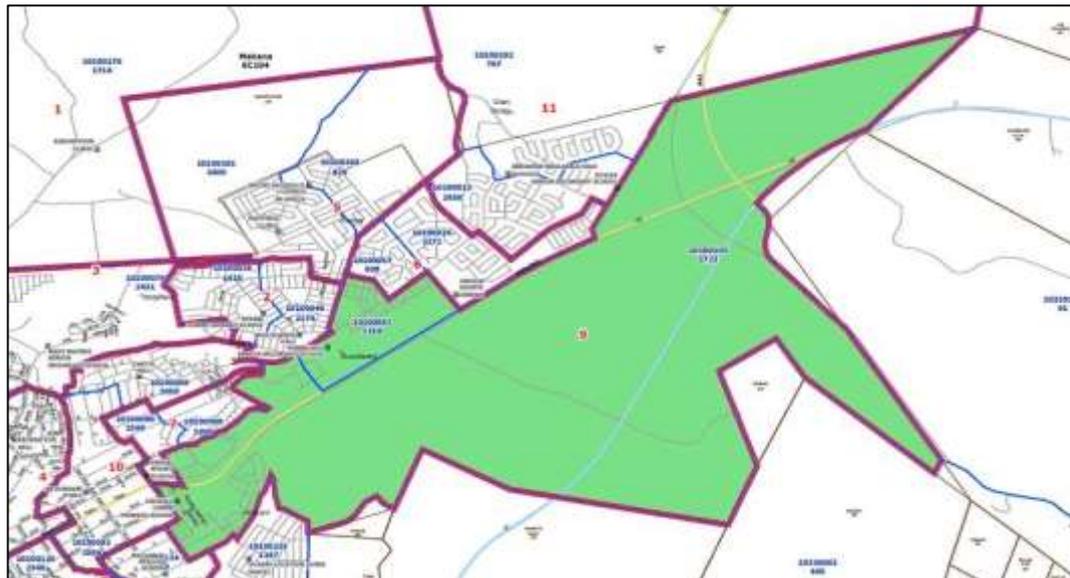


Figure 11. Wards 6, 9 and 11



### 5.3 Land uses in and around the study area

The site-specific study area consists of agricultural farms and communal land (municipal land), which is mainly used for grazing purposes by approximately 200 commonage farmers from

previously disadvantaged communities. The wider surrounds are characterised by agricultural land uses, but predominantly Private Game Reserves and hunting farms that offer high-end luxury tourist accommodation and eco-tourism activities that rely on domestic and international tourists for their economic growth and survival. Residential land uses include Grahamstown/Makhanda and the villages of Bathurst and KwaNdwanyana and scattered farmsteads on the surrounding farms. There are a few open cast mines and quarries and existing infrastructure that include Eskom substation and associated powerlines, the N2 and R67 roads and various smaller access roads.

### **Agriculture**

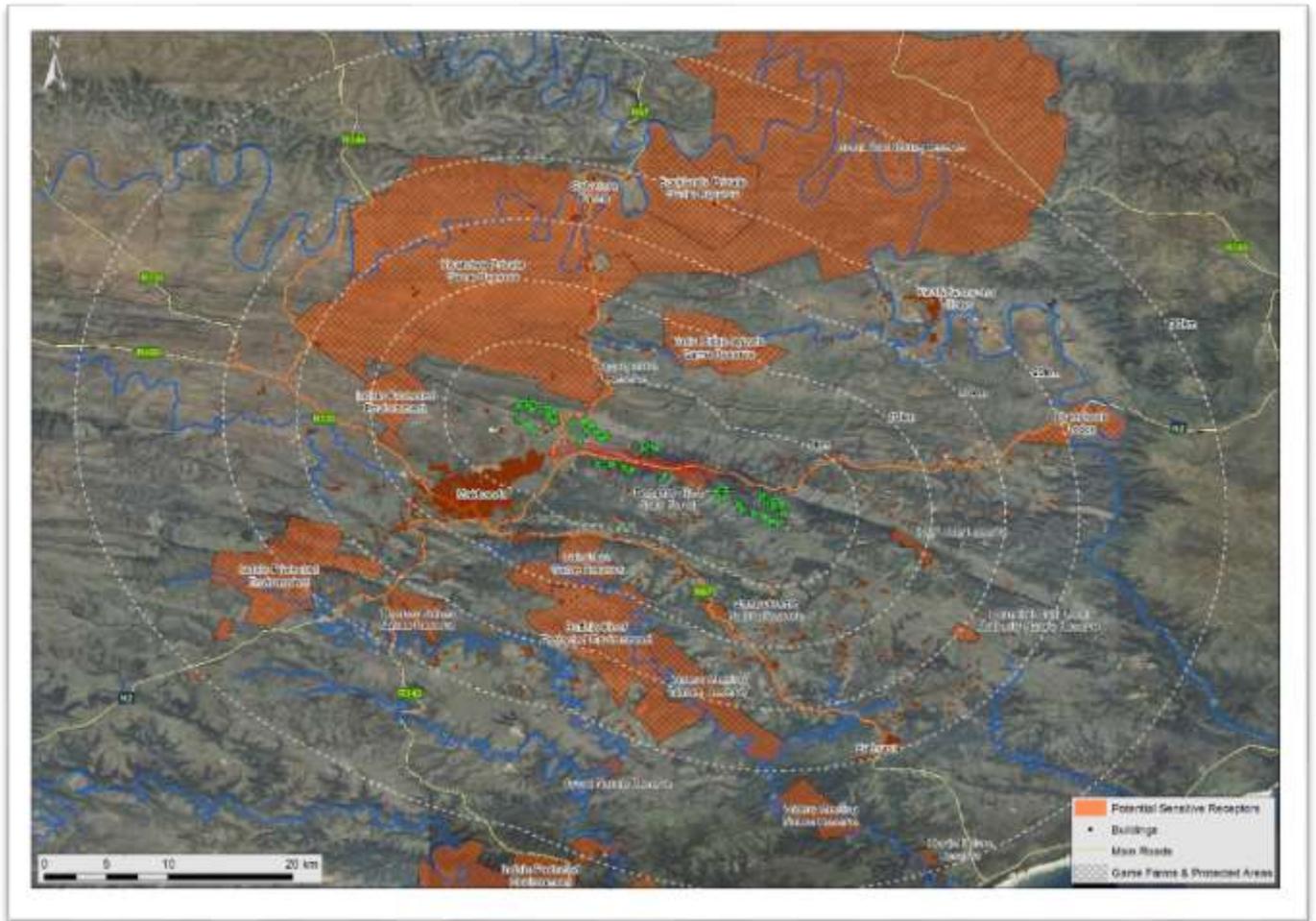
Agriculture mainly consists of livestock and game farming. Irrigated lands occur mostly in the Great Fish River floodplain. Commercial agriculture is found in the north of Grahamstown known as Upper Albany, and accounts for approximately two thirds of the municipality. Livestock and game farming thus dominate in Upper Albany. Lower Albany land is well suited to rain-fed crop production (Makana LM IDP).

The vast majority of the land within the study area is non-conservation agricultural land or communal (i.e. zoned Agriculture), particularly in the Fish River valley north and north east of the project area and to the east and south east of the project area (VIA, February 2021).

### **Public and private nature / Game Reserves**

There are a number of both public and private nature/game reserves within the study area that have formal conservation status either as proclaimed or declared a protected environment in terms of the Protected Areas Act (refer to Table 2, Page 24) and probably account for about 15 to 20% of the total study area with the biggest contributions being the Indalo Protected Environment (“Indalo”) and the Great Fish Nature Reserve. The Great Fish Nature Reserve managed by the Eastern Cape Parks and Tourism Agency (“ECPTA”), is located as a distance ranging from about 15 to 40 km from the nearest turbines.

There are also a number of private game reserves that do not have formal protected status (i.e. zoned Agriculture) such as the none Indalo portion of the Kwandwe Private Game Reserve, Kudu Ridge Private Game Reserve and Bucklands Private Nature Reserve. These private nature reserves probably contribute in the order of a further 5% to the total study area (VIA, February 2021).



**Figure 12. Protected and non protected public and private nature and game reserves**

*Source: Visual Impact Assessment, CES, February 2021*

- **Kudu Ridge Private Game Reserve:** Located approximately 7 km north of the Project area. The game reserve is primarily used for hunting safari's and accommodation of international hunting clients.
- **Bucklands Private Game Reserve:** Located approximately 15 to 20 km from the Project area and covers an area of more than 5 400 ha. It is a Private Game reserve which offers both self-catering and fully inclusive holidays in both tented camps and a lodge. Main income is derived from hunting, game sales/breeding and accommodation. Eco-tourism activities offered include game drives, guided walks, fishing in the Great Fish River, night drives, quad biking and birdwatching. The reserve employs eleven permanent staff.
- **Kwandwe Private Game Reserve (Indalo):** Located 10 to 20 km north-west of the Project area and covers an area of 22 000 ha. The reserve offers hunting, eco-tourism activities and

six safari lodges (52 beds) that offer high-end accommodation to its patrons. Kwandwe employs 282 permanent workers.

- **Kwandwe Private Game Reserve** (none Indalo): Located 5 to 10 km north.
- **Buffalo Kloof Private Game Reserve:** Located more than 10 km south of the Project area and is approximately 7 365 ha in extent. The Reserve forms part of the Buffalo Kloof Protected Area and is used primarily for Hunting Safari's. Other income is derived from game sales/breeding and eco-tourism. Accommodation on offer includes the original farm homestead, a 100-year-old sheep shearing shed, that has been restored and renovated, and the Spekboom Camp. Forty-two permanent staff are employed.
- **Coleridge Game Reserve:** Located on the northern border of the Buffalo Kloof Nature Reserve approximately 5 km south from the Project area and is 1 472 ha in extent. The reserve constitutes a portion of the Buffalo Kloof Conservation Area and is managed, from a conservation perspective, by Buffalo Kloof. There is a guest house with two permanent and four temporary workers on the reserve. The Reserve mainly focuses on environmental protection.
- **Huntershoek Lodge:** Located 18 km east of the Project area and approximately 1 300 ha in extent. The game farm also offers hunting, game sales/breeding and a guest house/lodge (24 beds) and employs ten permanent and four temporary workers. A small portion of the farm's income is derived from agriculture (livestock and pastures).

The Private Game Reserve industry is well organised. To illustrate this, reference is made to Indalo<sup>9</sup> represented by nine (9) of the local Private Game Reserves (76 076,59 ha in extent combined), of which only Kwandwe Game Reserve is located within the study area of the Albany WEF. Indalo is a voluntary organisation founded in 2002 with the objective to promote biodiversity conservation in a socially responsible manner, to share lessons and resources among its members, and to present a unified voice on issues affecting the tourism and game industry.

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<sup>9</sup> Amakhala, Hopewell, Kariega, Kwandwe, Pumba, Shamwari, Sibuya, Lalibela Game Reserves and Oceana Beach and Wildlife Reserve.

In terms of conservation and protection of vegetation biodiversity targets and wildlife the conservation value of Indalo, and the ecosystem protection it offers, is significant. This conservation hinges entirely on the continued economic viability of the eco-tourism businesses underpinning the nine game reserves.<sup>10</sup>

Indalo has commissioned various independent socio-economic studies<sup>11</sup> since its inception with the aim to indicate the contribution of private game farms to the local economy. These results assist to portray the socio-economic climate of the study area in greater detail. The following information was provided:

- On average game reserves employ 4.5 times as many people as agricultural ventures;<sup>12</sup>
- The nine (9) Game Reserves that comprise Indalo employ 1 500 permanent people;
- A large majority of the game reserves contribute significantly to community development projects, mainly through separate NGO bodies established by them, such as the Ubunye Foundation, Amakhala Foundation and Kariega Foundation;
- The eco-tourism sector lends itself widely to a large value added supply chain and as such the lodges within the Indalo Protected Environment are a major economic contributor to many local and national businesses from food suppliers to building contractors;
- The luxury safari experience is the primary reason many international tourists visit the region, particularly attracted by the malaria free environment in the Eastern Cape. These tourists, on their way to and from the game reserves, substantially contribute to countless other businesses across the country.

### **Residential**

There are a number of homesteads scattered on the farms surrounding the proposed Albany WEF.

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<sup>10</sup> Information obtained from 'Indalo Private Game Reserve Association's' comments submitted for the PPP, 19 July 2019.

<sup>11</sup> Socio-economic studies commissioned by Indalo in 2004, 2005, 2008 and 2011, by either Rhodes University or NMMU. The report from a fifth study conducted in 2019 is nearing completion.

<sup>12</sup> Indalo does not indicate whether this number is for the same number of hectares of agricultural land, which agricultural ventures are referred to in the comparison (crops, livestock, hydroponics, etc.), and whether the 4.5 times employees at game reserves include supporting industries such as guest houses, catering and so forth.

### **Towns and villages**

- **Grahamstown/Makhanda** is located approximately 5 km to the south-west of the proposed Albany WEF and currently has about 50 220 inhabitants.
- **Bathurst** is a small town located approximately 14 km south-west of the proposed Albany WEF.
- **KwaNdwanyana** is a rural village located approximately 19 km north-west of the Project site, along the northern bank of the Great Fish River.

### **5.4 Wind farms in and around the study area**

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According to the 20-year Integrated Resource Plan (IRP2010), about 42% of electricity generated in South Africa is required to come from renewable resources ([www.turbines.co.za](http://www.turbines.co.za)) and since the beginning of the REI4P, the Eastern Cape province has attracted sixteen (16) of the 33 wind energy projects which have been selected by the DMRE.

Windfarms within 50 km of the Albany site, at various stages of development, include:

- Waainek Wind Energy Facility (Operational) (24.6 MW) located approximately 15 km south-west from the Project area;
- Plan 8 Wind Energy Facility (Approved) located approximately 5 to 10 km east of the Project area;
- Peddie Wind Energy Facility (Approved); and
- The Spitskop WEF (Proposed).

The localities are indicated in the figure below.

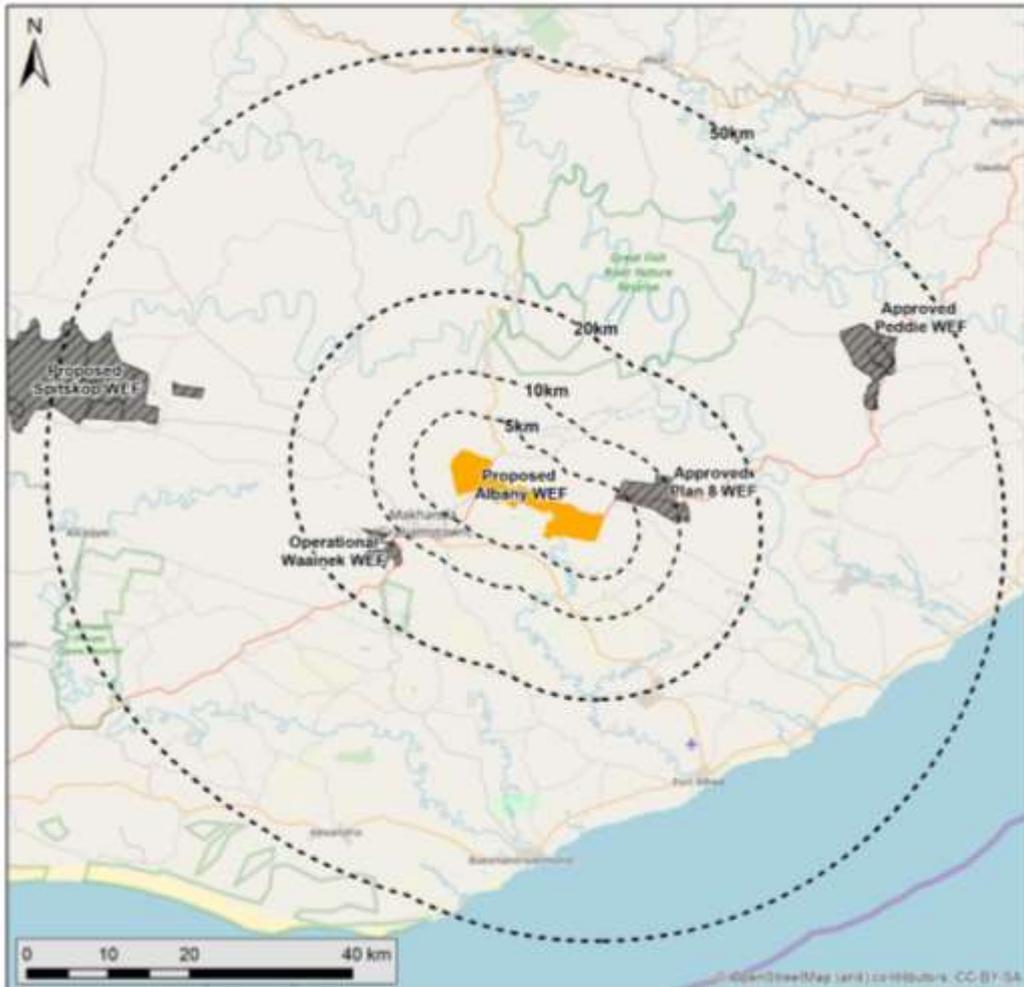


Figure 13. WEF's within 50km of the Albany site

## 6. KEY DEMOGRAPHIC INFORMATION

Demographic data of the local and district municipalities provide important information of the affected communities and is a tool against which possible socio-economic impacts of the Project can be assessed. This information can further be used by the Project proponent in decision-making processes that will affect the economic environment in which the Project will function. Where available the demographic and socio-economic data of Grahamstown/Makhanda are also included and analysed, as it is expected that many of the socio-economic impacts of the Project will manifest for this town, due to its proximity to the Project.

## 6.1 Population size and distribution

Sarah Baartman District Municipality (“DM”) is sparsely populated with eight people per square kilometre. This results in high costs per capita of providing services in the District (SBDM IDP). Geographically the Makana LM 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.

**Table 3. Population size and distribution**

	<b>Sarah Baartman DM</b>	<b>Makana LM</b>	<b>Grahamstown</b>
<b>Population</b>	479 923	82 060	50 220
<b>Population density</b>	8 / km <sup>2</sup>	18.4 / km <sup>2</sup>	-
<b>Households</b>	138 182	22 700	13 428
<b>Household members</b>	3.5	3.6	3.7
<b>Population growth p/a</b>	1.43 %	0.47 %	-
<b>Female headed households</b>	40 %	45.3 %	-

Source: Census 2011; CS 2016; <https://municipalities.co.za/>

With a population of 50 220, Grahamstown accounts for 62.5 % of the local Municipal population (StatsSA, Census 2011). The Makana LM IDP however indicates that even a larger section of the local Municipal population, approximately 80%, is located in Grahamstown. The population is thus highly urbanised.

## 6.2 Population growth

Local population increases are a concern as it has an impact on grant funding allocation, housing and service delivery. The Makana population growth can be attributed to the number of informal settlements as a result of general urbanisation and farm evictions. Influx of people from other countries also takes place. The 2011 Makana population comprised of 90% South Africans, but the overall SA population decreased with 0.1% per annum. In contrast to this, there was a 7.6% growth per annum in the population that originates from the broader African continents, and a 69% increase per annum in the number of people from Asia (SBDM IDP; Makana LM IDP).

The per annum population growth in Makana LM has however decreased since 2001.

**Table 4. Population growth per annum**

Population growth per annum	Sarah Baartman DM	Makana LM
2001 to 2011	-	0.8 %
2011 to 2016	1.43 %	0.47 %

Source: Census 2011; CS 2016; [www.localgovernment.co.za](http://www.localgovernment.co.za); <https://municipalities.co.za/>

### 6.3 Age and gender

The age and sex structure of the population is a key determinant of population change and dynamics. The shape of the age distribution is an indication of both current and future needs regarding educational provision for younger children, health care for the whole population and vulnerable groups such as the elderly and children, employment opportunities for those in the economic age groups, and provision of social security services such as pension and assistance to those in need.

The age and sex structure of smaller geographic areas are even more important to understand given the sensitivity of small areas to patterns of population dynamics such as migration and fertility. An increase in the young and the economically active population (“EAP”) of a Municipality would thus mean the potential increase in income earnings, however the growth would place pressure on educational resources and job opportunities as there is the possibility for smaller and slower growing economies to provide work to the increasing population.

#### Age breakdown

**Table 5. Age structure**

Age	Sarah Baartman DM (%)		Makana LM (%)	
		2016	2011	2016
0 – 15 years	27.2	30.1	24.4	26.8
16 – 64 years	65.8	63.6	69.4	67.6
65 +	7	6.3	6.2	5.6

Source: Census 2011; CS 2006; <https://municipalities.co.za/>

The 2016 local Municipal population age analysis has shown an increase in the young (0-15 years) and a decline in the EAP (15-64 years). The importance of education, sport and recreation for youth development is continuously increasing. The high number of children is furthermore an indication of a dependency on child support grants (Makana LM IDP).

Grahamstown has a slightly larger EAP group (71%) than the broader municipality (Makana LM IDP). This age group tends to settle in and near the urban centres where job opportunities are more easily accessible and pressure is thus placed on public and private business to generate job opportunities.

### **Gender**

The local Municipal sex ratio is fairly even with nine (9) males for every ten (10) females (Makana LM IDP). The District has 40% female headed households, versus the 45.3% in Makana LM (CS 2016).

### **6.4 Race and language**

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In Makana LM 78% of the population is Black African, followed by Coloured (12.1%) and White (8.7%). On a local level, the Grahamstown population consists of 72.8% Black Africans, 14.3% Coloureds and 11.2% Whites (Census 2011). The most popular languages spoken in the Municipality are isiXhosa (66.5%), Afrikaans (13.8%) and then English (9.7%) (Makana LM IDP).

## **7. ECONOMIC BACKGROUND**

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### **7.1 Unemployment rate and employment status**

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Employment status refers to whether a person is employed, unemployed or not economically active. The official unemployment rate thus gives the number of unemployed as a percentage of the labour force. The labour force in its turn is the part of the 15-64 year population that's ready to work and excludes persons not economically active (scholars, housewives, pensioners, disabled) and discouraged work-seekers. It is worth noting that, in South Africa, high unemployment coincides with low economic growth.

**Table 6. Unemployment and youth unemployment**

	<b>Eastern Cape</b>	<b>Sarah Baartman DM (Census 2011)</b>	<b>Makana LM (Census 2011)</b>
<b>Unemployment rate</b>	35.4 % <sup>13</sup>	24.9 %	32.5 %
<b>Youth unemployment</b>	38 % <sup>14</sup>	31.4 %	42.3 %

Of all the provinces, the Eastern Cape had the highest unemployment rate at 35.4% (Stats SA second quarter Quarterly Labour Force Survey 2019) and this figure would even be 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.

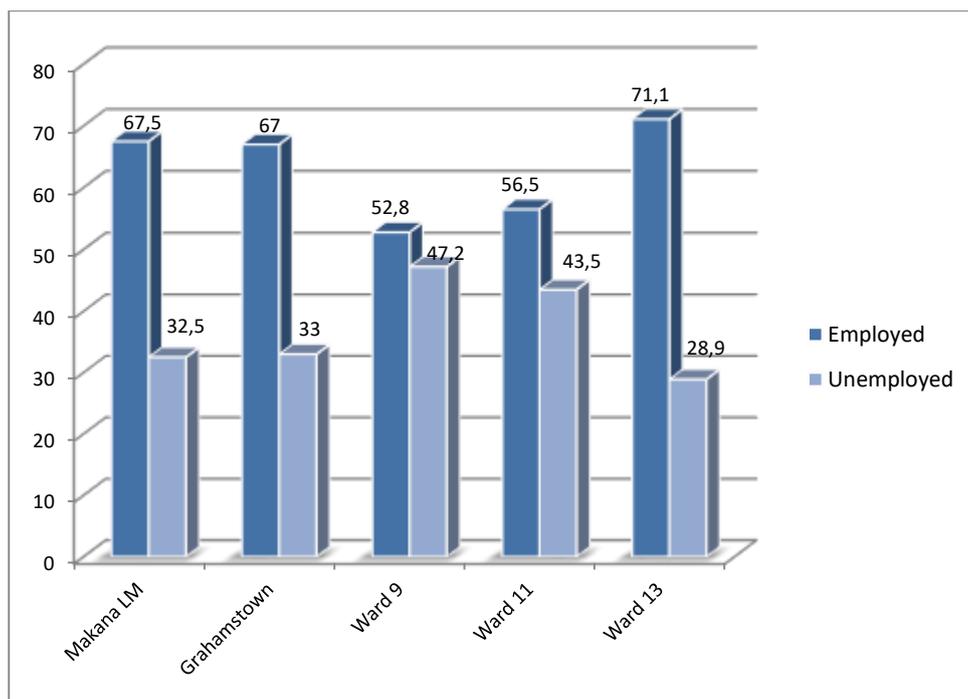
The official unemployment rate of Sarah Baartman DM is 24.9% (Census 2011), which is lower than the Province and much lower than the Local Municipal unemployment of 32.5%.

Interesting to note is that in Ward 13 (where a large section of the Project 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.

The graph below compares unemployment/employment in the affected Wards with local unemployment/employment in the region.

<sup>13</sup> Statistics obtained from <https://www.dispatchlive.co.za/news/2019-07-30-eastern-cape-suffers-sas-highest-unemployment/>. 30 July 2019.

<sup>14</sup> Statistics obtained from <http://www.sabcnews.com/sabcnews/youth-unemployment-high-in-e-cape/>. 7 July 2018.



**Figure 14. Employment status as a percentage of the labour force (2011)**

## 7.2 Unemployment of the youth and female population

Youth unemployment (15-34 years) is higher than the overall unemployment in both the district and local Municipalities, as depicted Table 6. *Unemployment and youth unemployment*. Census 2011 determines that 42.3% of the youth in Makana are unemployed. This is an extraordinary high figure, which leaves the youth feeling marginalised and left out of the economic processes.

Youth unemployment in South Africa is closely related to the inability of young people to obtain employment, owing to their lack of experience, low education levels and various socio-economic factors, which are all too often compounded by a lack of skills. The result is a growing group of young people with severely limited access to formal sector employment, and limited means to do anything about this. The youth often drop out of school, have little work experience with poor literacy, numeracy and communication skills, making them undesirable for employers. In addition, these young people often lack resources enabling them to travel to areas where there are jobs.

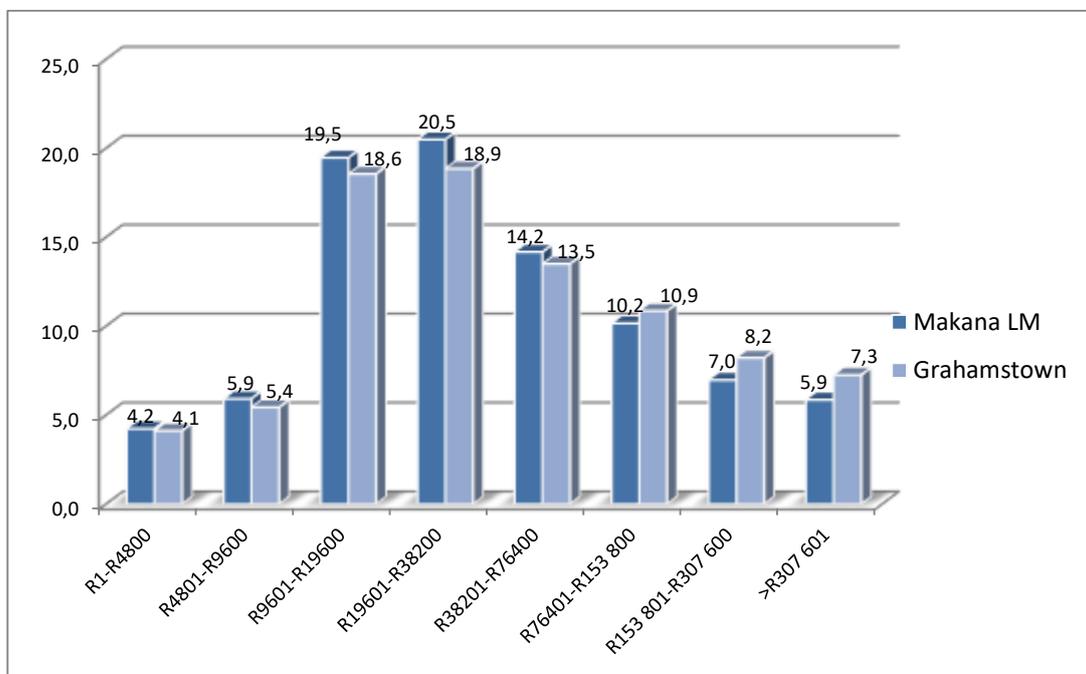
In terms of gender, females are often less likely to be employed, especially in jobs that are more labour and physically intensive. Women are also often forced to become the main breadwinners, thereby placing tremendous economic strain on households. This is reflected in the high

percentage female-headed households prevalent in the district and local municipalities (40% and 45,3% respectively, refer Table 3. *Population size and distribution*). The inclusion of women in the employment and SED processes should thus be emphasised.

Sarah Baartman IDP reflects that in the district African male official unemployment is relatively low by rural South African standards (21%). African and Coloured females experience slightly higher unemployment at around 25%. The problem is less serious in the case of Coloured Males which is below 20%.

### 7.3 Incomes

Annual household incomes for Makana LM and Grahamstown are compared in the figure below.



**Figure 15. Annual household incomes (2011)**

Annual household incomes are generally higher in Grahamstown when compared with the broader local Municipality. Of the 387 households in Makana that earn more than R614 001 annually, 303 reside in Grahamstown (Census 2011).

According to the Makana LM IDP (StatsSA), 45% of the local Municipal population (individual income) earn no income, and 10.5% earn less than R801 per month. The majority of the population earn between R801 – R1 600 per month (16.8%). Only 9.6% earn more than R6 401 p/m.

### 7.4 Indigent households

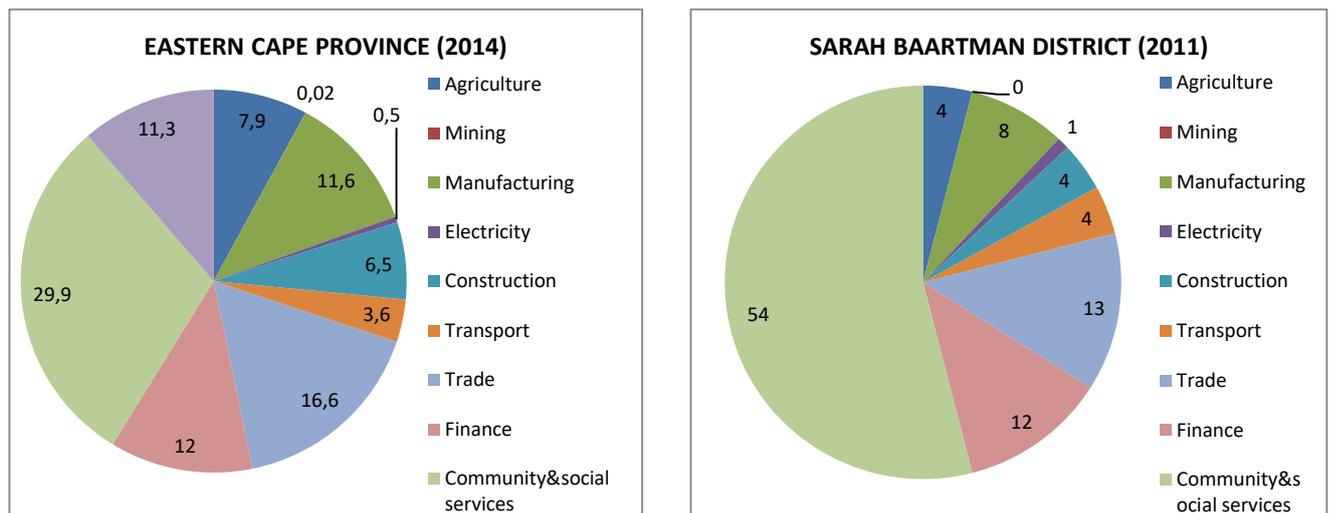
Indigent households are defined as households where the combined monthly income of the household is less than the equivalent of two state pensions. There was a total of 22 700 households in the Municipality of which 6 085 are poor (indigent) during the financial year of 2016/17. This figure constitutes 27% of the total number of households and is also an increasing from the previous year where indigent households constituted 5 250 of the total number of households (Makana LM IDP).

### 7.5 Economic Sectors & Employment

Figure 16. indicates that electricity only accounted for 0.5% of total employment in the Eastern Cape Province (IPP Quarterly Report, September 2016) and 1% in the District (SBDM IDP).

Agriculture is a low employment contributor in the District at 4%. This could partly be attributed to the land mass that is dominated by semi-desert Karoo landscape, which restricts agricultural production to extensive practices that uses low labour inputs relative to the land area being farmed.

Figure 16. Employment per sector

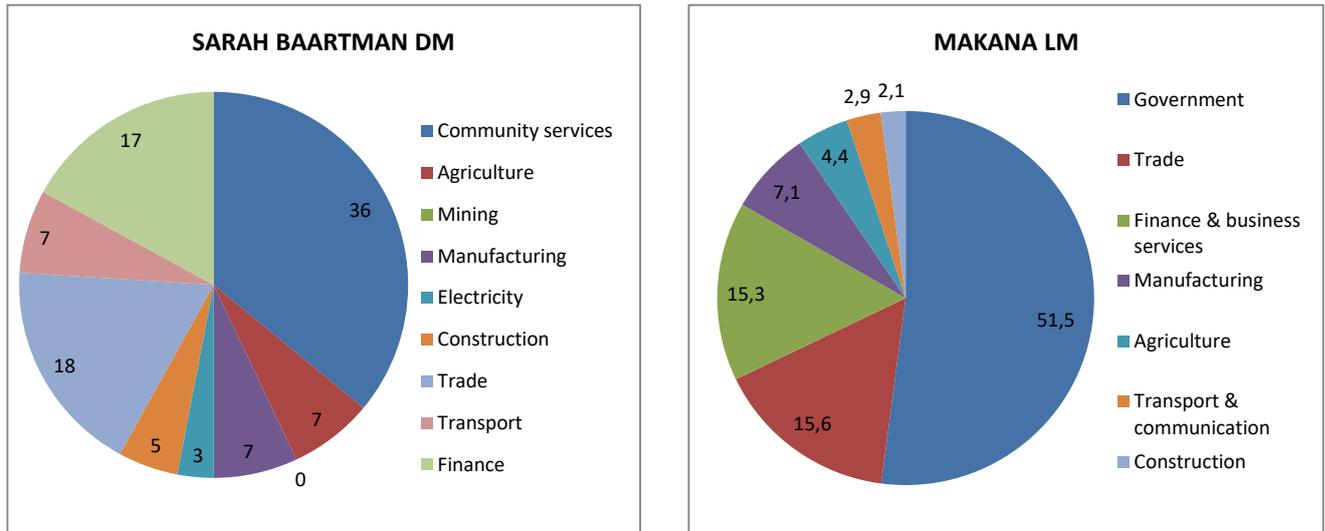


The Province has a relatively diverse economy, but economic activity is largely concentrated around the urban centres of Nelson Mandela Bay and Buffalo City. While government services is the dominant sector in the Province’s economy, financial services, trade, automotive and

component manufacturing, agro-processing and tourism also contribute significantly to total provincial output. Electrical power generation presents an excellent opportunity to enhance economic activities in rural areas (IPP Quarterly Report, September 2016).

At this stage, the electricity sector only contributes 3% to the Sarah Baartman District economy. Government, trade, finance and business are the main economic sectors in Makana LM (Figure 17).

**Figure 17. Main economic sectors**



## 7.6 Economic development

The Sarah Baartman DM and Makana LM have identified specific focus areas with economic development potential that could contribute significantly to economic growth and employment creation within the Municipalities. The most important sectors are discussed below. Some of these initiatives have already been executed, but the implementation and progress of Renewable Energy projects are especially noteworthy.

### 7.6.1 Independent Power Production projects

The Eastern Cape has attracted almost a fifth of the Independent Power Producers Procurement Programme (IPPPP) projects to date. The electrical energy that will become available from the investments in bid windows (BW) 1, 2, 3, 3.5, 4, 1S2 and 2S2 will equate to approximately 56% of the Eastern Cape’s own needs. Although production is only ramping up as IPPs become

operational, 12 553 GWh have already been generated by the renewable energy portfolio in the Eastern Cape since inception to date, thereby offsetting 38.8 Mton CO<sup>2</sup> emissions. REIPPs in the Eastern Cape have consistently contributed new capacity to the network since the beginning of 2014. As at the end of June 2019, 100% of the IPPs scheduled to be operational have started commercial operations. The average lead time to complete these thirteen projects has been 2.2 years (IPP Quarterly Report, June 2019). Other achievements in the Eastern Cape include:

- Local content achieved 50% of total project value;
- The total foreign equity and financing invested in REIPPs reached R7.3 billion;
- Employment for South African citizen were 6 367 job years<sup>15</sup> at the end June 2019; and
- Black South Africans hold 34% of the shares across the entire supply chain and local communities hold 14% equity in the IPPs of BW1 – BW4.

Of the 17 renewable energy IPPs in the Eastern Cape Province, wind has the dominant share with 16 wind IPPs and one solar PV project. The Province has attracted 43% of the total wind capacity procured in BW1 to BW4 and BW1S2 under the REI4P in South Africa, contributing 1 440 MW of the national total 3 366 MW wind power (IPP Quarterly Report, September 2016).

In addition to renewable energy power production and the offset of CO<sup>2</sup> emissions, far-reaching socio-economic advantages manifest. These include procurement, enterprise development, employment creation, local equity and socio-economic development for local communities. The total foreign equity and financing invested in REIPPs (BW1 - BW4 & BW1S2) in the Eastern Cape Province reached R9.2 billion. This is 17% of total investment attracted into South Africa by the REI4P. By June 2019 the project value realised for the Eastern Cape totalled R15.3 billion and the procured project value R36.2 billion. A substantial portion of these investments has been secured as local equity (IPP Quarterly Report, June 2019):

- Net income of R7 billion for community trusts;
- Committed procurement spend of R28.3 billion of which 41% (R11 billion) of the total project been allocated for local procurement;

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<sup>15</sup> Employment / job creation measured in job years (equivalent of a full time employment opportunity for one person for one year).

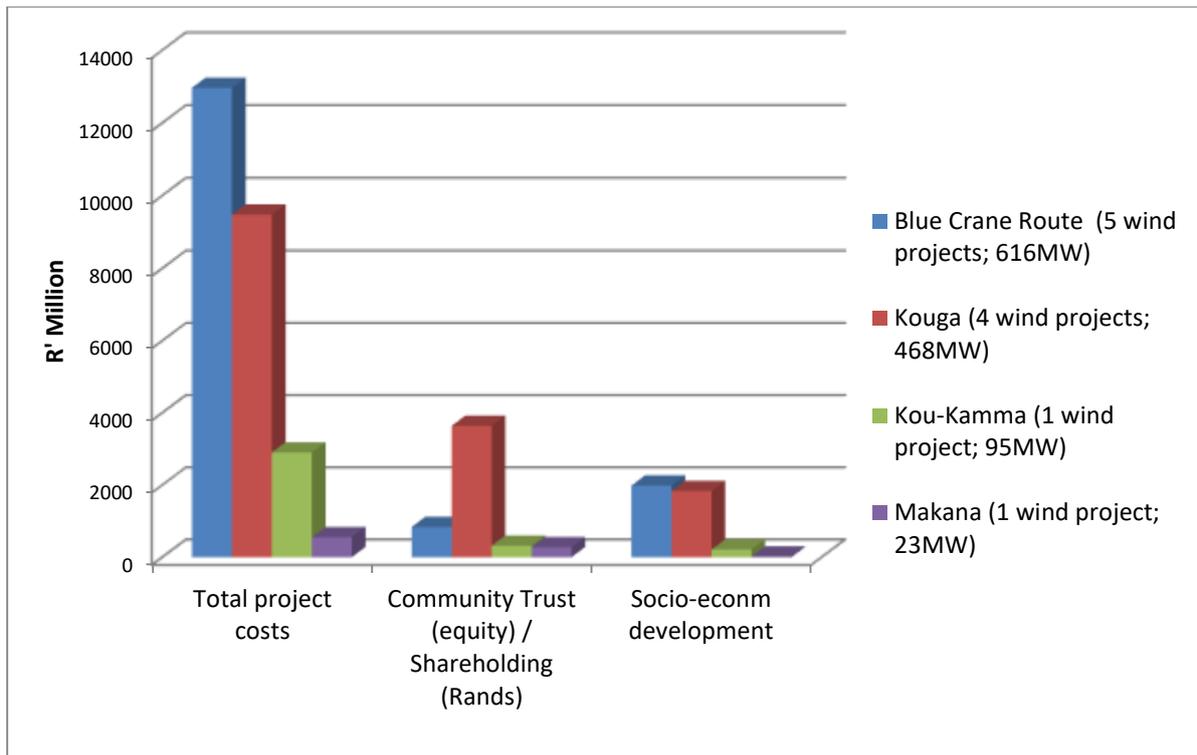
- R1.4 billion towards local enterprise development;
- New employment opportunities for South African citizens estimated at 18 139 job years over the construction and operational lives of the plants;
- New employment opportunities retained within local communities (in the Eastern Cape Province) have to date significantly exceeded expectations, achieving 127% of what is planned across all 7 BWs;
- At this stage 1 302 job years have been created by the IPPs that started operation (operational phase);
- Combined SED commitments of R5.2 billion over the planned 20 year planned project operational life. This represents 23% of total SED commitments under the overall REI4P. Of this SED contribution, R4.6 billion has been committed to local communities located within the vicinity of the IPP projects in the Eastern Cape.
- During construction (2 to 4 years) the number of people employed typically spikes and then tapers off to a lower and more steady number.

SED and ED expenditure under the IPPPPP are focused on education and skills development, social welfare, healthcare, general administration, and enterprise development. SED distribution takes place as follow (IPP Quarterly Report, June 2019):

**Table 7. SED distribution in the Eastern Cape Province**

<b>Education and skills</b>	<b>Social and welfare</b>	<b>Health care</b>	<b>General administration</b>	<b>Enterprise development</b>
42.5%	17.1%	5%	14.6%	20.7%

The figure below demonstrates that contributions of the eleven (11) executed Wind Energy Projects towards local municipalities and communities in the Sarah Baartman DM have been significant. In addition to SED, Black South Africans in Eastern Cape hold 38% of the shares across the complete supply chain (for the 13 projects in BW1, BW2 and BW3). Local communities hold 17% equity in the IPPs of BW1, BW2 and BW3.



**Figure 18. IPP Impacts on Local Municipalities in Sarah Baartman DM (Processed from IPP Quarterly Report, September 2016)**

Some constraints have been identified. The accessibility of the interior is problematic and may impede the development of new power infrastructure under the IPPPP in rural areas. Transportation and regional development growth corridors have been identified, as well as plans to strengthen the transmission grid, but prioritised delivery on these plans will be critical to fully capture the opportunities offered by the REI4P.

Besides its infamous wind potential, the Province has also identified potential for bio-fuel production and electrical power generation from small hydro, solar, biomass and possibly tidal or wave energy. However, large scale biomass production is dependent on agricultural infrastructure, sustainability and possible environmental impact. The Hydro power generation capacity / potential exists in the Blue Crane Route region along the Fish River (SBDM IDP).

### **7.6.2 Tourism**

Tourism is well established in the District and contributes R680 million to the Gross Geographic Product (“GGP”) of the District. Tourism spend in the District has shown rapid growth and has reached a plateau at about R3 billion per annum. After a sharp decline, international tourism is rising again with domestic tourism remaining buoyant (SBDM IDP).

According to the Sarah Baartman DM’s Tourism Master Plan, it can be calculated that tourism contributes as follows to the local economy:

- Supports 1 936 jobs in the tourism industry;
- Supports a total of 4 413 jobs within the tourism economy;
- Supports the equivalent of 294 SMMEs in the tourism economy.

The hub of Makana LM, i.e. Grahamstown’s tourism potential is varied from heritage sites to its close proximity to the Addo Elephant Park and location midway between Port Elizabeth and East London. The main forms of Tourism in Makana LM are:

- Environmental (approximately 40 establishments);
- Educational (9 establishments); and
- Cultural tourism (27 events and establishments).

In addition to the above, there are a total of 121 providers of accommodation that can be classified under hotels, guest and country houses, lodges, caravan parks and camping sites, self-catering, backpackers, hostels, and B&Bs (Makana LM IDP).

Unlike most other activity in Makana (with the exception of agriculture), tourism occurs throughout the entire municipality and is not just concentrated in Grahamstown. Tourism thus has the capacity and capability to improve the spatial spread of activity in the local municipality.

#### **Heritage sites and resources**

The heritage resources of the Makana LM is significant and needs to be conserved in terms of the provisions of the National Heritage Resources Act (Act 25 of 1999 - NHRA) as it contributes to the local economy and has potential for growth. Heritage resources comprise not only worthy buildings and urban precincts, but also include physical and cultural landscapes.

Grahamstown has more than 70 declared National Heritage Sites.

### **7.6.3 Agriculture**

Agriculture contributes approximately R690 million to the GGP of the District (SBDM IDP). Cattle and dairy farming are dominant in the areas around Grahamstown, Cookhouse, Alexandria and Humansdorp. However, in other areas stock production has seen a decline in the past decade, primarily as a result of game farm establishment and the expansion of the Addo National Elephant Park. Game reserves are now a major industry within the district, which contributes to the tourism sector.

Locally commercial agriculture is found in the north of Grahamstown known as Upper Albany, and accounts for approximately two thirds of the municipality. Livestock and game farming thus dominate in Upper Albany. Lower Albany land is well suited to rain-fed cropping.

The main source of income for commercial farmers (78%) is from livestock farming and animal products. This is largely made up of dairy farming (41%). With regards to field crops, the majority of income comes from maize and chicory (a combined contribution of 74%). Most value addition of commercial agricultural produce (packaging, canning, manufacturing, processing, etc.) occurs outside the Makana Municipality (Makana LM IDP).

### **7.6.4 Hunting / Private game reserves**

Hunting and private game reserves has grown immensely in Makana LM from 1995 in terms of market players, hectares covered and revenue. Though now somewhat saturated, the market for private game reserves and hunting is now a notable contributor to agricultural sector output in Makana. The Makana area has nearly a million hectares devoted to game. A range of public and private nature reserves span the area, from the world-famous Shamwari in the west to the magnificent Double Drift and Kwandwe Reserves in the east (Makana LM IDP).

The transformation of land from pastoral farming to use as hunting and game reserves has yielded mixed fortunes throughout the Makana area. Average employee wages on game reserves and hunting operations are typically higher than those on traditional farms. However, these operations are often less labour intensive than traditional agriculture and thus employ fewer people than

farms.<sup>16</sup> This means that total community welfare and income (as expressed through wages earned and other benefits such as rations, housing subsidies, etc.) may not necessarily rise in every instance in which farmland has been converted into a hunting and game reserve (Makana LM IDP).

#### **7.6.5 SMME Development**

SMMEs are often labelled as the engine for growth in a district. However, the majority of the people in rural areas depend on agriculture and other rural activities. They produce on subsistence level with limited access to financial markets that cannot effectively supply the financial resource and other product needed by the SMME sector. In spite of the significant contributions that they make towards GDP, employment and rural livelihoods, SMMEs continue to face a plethora of challenges that inhibit their growth and development beyond mere survivalist modes of activity, such as lack of financial tools, weak entrepreneurial capacity and the absence of string linkages with existing large entrepreneurs

SMMEs require support to create an enabling environment where engagement with financial institutions can take place before they can contribute effectively to the economic development in the district (SBDM IDP).

## **8. SOCIAL STATUS**

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### **8.1 Education**

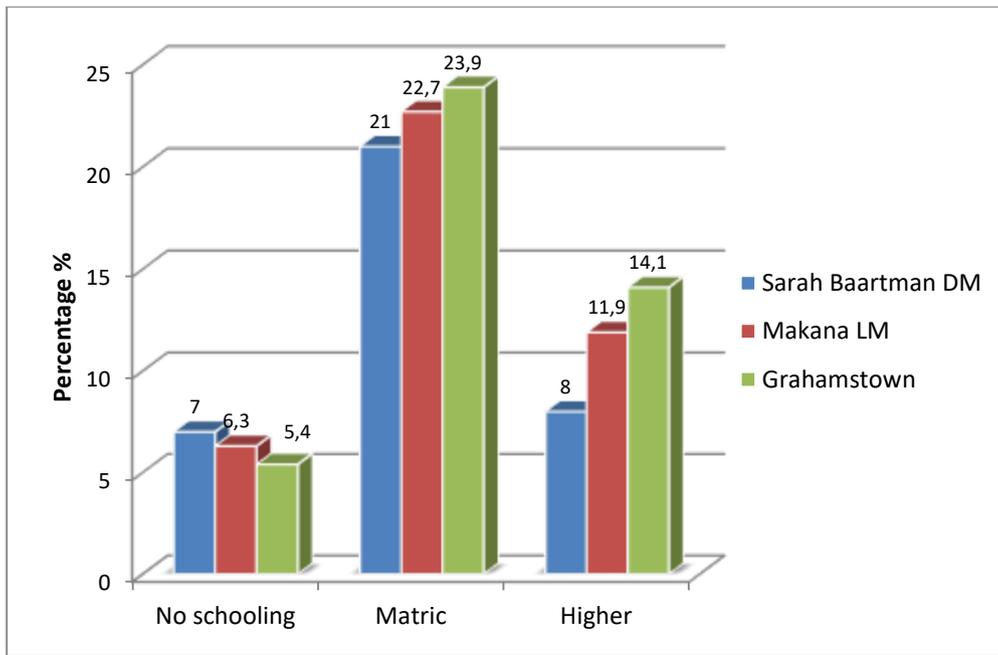
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Persons with no schooling are defined as people who never received any form of formal education. This implies illiteracy in most cases and would limit the person to perform manual labour. The importance of education is emphasized, as the education levels of a population is directly linked with that population's level of employability.

There have been positive improvements on district and local level, with the decrease in the percentage of the population that has not received schooling. A high level of dropouts, especially at primary education level, remains.

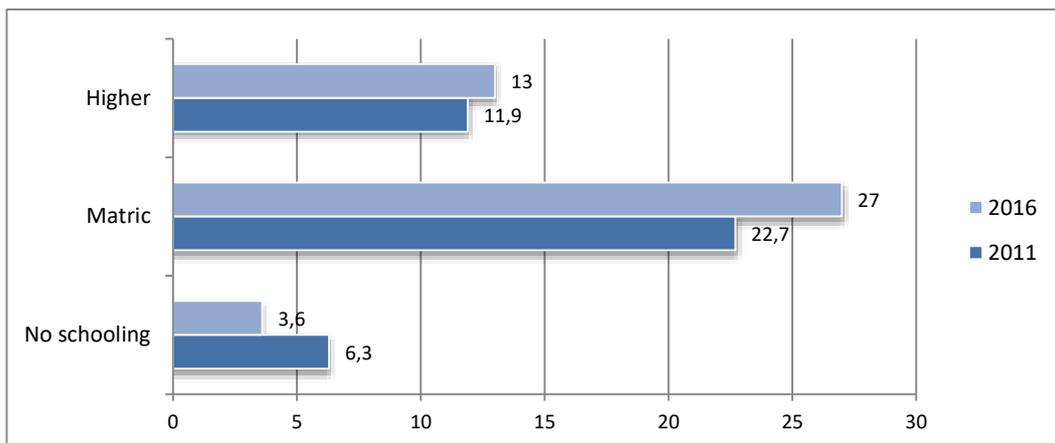
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<sup>16</sup> This statement in the Makana IDP contradicts research done by Indalo that on average private game reserves employ 4.5 more people than traditional agriculture.



**Figure 19. Level of schooling 2011 (aged 20+)**

Census 2011 statistics show that 6.3% of the Makana population over 20 years of age had not received any schooling in 2011 ([www.localgovernment.co.za](http://www.localgovernment.co.za)). The figure is moderate and furthermore shows a decline of -3.3% p.a. since 2001 when 11.8% of the population over 20 years had not undergone any schooling. Recent statistics for 2016 ([www.localgovernment.co.za](http://www.localgovernment.co.za); StatsSA) indicate that the level of no schooling has declined even further to 3.6% (Figure 20. *Makana LM levels of schooling*).



**Figure 20. Makana LM levels of schooling**

Furthermore, the number of people completing secondary school and receiving a tertiary education has increased. These trends from 2001 to 2016 support the notion that educational prospects have improved. Prestigious primary and secondary schools and the seat of the Rhodes University are situated in Grahamstown, making this an academia hub (Makana LM IDP). In 2011, 14.1% of the Grahamstown population older than 20 years had some form of tertiary education and it is likely that this number has since increased.

## **8.2 Dependency, inequality and poverty levels**

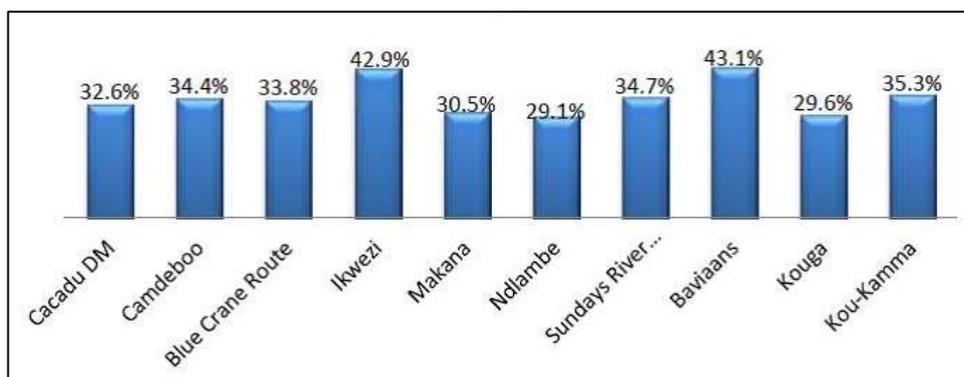
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Poverty is defined not only by levels of unemployment, but also characterized by a lack of access to education, health care, and basic services including water and sanitation.

In the Sarah Baartman District high levels of inequalities exist between the races. According to the SBDM IDP (2015/16 Review) Africans experiences high poverty (although lower than the national average), a low Human Development Index (“HDI”), high illiteracy levels compared to the country as a whole, and high inequality, although lower than the country as a whole. Coloureds experience lower poverty and illiteracy than Africans, but are significantly worse off than the national average. They also experience a higher HDI and roughly the same level of inequality. Whites experience almost no poverty, a high HDI, less than 5% illiteracy and relatively low inequality in keeping with South African norms for this population group.

Poverty levels in Makana LM are high (30.5% in 2012) with 45% of the population earning no income, and a further 10.5% earning less than R801 per month, therefore falling under the poverty line (Makana LM IDP). This is exacerbated by the fact that almost 33% of the labour force (excluding discouraged work-seekers) are not working. Discouraged work-seekers make up 10% of the population older than 20 years.

The three local Municipalities that are the most densely populated, i.e. Kouga, Makana and Ndlambe, experience the lowest poverty levels when compared with other municipalities in the District. As mentioned previously in the report, population concentrations in the District correlate with areas where employment opportunities and income generating opportunities are available, and as such lower poverty levels are evident.



**Figure 21. Sarah Baartman DM Poverty per LM 2012 (Global Insight 2012)**

Very serious poverty (where people live on less than R14 – R18 per day) is rapidly declining, probably in response to the roll out of social grants in South Africa (SBDM IDP).

Female headed households, which could be the result of male migration, death, unwed pregnancies and so forth, increased from 44.5% to 45.3% between 2011 and 2016 (StatsSA) and the overall dependency ratio is 5 persons per ten population of working age (Makana LM IDP). The majority of individuals who receive benefits from the various welfare programs are women. This cycle of dependency is a result of the funnel of failure that women have a tendency to fall victim to. Women are left uneducated and living in poverty. Despite their desire to improve their current situation they are unable to with the opportunities available. Furthermore, the broader population lacks buying power which makes it difficult to exploit local economic development opportunities.

Due to the above factors, a significant portion of the population is dependent on social grants. The predominant type of grant is for child support followed by old age and permanent disability. There has been a gradual increase in social grant expenditure in the Sarah Baartman District increasing to R 59 736 423 in the 2009 financial year from R 59 068 286 in the 2007 financial year (SBDM IDP). Assuming that no individual qualifies for more than one grant then 45.5% of the total Makana LM population is receiving a social grant (Makana LM IDP).

### **8.3 Health & HIV / AIDS**

The Provincial Strategic Plan (“PSP”) for HIV, TB & STIs 2012-2016 is a comprehensive strategy for the Eastern Cape Province in response to HIV, TB and STIs. The long-term vision is to have a Province that is free of new HIV & TB infections; zero deaths as a result of these epidemics and

zero discrimination of people living with HIV & TB (Eastern Cape Aids Council, March 2016). To accomplish this, social, economic and structural drivers leading to HIV infections need to be addressed, and not only the treatment of the disease.

Nationally, HIV infection has reduced gradually among the sexual reproductive age group (15-49 years). According to mid-year estimates from Statistics South Africa, the incidence rate is 1.22% for the July 2014 - June 2015 period which is a slight reduction from 1.23% of the previous year (Eastern Cape Aids Council, March 2016). Despite not being able to meet the 50% reduction target for the Eastern Cape, HIV incidence among 15-49 year old individuals has been declining from 1.5% (FY 2013/14) to 1.23% (FY 2014/15). However, the Province successfully surpassed the 2% target in the mother to child transmission by registering a 1.7% new infection rate at six weeks in 2014/15.

**Table 8. Health & TB Impact indicators 2014/15**

	HIV incidence (15-49 yrs)	HIV prevalence (15-49 yrs)	HIV prevalence among youth (15-24 yrs)	TB incidence	TB mortality rate	Patients alive and on treatment
<b>Eastern Cape</b>	1.23%	19.9%	6.2%	792.3 cases per 100 000	9.3%	320 062

Recent statistics for the Sarah Baartman District could not be obtained. However, the IDP indicates that the HIV & Aids prevalence in the District in 2010 was 20.7%. Of the people that were tested for HIV & Aids in Makana, 9.1% tested positive.

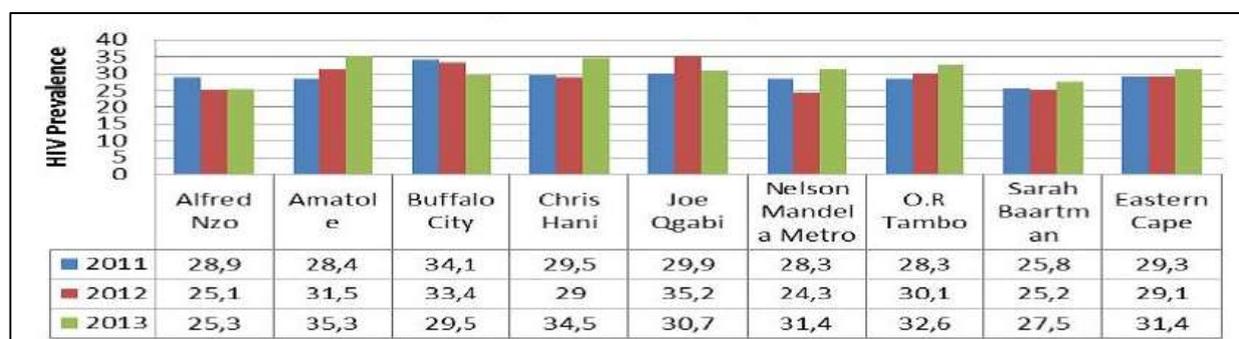
For the period 2014/15 there was a slight decline in the HIV incidence rate among females and a slight increase in males, of the sexually reproductive age group (15–49 yrs) in the Province. Incidence among females was 1.68% and 1.12% for males. The results indicate that females are still more susceptible to new HIV infections when compared to males. Of concern also was the increase in male HIV infection rates at a time when infection is expected to be reducing (Eastern Cape Aids Council, March 2016).

HIV prevalence estimates for the Eastern Cape Province increased which implies the success of the ART programme in prolonging lives. According to the Eastern Cape PSP Midterm Review,

approximately 755 610 individuals were living with HIV in the Province (Eastern Cape Aids Council, March 2016).

Currently in Sarah Baartman accredited ART sites are as follows (SBDM IDP, 2015/16 Review):

- 47 clinics
- 9 hospitals
- 4 TB hospitals and
- 1 Psychiatric Hospital
- 7 Mobile Clinics



**Figure 22. HIV Prevalence among antenatal women in the Eastern Cape Province (2011-2013)**

The figure above shows prevalence trends by district among women attending antenatal clinics aged 15-49 in the Province. Six districts, including Sarah Baartman, registered an increase in HIV prevalence between 2012 and 2013.

During the period 2014/15, the Province was not on track on achieving 50% reduction in STIs other than HIV. There was an increasing trend in the number of new STI cases reported in the Eastern Cape. According to the District Health Information System (DHIS), the incidence rate of new STI episodes was reported at 46.87 per 1 000 individuals in 2015, showing an increase from 45 cases per 1 000 individuals in 2014 (Eastern Cape Aids Council, March 2016).

TB remains a challenge in the Eastern Cape and nationally, with South Africa having the third highest number of new infections of all types of TB and being the second highest in Drug Resistant TB (DR-TB) in the world. The incidence rate in the Province declined to 792.3 cases per 100 000 individuals in 2014-15 from 862.7/100 000 and 823.1/100 000 in 2012-2013 and 2013-2014

respectively. A closer look at district segregation indicates that Eastern Cape districts are a hotspot for TB in the country. Sarah Baartman had the highest TB incidence of 1 127 cases per 100 000 in the country during the period under review (Eastern Cape Aids Council, March 2016).

## 8.4 Crime

SAPS statistics indicate low levels of crimes in the District compared with the overall Eastern Cape Provincial. The urban police districts of Grahamstown, Graaff-Reinet and Humansdorp are however areas of concern and in 2013 crime were more prevalent in the Makana area, and particularly in the Grahamstown district (SBDM IDP). Contact or violent crimes, such as murder, attempted murder, sexual offences and robberies particularly posed a more serious threat.

During the period April 2013 to March 2016 the Grahamstown precinct reported a considerable decrease in most criminal activities. However, the number of reported criminal incidences slightly increased between 2018 and 2019 for most categories ([www.spas.gov.za](http://www.spas.gov.za)).

**Table 9. Grahamstown crime statistics 2018 – 2019**

Precinct	Murder		Attempted murder		Assault with the intent to inflict grievous bodily harm		Common assault		Common robbery		Robbery with aggravating circumstances		Burglary at non-residential premises		Burglary at residential premises		Stock-theft	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Grahamstown	12	12	5	15	203	218	331	350	76	97	136	120	87	102	429	391	29	23

Source: [www.saps.gov.za](http://www.saps.gov.za)

## 9. HOUSING, INFRASTRUCTURE AND SERVICES

### 9.1 Housing

The number of formal dwellings in Makana increased from 85.4% to 90.7% from 2011 to 2016. 56.1% housing is owned ([www.localgovernment.co.za](http://www.localgovernment.co.za); StatsSA). In contrast to many other municipalities in South Africa, there has also been a reduction in the number of informal dwellings from 2001 to 2011 (1568 to 1432 informal dwellings) as well as backyard shacks. Informal dwellings

are concentrated in Grahamstown and Alicedale (Makana LM IDP). The demand for urban housing development remains.

The total estimated housing demand resulting from population growth (based on the current growth rate) is 4 430 additional households by 2030. This demand equates to a land requirement of approximately 220 ha across the entire Municipality. Most of this demand would be accommodated in Grahamstown. Based on the Census 2011 figure the housing demand associated with the eradication of informal dwellings would be 723 households and backyard shacks 1 432 households. The associated land demand is 36 ha and 72 ha respectively (Makana LM IDP). The settlement planning priority is therefore to provide adequate shelter to those households accommodated in informal settlements and in backyard shacks.

There is however not consensus among the various sources and it would seem that duplication occurred in the backlog figures. The September 2011 housing waiting list had an inflated figure of 16 852 (Makana LM IDP).

Major issues pertaining to housing and settlement aspects within the District include (SBDM IDP, 2015/16 Review):

- The non-availability of the land to address current housing demand, available land is owned by private owners which are intensively used mainly for agriculture, SAN Parks and state land;
- The continued influx of migrants to the area in search of employment opportunities, some short-term in the fishing and tourism industry and by farm workers after the fruit harvesting season;
- The isolated settlements and nodes classified as Rural Nodes that are located away from existing community services, often contain low population thresholds that cannot support the essential Community Facilities and are difficult and expensive to provide with bulk and internal services to a level equivalent to settlements in the bigger Urban Areas; and
- There has been a rapid increase of informal settlements in and around small towns within the District due to the changing pattern of labour utilisation on farms.

## **9.2 Services**

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### **9.2.1 Bulk services**

Bulk services in the District are under pressure due to overloading and the lack of on-going maintenance (SBDM IDP). The Makana Local Municipality is both the 'Water Service Authority' and 'Water Service Provider' and is also responsible to provide all the other local government services such as municipal roads, storm water management, electricity, waste collection and disposal.

For Grahamstown Makana Municipality's major water schemes, raw water is purchased from the Department of Water & Sanitation through the Glen Millville dam on the eastern scheme, and on the western scheme raw water is sourced from Settlers and Howieson's Poort Dams (Makana LM).

The Municipality is also the Service Provider for electricity and distributes in the old Grahamstown Municipal area. The newer urban settlements (i.e. Grahamstown East), Riebeeck East, Alicedale and the rural farm areas are serviced by Eskom. Budgetary constraints hinder the effective operation and maintenance as the infrastructure is aging and needs upgrading (Makana LM IDP).

### **9.2.2 Household services**

Factors that influence service delivery in the district negatively are:

- The dispersed nature of the settlements in the district, especially in the interior where settlements are isolated from the mainstream economy;
- Higher population densities in the coastal areas primarily due to the prevalence of intensive agricultural practices, which are encouraged by the higher coastal rainfall, fertile soils and the increased tourism potential of seaside-towns;
- A high level of urbanisation due to residents that seek employment opportunities and improved access to services.

Grahamstown is however an exception to this rule. This inland town is regarded as an economic hub due to the intensive stock farming enterprises in the area and the associated economic spin-offs in terms of employment. The town further supports a large student base and academic staff and all these factors create demand for more elaborate social and economic infrastructure (SBDM IDP).

Both Sarah Baartmand DM and Makana LM achieved significant improvements in the standard and provision of water and sanitation. Provision of electricity has improved from 73% in 2001 to almost 90% in 2011 and 96.6% in 2016. The dependency on paraffin has been reduced from 24% to 7.4% in 2011. Sarah Baartman IDP however reports a 2 378 household backlog for electrification in Makana LM.

**Table 10. Household services Makana LM**

Household services	2011	2016
Flush toilet connected to sewerage	71.9	83.8
Weekly refuse removal	88.9	90.1
Piped water inside dwelling	49.8	45.1
Electricity for lighting	89.5	96.6

Source: StatsSA

### 9.3 Fire services and disaster management

The Sarah Baartman DM has a District Fire Co-ordinator in its employment which acts as Chief Fire Co-ordinator. The district Municipality is providing continuous support and capacity to Municipalities to deal with the fighting of fires, including Hazardous Chemical spillages. In addition, training of Municipal fire officers, on both fire fighting and the handling of Hazardous Material Spillage is a priority of the District in this field. The District Municipality has further ensured that all fire fighting vehicles in the district are being standardised throughout its area (SBDM IDP).

The Makana LM has a 24-hour fulltime fire service with Chief Fire Officer appointed as manager fire services. In addition to the corporate agreement with Sarah Baartman District to perform the function on agency based, the Municipality has cooperative agreements with all the other local municipalities in the district. Partnerships have been established with Provincial Government, District and Non-governmental organisations with a responsibility or capacity to render disaster management services. In terms of the Makana Disaster Management Plan the risk assessment revealed that the Municipality is prone to tornadoes, floods, fires (veld and forest fires), epidemics and accidents.

#### 9.4 Community safety

In addition to Police Stations, five Community Policing Forums (“CPFs”) have been established in Makana. Concern has been raised around the effectiveness of these forums and the lack of visibility of the SAPS (Makana LM IDP).

**Table 11. Police Stations in Makana LM**

Name of Police Station	Ward
Grahamstown CBD area	8
Riebeeck East	1
Alicedale	14
Fort Brown	1
Extension 6 New Police Station	6
Seven Fountain	14
Committees Drift	1
Joza Police Station	6

#### 9.5 Health services

Health services are now provided by the Department of Health. There are twelve clinics and two ambulance services (i.e. EMS and Netcare) all stationed in Grahamstown. For those patients referred to either Port Elizabeth or East London there is transportation organised by the hospital and the ambulance service (Makana LM IDP).

**Table 12. Clinics and hospitals**

INSTITUTION	CONTACT	ADDRESS	TELEPHONE
Town Clinic	Mrs. Haywood	Huntley Street	(046)6223430
Grahamstown Mobiles 1, 2 & 3	Mrs. De Beer /Mr. Isaacs	Huntley Street	(046)6224901
Joza Clinic	Mrs. September	Nompondo Street	(046)6036026/ 6152
Kwa-Nonzwakazi Clinic	Mr. Isaacs	Recreation Street	(042)2311019
Middle Terrace Clinic	Mr. Isaacs	Middle Terrace Street	(046)6036043/ 6102
NG Dlukulu Clinic (Ext 7)	Mrs. De Beer	Sani Street	(046)6036089
Raglan Road Clinic	Mrs. Bunu	Raglan Road	(046)6036084
Riebeeck East Clinic	Mr. Isaacs	Komadagga Road	(046)6224999
Settlers Day Hospital	Mrs. Menziwa	Cobden Street	(046)6223033
Tantyi Clinic	Mrs. Somngesi	"T" Street	(046)6036153
Settlers Hospital (Public)	Mrs. A Potts( Acting CEO)	Milner street	(046)602 5000
Settlers Hospital (Private)	Mr. Mutla (Hospital Manager)	Milner street	(046)602 5000
Fort England Hospital	Dr Walsh (CEO)	York Street	046 622 7003

## 10. SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE

The construction period is labour intensive and stretches over a period of approximately 24 months. On average there are 130 workers on site daily and at peak of construction up to 700 people are on site intermittently. The type of management to be implemented for the duration of the construction phase will, to a large extent, affect the severity of the impacts that could potentially manifest.

### 10.1 Impact category 1: Employment

#### 10.1.1 Employment opportunities

##### **Impact description:**

During the 24-month labour intensive construction period, skilled employment amounts to 613 person-month<sup>17</sup> and unskilled to 900 person-month.<sup>18</sup> 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 Environmental Control Officer, machine operators and so forth.

##### **Impact significance:**

Although definite, the impact during construction is short term and holds *some benefits* (MODERATE) for the municipal area. No mitigation is required as the number and type of employment required are determined by the construction program.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 1: EMPLOYMENT</b>					
<b>IMPACT 1.1: Impacts on employment opportunities</b>					

<sup>17</sup> 'Person-month' is a standard measure of work effort in the construction industry. E.g. Twelve person-month means either 1 person who worked for 12 months, or 12 people who worked for one month.

<sup>18</sup> Information obtained from EDF Renewables representative, January 2020.

Without mitigation	Short term	Municipal	Beneficial	Definite	Some benefits
With mitigation	-	-	-	-	-
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Beneficial	Definite	Some benefits

**No-go option:**

- No employment and associated benefits will accrue to local communities or the broader Makana LM as a result of this Project’s construction phase.

**Cumulative impact:**

- Although the construction periods do not overlap, construction of the various wind farms in Makana LM would contribute positively towards employment and skills transfer for locals, including semi- and higher skilled individuals.
- Social and economic advantages for individuals and families.

**10.1.2 Employment equity**

**Impact description:**

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 LM 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 LM 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, 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.

**Impact significance:**

It is possible that *few benefits* (LOW overall significance) will manifest in terms of employment equity of minority groups. With mitigation the likelihood and severity of the impact will increase, resulting in impacts of MODERATE significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 1: EMPLOYMENT</b>					
<b>IMPACT 1.2: Impacts on employment equity</b>					
Without mitigation	Short term	Municipal	Slightly beneficial	Possible	Few benefits
With mitigation	Short term	Municipal	Moderately beneficial	Probable	Some benefits
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Unsure	Don't know

**No-go option:**

- Minority groups will not have an opportunity to take part in the Makana local economy through this construction Project.

**Cumulative impacts:**

- 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.

### 10.1.3 Local employment

#### Impact description:

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 (i.e. SBDM); or residing in one or more residential areas or villages within 50km from the Project Site (refer Figure 5. 50km radius). 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.<sup>19</sup> Skilled professional could be available locally due to experiences gained during construction of the Waainek Windfarm and similar projects in the Eastern Cape.

#### Impact significance:

Local employment during construction will result in *definite* impacts of LOW overall significance for the municipality. Mitigation (maximising the local content of the Project) will increase the benefits of the impact from *slight* to *moderate*, to have an overall MODERATE significance (*some benefits*).

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 1: EMPLOYMENT</b>					
<b>IMPACT 1.3: Impacts on local employment</b>					
Without mitigation	Short term	Municipal	Slightly beneficial	Definite	Few benefits

<sup>19</sup> It is possible that South Africans could account for approximately 90% of the skilled Professionals on this construction project (experience on similar WEF projects).

With mitigation	Short term	Municipal	Moderately beneficial	Definite	Some benefits
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Probable	Don't know

**No-go option:**

- No economic benefits, skills development or economic spin-offs will manifest for locals during construction.

**Cumulative impacts:**

- Although *probable*, local 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 (McDaid, 2016).

**10.1.4 MITIGATION AND MANAGEMENT MEASURES to enhance positive impacts on employment during the construction phase**

- 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.).

## **10.2 Impact category 2: Local Economic Impacts**

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### **10.2.1 Procurement**

#### ***Impact description:***

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.

**Impact significance:**

Local procurement will be slightly beneficial to the region, with a LOW overall significance (*few benefits*). With mitigation, the severity of the impact could be enhanced, resulting in *some benefits* (MODERATE) for the region. Confidence in the rating is ‘uncertain’ as details of the procurement process and strategy are unknown.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.1: Procurement</b>					
Without mitigation	Short term	Regional	Slightly beneficial	Probable	Few benefits
With mitigation	Short term	Regional	Moderately beneficial	Probable	Some benefits
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Regional	Moderately beneficial	Probable	Some benefits

**No-go option:**

- No positive local economic impacts as a result of procurement.
- No economic benefits for local suppliers and manufacturers and down-stream businesses.

**Cumulative impacts:**

- Local procurement of the various wind energy projects (Makana LM and the Eastern Cape Province) would result in technology development and positive cumulative economic impacts for the local and regional economies.

**10.2.2 Impacts as a result of salaries and wages**

**Impact description:**

The unemployment rate in Makana LM is 32.5%, and averages 29.8% in the three affected wards (refer Section 7.1: *Unemployment rate and employment status*). 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.

**Impact significance:**

Positive impacts of LOW overall significance would manifest (*few benefits*). Mitigation would maximise the employment of locals and would ensure that individuals and communities closer to the Project site benefit, resulting in impacts of MODERATE significance (*some benefits*).

Confidence in the rating is ‘uncertain’ as at this stage the amount allocated towards salaries and wages are unknown.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.2: Salaries and wages</b>					
Without mitigation	Short term	Regional	Slightly beneficial	Definite	Few benefits
With mitigation	Short term	Municipal	Slightly beneficial	Definite	Some benefits
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Regional	Moderately beneficial	Definite	Some benefits

**No-go option:**

- No economic benefits for individuals and households or induced impacts for the municipality/region as a result of salaries and wages.

**Cumulative impacts:**

- Cumulative local economic impacts as a result of an increase in spending power would benefit local and regional study area.

### 10.2.3 Induced impacts

#### Impact description:

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 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, child care, leisure and hospitality; and
- Real estate sectors and accommodation of foreigners in local establishments and related spin-offs, such as tourism.

#### Impact significance:

It is *definite* that induced impacts will manifest for the region. The impact is rated with an overall LOW significance (*few benefits*). However, confidence in the rating is low, as monetary values cannot be assigned to the impact. No mitigation is required.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.3: Induced impacts</b>					
Without mitigation	Short term	Regional	Slightly beneficial	Definite	Few benefits
With mitigation	-	-	-	-	-
No-go option	Short term	Regional	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Regional	Moderately beneficial	Probable	Some benefits

**No-go option:**

- No economic spin-offs or induced economic impacts will manifest for the Makana LM or region.

**Cumulative impacts:**

- Enhanced local economic opportunities, economic diversification, industrialisation, job creation and other economic spin-offs for the local municipality and region.

**10.2.4 MITIGATION AND MANAGEMENT MEASURES to enhance local economic impacts during the construction phase**

- 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.

**10.3 Impact category 3: Impacts on the social and demographic structure of the local Municipality**

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**10.3.1 Influx of jobseekers and the impact of temporary construction workers**

**Impact description:**

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.

**Impact significance:**

The impact of temporary construction workers and jobseekers in the municipality during the construction phase is rated with a *moderate severity*, which can be reduced to *slight*, although still *possible*. The overall significance remains LOW.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 3: IMPACTS ON THE SOCIAL AND DEMOGRAPHIC STRUCTURE OF THE LM</b>					
<b>IMPACT 3.1: Influx of jobseekers / Impacts of temporary construction workers</b>					
Without mitigation	Short term	Municipal	Moderately severe	Possible	Low negative
With mitigation	Short term	Short term	Slight	Possible	Low negative
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Possible	Low negative

**No-go option:**

- No impact is foreseen.

**Cumulative impacts:**

- It 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.

**10.3.2 Impacts on the size and structure of the local Municipal population**

**Impact description:**

Changes in the size, gender, race and age composition of the local population would be affected by the scale of ‘outsiders’ moving into the area 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.

**Impact significance:**

Potential impact on municipal demographics is rated as *slight*, with an overall LOW significance. Effective management of the construction process would reduce the impact to negligible.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 3: IMPACTS ON THE SOCIAL AND DEMOGRAPHIC STRUCTURE OF THE LM</b>					
<b>IMPACT 3.2: Impact on the size and structure of the Makana LM population</b>					
Without mitigation	Short term	Municipal	Slight	Possible	Low negative
With mitigation	Short term	Municipal	No effect	Possible	No significance
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Possible	Low negative

**No-go option:**

- No impact will manifest.

***Cumulative impacts:***

- 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.

***10.3.3 MITIGATION AND MANAGEMENT MEASURES to address negative population impacts during construction***

- 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.

**10.4 Impact category 4: Skills development, Capacity Building and Social Responsibility**

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***10.4.1 Training / skills development of individuals / groups / SMMEs***

***Impact description:***

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, fire-fighting, 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.<sup>20</sup>

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.

**Impact significance:**

*Few benefits* (LOW significance) in terms of training and skills development during construction is anticipated, although it is probable. Mitigation will address the severity of the impact (*moderately beneficial*), but the overall significance will remain LOW. Confidence in the rating is ‘uncertain’ as details of specific training and skills development requirements will only be known once a skills audit of the available workforce has been done.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 4: SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY</b>					
<b>IMPACT 4.1: Training / skills development of individuals / groups / SMMEs</b>					
Without mitigation	Short term	Municipal	Slightly beneficial	Probable	Few benefits
With mitigation	Short term	Municipal	Moderately beneficial	Probable	Few benefits
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Moderately beneficial	Probable	Some benefits

**No-go option:**

- No positive impacts for the employability of the local and regional labour force over the medium or long term.

<sup>20</sup> Information obtained from EDF Renewables representative, January 2020.

**Cumulative impacts:**

- Capacity building for unskilled and semi-skilled individuals and SMMEs in the broader Makana LM, thereby increasing their employability.
- Individuals would be able to use their skills gained to secure employment at similar renewable energy projects in future.

**10.4.2 Beneficiary identification**

**Impact description:**

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 the 50 km radius would include Grahamstown and a number of smaller inland and coastal towns (refer Figure 5. *50km radius*). 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 will aim to prioritize projects implemented in closer proximity to the Project site.<sup>21</sup> 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.

**Impact significance:**

Even though it is anticipated that the beneficiation process could result in possible negative impacts of LOW overall significance, mitigation and management is required.

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<sup>21</sup> Information obtained from EDF Renewables representative, January 2020.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 4: SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY</b>					
<b>IMPACT 4.2: Impacts of the Beneficiary identification process</b>					
Without mitigation	Short term	Municipal	Slightly severe	Possible	Low negative
With mitigation	Short term	Study area	No effect	Possible	No significance
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Regional	Don't know	Possible	Don't know

**No-go option:**

- No impact will occur.

**Cumulative impacts:**

- Cumulative impacts associated with beneficiary identification (such as conflict) is possible, but the severity of the impact, should it manifest, is unknown.

**10.4.3 Community projects, ED and SED contributions**

**Impact description:**

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.<sup>22</sup>

<sup>22</sup> Information obtained from EDF Renewables representative, January 2020.

**Impact significance:**

No significant impact relating to ED and SED contributions is anticipated during construction. Support to the commonage farmers would be *slightly beneficial* to the study area, with *few benefits* of LOW overall significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 4: SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY</b>					
<b>IMPACT 4.3: Community projects, ED and SED contributions</b>					
Without mitigation	Short term	Study area	No effect	Unlikely	No significance
With mitigation	Short term	Study area	Slightly beneficial	Possible	Few benefits
No-go option	Short term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Slightly beneficial	Probable	Some benefits

**No-go option:**

- No impact is foreseen.

**Cumulative impacts:**

- Waainek Wind Power 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 from the project.<sup>23</sup> 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.

**10.4.4 MITIGATION AND MANAGEMENT MEASURES to enhance positive impacts of skills development and social responsibility during the construction phase**

- Clearly define the study area and beneficiary communities who would benefit directly through employment, equity, SED and ED spend.

<sup>23</sup> Information obtained from EDF Renewables representative, January 2020.

- 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.

## **10.5 Impact category 5: Individual and Family level Impacts**

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### ***10.5.1 Disruptions in daily living and movement patterns***

#### ***Impact description:***

Short-term disruptions in daily living and movement patterns for surrounding community members and road users could manifest as a result of the transport of components and construction activities on site. The majority of these impacts would take place during the laying of foundations and the erection phases. Activities could include:

- Activities associated with the potential construction of road improvements to accommodate the development (widening of accesses and so forth);
- Road closures to cater for abnormal loads (transport of turbine components);
- Damage to road infrastructure due to the frequency of heavy vehicles;
- Unroadworthy construction vehicles and negligent drivers that disobey traffic rules; and
- Potential noise, dust, visual and air pollution for land owners in close proximity to the site and along gravel access roads (addressed in Section 10.5.2: *Intrusion impacts*).

Infrastructure components will in all likelihood be transported from the Coega Harbour (Port Elizabeth) by road (N2 freeway) to the project site. A Traffic Impact Assessment (“TIA”) and traffic management plan will be prepared to select the most appropriate route, and all relevant approvals and permits sought from the relevant authorities such as SANRAL and Eastern Cape Department of Transport.

The proposed accesses to the site are via existing accesses. No new accesses/intersections are proposed. There are three proposed accesses along the R67 and a further four accesses along the N2. The existing accesses to be used are general “farm” type accesses and will need to be temporary improved in order to facilitate the expected abnormal loads during the construction stage (Traffic feasibility study, January 2020).

**Impact significance:**

During the construction phase impacts on daily living and movement patterns of HIGH negative significance could manifest for road users (regional) and community members around the project site. Mitigation will reduce the severity of the impact (*moderately severe*), resulting in an overall MODERATE significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 5: INDIVIDUAL AND FAMILY LEVEL IMPACTS</b>					
<b>IMPACT 5.1: Disruptions in daily living movement patterns</b>					
Without mitigation	Short term	Regional	Severe	Definite	High negative

With mitigation	Short term	Regional	Moderately severe	Definite	Moderate negative
No-go option	Short term	Regional	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Regional	Don't know	Possible	Don't know

**No-go option:**

- No impact is anticipated.

**Cumulative impacts:**

- It is possible that the construction of other wind farms in the Eastern Cape Province take place simultaneous with Albany WEF and cumulative impacts as a result of the transport of large turbine components and road closures on the N2 is thus possible. However, these factors are unknown at this stage and the overall significance cannot be determined.

**10.5.2 Intrusion impacts at the construction site**

**Impact description:**

Intrusion impacts refer to noise, visual and light pollution and possible dust/air pollution during the construction phase, as a result of emissions, movement of construction vehicles on site, earthworks and general construction activities. Where relevant these impacts were investigated and rated individually in a scientific manner by the respective Specialists. Although short-term in nature, the severity of the impact would increase if sensitive receptors are located close to the construction areas.

**Impact significance:**

- **Dust/air pollution:** In general sensitive receptors (homesteads and/or cultivated areas) are located 500 m or more from construction areas and impacts can effectively be mitigated.
- **Noise:** The construction activities of the wind turbines, as modelled for the worst-case scenario will comply with the National Noise Control Regulations for daytime activities, but may pose a noise risk of MEDIUM significance (moderate) on a number of receptors for night-time construction activities. With mitigation, this potential noise impact can be reduced to a LOW significance (precautionary principle). (Noise Impact Assessment, EAR)

- **Visual:** During construction the visual impact is MODERATE. Mitigation will reduce the severity of the impact, but the overall significance will remain MODERATE. (Visual Impact Assessment Report, CES)

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 5: INDIVIDUAL AND FAMILY LEVEL IMPACTS</b>					
<b>IMPACT 5.2: Intrusion impacts at construction site (dust/air, noise, visual)</b>					
Without mitigation	Short term	Municipal	Moderate severe	Definite	Moderate negative
With mitigation	Short term	Municipal	Slight	Definite	Moderate negative
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Short term	Municipal	Moderate severe	Possible	Moderate negative

**No-go option:**

- Sensitive receptors will not experience intrusion impacts as a result of this Project.

**Cumulative impacts:**

- There is no potential for a cumulative noise and dust/air impacts from other wind farms in the area.
- Cumulative visual impacts may occur if the construction phases of the Albany and Plan 8 WEF’s overlap.

**10.5.3 Security impacts**

**Impact description:**

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.

**Impact significance:**

Security impacts are *possible* with a MODERATE overall significance and can effectively be mitigated.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 5: INDIVIDUAL AND FAMILY LEVEL IMPACTS</b>					
<b>IMPACT 5.3: Security impacts</b>					
Without mitigation	Short term	Study area	Moderately severe	Possible	Moderate negative
With mitigation	Short term	Study area	Slight	Possible	Low negative
No-go option	Short term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Possible	Don't know

**No-go option:**

- No impact is foreseen.

**Cumulative impacts:**

- Although possible, the cumulative impact cannot be rated.

**10.5.4 MITIGATION AND MANAGEMENT MEASURES to address individual and family level impacts during the construction phase**

Road safety:

- If major roads are used, it is proposed that abnormal trucks transporting components (which would normally result in road closures over a long periods) rather be segmented into two trucks at a time, to allow normal traffic to use the roads at intervals during the affected days.
- Collaborate with the traffic department and use relevant mediums to inform the public of road closures and alternative routes, e.g. erect sign boards well in advance, radio broadcasts on local radio stations and notices to the established community organisations.
- Impose penalties for reckless drivers as a way to enforce compliance to traffic rules.

- Inspect trucks and other heavy vehicles on a regular basis to avoid oil spillages and unroadworthy vehicles that could lead to accidents.
- Display a contact number on the construction vehicles where motorists can report reckless driving.
- Erect signboards indicating accesses to the construction site.
- No informal traders to be allowed on or near the construction site.
- Upgrade the access roads prior to the construction period commencing and maintain the roads during the length of the construction period. Once construction is finalised, ensure that damaged road surfaces have been repaired.
- Implement all mitigation and management measures as proposed in the TIA Report.

Security measures:

- 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.
- 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.

Intrusion impacts:

- Dust alleviation methods: Vehicles carrying dusty materials should be securely covered before leaving the site; water gravel, dirt and roads regularly; temporarily cover earthworks if possible and minimize drop heights; monitor the dust fall out concentrations; etc.

- Generally construction activities should not take place before 8am and after 5pm and not on Sundays and public holidays. This would however not always be realistic, as deadlines and specific construction activities could take 12+ hours.
- Implement all mitigation and management measures of the respective Specialist Reports (AIA, VIA and Noise Impact Assessment).

Awareness and communication:

- Keep open communication channels with the landowners and address any potential issues as a matter of priority.
- Make contact details of the Contractor and procedures to lodge complaints available to the local communities through the local Councillor, a visitor centre, a website with contact details or even a Facebook group.
- Make a complaints register / log book available at the entrance to the construction site and act immediately should issues arise. Circulate summaries of monitoring results to the local communities / landowners when necessary.
- Announce road disruptions such as road closures by using the local media, road sign boards and other Municipal structures.
- Consult with surrounding landowners whose livestock, private residences and other infrastructure could be affected by dust, noise and other impacts that result from traffic movement and construction activities.
- Provide a schedule of the construction activities to landowners and relevant I&APs.
- Keep the local SAPS, other emergency services and Ward Councillors informed about the construction progress and time-lines.
- Consider circulating summaries of monitoring results (dust, ambient noise levels, etc.) to the local Councillor and landowners.
- Agree on a procedure to notify the Municipality and emergency services, so that immediate and appropriate measures can be put in place to rectify any problems.
- Comply with all regulations of the Occupational Health and Safety Act.

**10.6 Impact category 6: Impacts on infrastructure and services and general impacts on the Makana LM**

**10.6.1 Disruptions of services**

**Impact description:**

Temporary road closures when turbine components are transported to the construction site are eminent and have been assessed in Section 10.5.1: *Disruptions in daily living and movement patterns*.

Electricity might be disrupted temporarily when the wind farm switching station is connected into the grid, but this will be done within acceptable parameters prescribed by Eskom.

**Impact significance:**

Intermittent disruption(s) of electricity supply over the short term is *possible*, with an overall LOW negative impact on the affected parties. Mitigation will reduce the severity of the impact, although it might still occur.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 6: IMACTS ON INFRASTRUCTURE AND SERVICES AND GENERAL IMPACTS ON THE MAKANA LM</b>					
<b>IMPACT 6.1: Disruptions of services</b>					
Without mitigation	Short term	Study area	Moderately severe	Possible	Low negative
With mitigation	Short term	Study area	Slight	Possible	Low negative
No-go option	Short term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Short term	Municipal	No effect	Unlikely	No significance

**No-go option:**

- No disruptions of services over the short term will manifest.

**Cumulative impact:**

- No cumulative impact is foreseen.

### 10.6.2 Damage to road infrastructure and surfaces

#### Impact description:

Damage to road infrastructure as a result of an increase in traffic and large/abnormal vehicles could impact financially on government and landowners (repairs to road surfaces) as well as on the safety of road users. The N2 freeway and access roads that lead to the construction sites will mainly be affected.

#### Impact significance:

Damage to road infrastructure could result in negative impacts of MODERATE overall significance for the region. With mitigation, local access roads could *possibly* be left in an improved state with *few benefits* (LOW significance) for the study area.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 6: IMACTS ON INFRASTRUCTURE AND SERVICES AND GENERAL IMPACTS ON THE MAKANA LM</b>					
<b>IMPACT 6.2: Damage to road infrastructure and surfaces</b>					
Without mitigation	Short term	Regional	Moderately severe	Probable	Moderately negative
With mitigation	Short term	Study area	Slightly beneficial	Possible	Few benefits
No-go option	Short term	Study area	No impact	Unlikely	No significance
Cumulative impacts	Medium term	Regional	Don't know	Possible	Don't know

#### No-go option:

- Road infrastructure will not be impacted on.
- Upgrading of local access roads would not take place.

#### Cumulative impact:

- Cumulative impacts relating to damage to road infrastructure in the region and province is *possible*, but cannot be rated.

### 10.6.3 General impacts on the Makana LM

#### Impact description:

The proposed construction project would hold economic advantages for the Makana LM in terms of employment, skills development, SMME development and so forth (discussed in previous sections of the report). 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.

#### Impact significance:

During the short term negative impacts of LOW overall significance could manifest for the Makana LM. With mitigation pressure on the municipal resources would still be definite, but positive impacts (*few benefits*) are *possible* as local government's capacity would increase and role-players would be more equipped to deal with their roles and responsibilities in the process.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 6: IMPACTS ON INFRASTRUCTURE AND SERVICES AND GENERAL IMPACTS ON THE MAKANA LM</b>					
<b>IMPACT 6.3: General impacts on the Makana LM</b>					
Without mitigation	Short term	Municipal	Slight	Definite	Low negative

With mitigation	Short term	Municipal	Slightly beneficial	Possible	Few benefits
No-go option	Short term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Moderately severe	Definite	Moderate negative

**No-go option:**

- No impacts on Makana LM human resources.

**Cumulative impact:**

- Pressure on roles, responsibilities and resources of Makana LM would increase.

**10.6.4 MITIGATION AND MANAGEMENT MEASURES to address impacts on infrastructure and services and impacts on the Makana LM during construction**

- Upgrade access roads prior to the construction period commencing and maintain the roads during the length of the construction period. Once construction is finalised, ensure that damaged road surfaces have been repaired.
- 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 LM 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, land owner 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;

- 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.

## 10.7 Impact category 8: Health and Safety Impacts

### 10.7.1 Health and safety risks for construction workers

#### **Impact description:**

Inadequate management of the construction process and general construction related activities could result in health and safety risks for workers, manifesting in the 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.

#### **Impact significance:**

Health and safety of construction workers is *possible* and could result in death (*severe*). It is however short term and limited to the footprint of the construction site (*localised*) and rated as MODERATELY negative. Even though moderate, mitigation and management is definitely required, which will reduce the likelihood of the impact occurring (less than 40%) and the overall significance to LOW. The impact may however, should it occur, still result in death (*severe*).

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		

<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 7: HEALTH AND SAFETY IMPACTS</b>					
<b>IMPACT 7.1: Health and safety risks for construction workers</b>					
Without mitigation	Short term	Localised	Severe	Possible	Moderately negative
With mitigation	Short term	Localised	Severe	Unlikely	Low negative
No-go option	Short term	Localised	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Possible	Don't know

**No-go option:**

- No health and safety impacts will manifest as a result of the Project.

**Cumulative impact:**

- Cumulative impacts associated with health and safety of the workforce are *possible*, but cannot be rated as the severity of the impact manifesting is unknown.

**10.7.2 Community health and safety risks**

**Impact description:**

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 farm land 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 85 of 1993 in order to mitigate potential health and safety issues.

**Impact significance:**

The impact is rated with MODERATE overall significance and requires definite implementation of mitigation and management measures. The impact could then be reduced to LOW, although severe injuries may still occur.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: CONSTRUCTION</b>					
<b>IMPACT DRIVER 7: HEALTH AND SAFETY IMPACTS</b>					
<b>IMPACT 7.2: Community health and safety risks</b>					
Without mitigation	Short term	Study area	Severe	Possible	Moderate negative
With mitigation	Short term	Study area	Severe	Unlikely	Low negative
No-go option	Short term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Medium term	Municipal	Don't know	Possible	Don't know

**No-go option:**

- Status quo remains unchanged.

**Cumulative impact:**

- Cumulative impacts associated with community health and safety are *possible*, but cannot be rated as the severity of the impact manifesting is unknown.

### **10.7.3 MITIGATION AND MANAGEMENT MEASURES to address health and safety impacts during construction**

#### Health and safety measures to protect workers and the broader community:

- 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.
- Erect a safety fence around the entire construction site to prevent illegal trespassing of humans and livestock.
- 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 as proposed in Section 10.5.4: *MITIGATION AND MANAGEMENT MEASURES to address individual and family level impacts* during the construction phase; and as proposed in the Specialist Noise and Air Impact Assessment Reports to address potential community health and safety impacts.

#### Environmental health and safety measures:

- Implement measures to suppress dust, such as spraying water on gravel roads, surfaces and stock piles 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).

## **11. SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE**

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At this stage the Albany Wind Farm is expected to be operational for a 20 to 25 year period. Although this phase is less labour intensive various socio-economic benefits will manifest. These benefits and the anticipated negative impacts are discussed and rated in this section of the report.

### **11.1 Impact category 1: Impacts on employment**

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#### **11.1.1 Direct employment**

##### ***Impact description:***

The Albany WEF shall have permanent Service Technicians and assistants (if any) on site during the operational phase. At this point the following person-months are estimated:<sup>24</sup>

- Skilled: 1690 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. 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

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<sup>24</sup> Information obtained from EDF Renewables representative, January 2020.

buildings and small maintenance jobs such as plumbing. These numbers cannot accurately be determined at this early stage of the Project.

**Impact significance:**

Job opportunities are limited during the operational phase (*slightly beneficial*) and *few benefits* with LOW overall significance will manifest for the municipality. Mitigation is not possible, as employment requirements are determined by operational needs.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 1: IMPACTS ON EMPLOYMENT</b>					
<b>IMPACT 1.1: Direct employment opportunities</b>					
Without mitigation	Long term	Municipal	Slightly beneficial	Definite	Few benefits
With mitigation	-	-	-	-	-
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Slightly beneficial	Definite	Few benefits

**No-go option:**

- The Municipality will not benefit in terms of employment or any other economic spin-offs generated through the Project.
- No negative impact on existing employment opportunities in the reserve management and hospitality components of the affected game farms.

**Cumulative impacts:**

- The cumulative impact of permanent and temporary employment of the wind energy facilities in Makana LM 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.

### 11.1.2 Indirect employment

#### Impact description:

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.

#### Impact significance:

Although the severity (numbers) of indirect employment opportunities through SED projects cannot be determined, it is probable that a positive impact of *slight benefit* will manifest (when compared with Waainek Wind Power’s GYD Programme KPIs). The impact could increase from *few benefits* (LOW significance) to *some benefits* (MODERATE significance) with mitigation. Confidence in the rating is low.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 1: IMPACTS ON EMPLOYMENT</b>					
<b>IMPACT 1.2: Indirect employment opportunities</b>					
Without mitigation	Long term	Municipal	Slightly beneficial	Probable	Few benefits
With mitigation	Long term	Municipal	Moderately beneficial	Definite	Some benefits
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderately beneficial	Definite	Some benefits

#### No-go option:

- Local communities will not benefit in terms of indirect job creation, skills development or any other economic spin-offs.
- No negative impact on existing employment opportunities in the reserve management and hospitality components of the affected game farms.

**Cumulative impact:**

- Indirect job creation, training and capacity building at the wind farms in Makana LM could contribute to individual/household incomes, address poverty levels and enhance skills of the local municipal workforce.

**11.1.3 Loss of existing jobs as a result of the Project**

**Impact description:**

Turbines will not impact agricultural land uses and no negative impact on existing jobs in this sector is foreseen.

The existing tourism industry contribute meaningfully towards local and regional employment on direct and indirect levels and the possibility that the Project could result in job losses therefore has to be analysed and considered. This impact is directly linked to the potential impact of the Project on tourism, which is assessed in greater detail in Section 11.2.1 (*Potential loss in incomes: Tourism/Game/Hunting industries*).

Section 5.3 of this SIA (*Land uses in and around the study area*) makes reference to the Game Reserves within the Project's area of influence. Permanent employment of the Game Reserves that submitted questionnaires amount to 347.

**Impact significance:**

This SIA determined that the negative impact on tourism in the study area could be moderate (Section 11.2.1). A reduction in tourist volumes and rates charged may then result in financial losses, which may result in affected tourist establishments / game farms / hunting farms reducing their workforce.<sup>25</sup> The extent of the impact may be experienced beyond the establishments that are visually impacted, as a change to the general sense of place of the study area could alter tourists' perception of the study area and its tourism landscape.

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<sup>25</sup> The VIA (February 2021) determined that a moderate to high impact could manifest for Kwandwe Private Game Reserve (Indalo), Kwandwe West Indalo Protected Environment, Buffalo Kloof Protected Environment, Kwandwe Private Game Reserve (none Indalo).

It is thus *possible* that job losses of MODERATE overall significance could manifest in the study area over the long term. Since there is no concrete data or evidence to back up this assertion, confidence in the rating is ‘uncertain’.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 1: IMPACTS ON EMPLOYMENT</b>					
<b>IMPACT 1.3: Loss of existing jobs</b>					
Without mitigation	Long term	Municipal	Moderate severe	Possible	Moderate negative
With mitigation	-	-	-	-	-
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderate severe	Possible	Moderate negative

***No-go option:***

- Status quo in terms of direct and indirect employment by the agriculture, tourism, game and hunting sectors would prevail.
- No additional employment as a direct result of the Project or indirectly through SED and ED contributions and community projects.

***Cumulative impacts:***

- Cumulative negative impacts on the sense of place could alter tourists’ and the community’s perception of the study area. Tourism investments could become less attractive and lucrative, resulting in declining contributions to the local GDP.
- Many of the game reserves in the study area make contributions to community development projects, e.g. the Amakhala, Ubunye and Kariega Foundations. Should the eco-tourism market be threatened, then a negative knock-on effect on the projects and indirect employment will be possible.

#### **11.1.4 MITIGATION AND MANAGEMENT MEASURES to enhance impacts on employment during the operational phase**

- 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).
- Implement all the applicable mitigation measures proposed in the Visual Impact Assessment Report.

### **11.2 Impact category 2: Local Economic Impacts**

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#### **11.2.1 Potential loss in incomes: Tourism/Game/Hunting industries**

##### **Impact description:**

The assessment of negative local economic impacts, and specifically impacts on incomes/livelihoods, as a result of the Albany WEF cannot be done with certainty due to confining factors and information. Although other wind farms in South Africa, such as Cookhouse, Dassiesridge<sup>26</sup> and Waainek also affect game/hunting farms, the Albany WEF's potential negative impact on the study area could be higher due to various facts:

- Game Reserves within the study area are mostly high-end luxury tourist attractions and many are frequented by overseas visitors;
- The number of turbines planned are relatively high (43);<sup>27</sup> and

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<sup>26</sup> Dassiesridge WEF is not operational yet. The Wind Farm is however located on a game/hunting farm (The Rudman Family Blaauwkrantz Safaris) with closest turbines positioned 2km from the hunting lodges. The owner, who is in favour of wind farms, won the Southern African Wildlife Rancher of the Year by Wildlife Ranchers South Africa in March 2016.

<sup>27</sup> The number of turbines at the Cookhouse WEF are higher, at 66.

- The visual impact on some of the game reserves and protected areas in the study area are anticipated to be moderate to high (VIA, February 2021).

Visual and aesthetic concerns raised by I&APs and the subsequent negative impacts the development poses to their businesses, livelihoods and investments are thus understandable.

Since no local data on the subject currently exists, reference has to be made to international research results. These findings need to be used with caution since the receiving environment (communities, tourist activities, landscape), location, technologies, size of the wind farm developments and so forth differ between the various sources and from this Project.

The following is a summary of various international articles and publications that aimed to investigate the impact of wind farms on tourists and tourist destinations. Results often contradict each other, which illustrate the contentious nature of the topic:<sup>28</sup>

- Many visitors/tourists would criticize the proximity to wind turbines; many would also accept their presence.
- Many of the respondents in the various studies/surveys stated that wind farms had no impact on their destination of choice; many respondents revealed they would not frequent areas with visible turbines.
- Many of the studies concluded that the presence of a wind farm in an area does not influence destination of choice; whilst other publications list the attractiveness of local nature and scenery as one of the most important aspect in tourists' choice of destination.
- The reported avoidance effect diminishes with greater distance from the tourist area.
- Aesthetic perceptions (both positive and negative) is one of the strongest single influence on individuals' attitudes towards wind power projects.
- There tend to be greater opposition towards wind farms that are greater in size.
- In some instances factors such as quality of service, hospitality and (for foreign tourists) the currency exchange rate, rather than only the wind farm presence in a landscape, often affect local tourism development more.

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<sup>28</sup> Data obtained from various international articles and publications (that include various studies, research and surveys) listed in Section 16.2.

- Some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area; whereas others were consistent in their conclusion that wind farms are innocuous in terms of local tourism demand, numbers, revenue and experiences.
- No measureable economic impact of wind farms on tourism abroad could be obtained.

It is clear from the above that no consensus exists with regards to wind farms' actual impacts on tourism and that impacts would rather be subject to local conditions and markets. For this Project, landscape (scenic resources) and the tourism market (eco-tourism and high-end luxury accommodation) would be considered some of the determining factors. The tourism market is a highly competitive industry and could be susceptible to subtle changes in market conditions and it is recognised that a marginal change in the numbers of tourists could have a significant knock-on economic effect.

Silva and Delicado (2017) state that: "Wind farms' tourism conflict is particularly pronounced in areas where the productive functions of the countryside come into conflict with the consumptive function." Landscapes have now become part of "countryside capital", a wide range of rural resources or products that are bought and sold through tourism (Silva and Delicado, 2017).

On a local level, game farm owners in close proximity to the Cookhouse (66 turbines) and Waainek (8 turbines) wind farms were consulted to obtain their experiences with the developments. During the EIA draft report review period, Lalibela and Pumba Game Reserves submitted additional comments that have been included below:

- Some of the game farms are affected visually from various viewpoints on the farms;<sup>29</sup>
- Natural features (such as mountainous areas) assist to mitigate visual impacts to a certain extent;
- Views from Kichaka Lodge (Lalibela) look straight over a water hole and upslope into three (3) turbines in the distance. The rich landscape scenery has partially ameliorated the visual impact during the day, but the turbine lights are a significant intrusion during the night and

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<sup>29</sup> Locality of the Waainek WEF to the game reserves: Pumba Game Reserve appr. 8 – 10 km; Lalibela appr. 20 – 25 km; Amakhala appr. 40 km.

have drawn comment from visitors to the extent that the game farm will be implementing special lighting around the lodge and water hole to distract from the turbine light intrusion,<sup>30</sup>

- Lalibela Game Farm reported that they have had to change game drive routes to avoid turbine visual impact. Certain routes can now only be driven in direction away from Waainek and certain areas can only be traversed in daytime as night drives are spoiled by turbine light flicker;
- Gameston Wildlife Retreat (Pumba) faces the Waainek turbines across the valley. As a result of complaints from visitors, a decision was made to remove the Gameston lodge from the Pumba Reserve offering and to remarket the facility to a different market;<sup>31</sup>
- It was stated that guests do not complain about the turbines, as many are European visitors who have most likely become used to the sight of wind farms;<sup>32</sup>
- The game farm representatives that were telephonically interviewed<sup>33</sup> were asked whether the wind farms affected their tourism and businesses, and none reported any significant impact<sup>34</sup>; and
- The eZulu Game Reserve informed that the Reserve was being sold to overseas buyers “who made an offer that could not be refused”.<sup>35</sup>

As a result of the appeal lodged by Indalo, Amakhala and Pumba Game Reserves in opposition to the issuance of the Environmental Authorisation (“EA”) for Waainek WEF, the number of turbines were reduced from 27 to eight (8). The reduction in the number of turbines have undoubtedly also ameliorated impacts on these tourist establishments.

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<sup>30</sup> Mr Robert Gradwell, Lalibela Game Reserve. 10 July 2020 (written comments).

<sup>31</sup> Mr Dale Howarth, Pumba Private Game Reserve. 21 May 2020 (written comments).

<sup>32</sup> Mr. Dale Howarth (Pumba Private Game Reserve). Telephonic consultation, 29 January 2020. Subsequent to the EIA review period, Mr. Howarth submitted written comments that indicated that they have in actual fact received complaints due to the visual impact on Gameston lodge.

<sup>33</sup> Mr. Dale Howarth (Pumba Private Game Reserve), 29 January 2020; Mr. Charles Price (eZulu Game Reserve), 31 January 2020; Mr. Dwain Strydom (Amakhala Game Reserve); 29 January 2020.

<sup>34</sup> Mr. Dwain Strydom (Amakhala Game Reserve) started at Amakhala in November 2019 and could thus not answer this question.

<sup>35</sup> Mr. Charles Price (eZulu Game Reserve), Telephonic consultation, 31 January 2020.

Kwandwe Game Reserve did a client survey<sup>36</sup> to determine perceptions with regards to wind farms and its potential impact on tourists' perceptions (refer to Addendum, Section 14.1.6). Three (3) questions were asked and the results are summarised below:

- Several clients simply answered “yes” to all three questions, i.e. (1) That the nature and type of infrastructure that is visible from Kwandwe will be relevant to their visual / aesthetic experience; (2) That being able to see a wind farm during both the day and the night (aviation warning lights) will impact on their choice of destination for a wildlife tourist experience in South Africa; and (3) That the visibility of wind farms from within Kwandwe Game Reserve would impact on their decision to visit Kwandwe.
- The bulk of the responses were individuals that responded in more detail and reasons provided for visiting the reserve mostly related to “the unique wilderness experience” and that they “frequent Kwandwe to escape from the city to nature”.
- Although the majority of respondents stated that a wind farm would influence their destination of choice and would impact their decision to return to Kwandwe negatively, a number responded that it would either (1) not influence their decision, or (2) that their decision would depend on the scale of the wind farm development and its visibility.

The following general conclusions, which relate to impacts on tourism and livelihoods, are made:

- No local research and published surveys could be obtained with regards to WEF impacts on tourism/livelihoods;
- Wind farms and tourist destinations abroad (on which the published literature is based) differ from the study area in terms of the tourist product offered, landscapes, communities affected, localities of the wind farms as well as the sizes of the development;
- From international literature consulted, no consensus exists with regards to wind farms' actual impacts on tourism (volumes, experiences, and revenue), tourists' destination of choice and so forth;

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<sup>36</sup> Survey results were submitted to the Project Team after the review period of the draft EIA and is included in Section 14.1.6 of the SIA report.

- Some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area; whereas others were consistent in their conclusion that wind farms are innocuous in terms of local tourism demand, numbers, revenue and experiences;<sup>37</sup>
- Most respondents in the Kwandwe survey indicated a negative response towards such a development and the impact it would have to their experience (Africa and bush experience) and destination of choice;
- Impacts that have manifested for game reserves affected by Cookhouse and Waainek WEF's were mostly as a result of visual aspects (especially night light flicker). Some game reserves have had to implement measures to address visual intrusions, i.e. to change game drive routes, do refurbishments and install lighting that distracts from light disturbances;
- The tourism industry is highly competitive, sensitive and susceptible to subtle changes in market conditions and it is recognised that a marginal change in the numbers of tourists could have a significant knock-on economic effect;
- Proximity to turbines and their localities (visual impacts on lodges and strategic viewpoints on the game farms) together with impacts on the sense of place, which could be influenced by changes in landscape (scenic resources), could potentially influence the local tourism market and subsequently livelihoods.

Based on comments received relating to the draft EIA and VIA reports, the project proponent has reduced the number of turbines with 23, which has addressed some of the visual impacts associated with this Project. It is however acknowledged that visual impacts alone is not the only determining factor and that impacts on the sense of place and changes to the fabric of the landscape (as a result of cumulative impacts) could also influence tourists' perception of the study area and ultimately their choice of destination.

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<sup>37</sup> Silva and Delicado, 2017 (Reference is made in the study to Broekel and Alfken, 2015; Riddington et al., 2010, Aitchison, 2012; Frantál and Kunc, 2011; Sousa and Kastenholz, 2015; Warren and McFadyen, 2010).

**Impact significance:**

Negative local economic impacts on tourism/game/hunting industries are *possible*, with a *moderate severity*, resulting in an overall MODERATE significance. Confidence in the rating is ‘uncertain’ as: (i) no consensus exists with regards to wind farms’ actual impacts on tourism; (ii) no measurable economic impact on tourism locally or abroad could be obtained; (iii) each tourism market would be sensitive to its own set of circumstances and generalisations cannot be made; and (iv) only four (4) of the game farms/protected environments in the study area are regarded as significantly visually impacted (moderate to high).

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.1: Potential loss in incomes: Tourism/game/hunting industries</b>					
Without mitigation	Long term	Municipal	Moderate severe	Possible	Moderate negative
With mitigation	-	-	-	-	-
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderate severe	Possible	Moderate negative

**No-go option:**

- No impact as a result of the Project. Any impacts on local tourism and its contribution to the local GDP will be influenced by national and international factors, such as the exchange rate, travel restrictions due to the COVID-19 pandemic and so forth.

**Cumulative impact:**

- Cumulative positive local economic impacts for tourism in the broader municipal area is possible.
- Should tourism/eco-tourism be impacted, it could result in negative impacts on livelihoods, employment in supporting industries and so forth.

- Negative local economic impacts could then manifest for existing community benefits (e.g. Amakhala, Kariega and Ubunye Foundation), resulting in impacts on livelihoods for local community members.

### 11.2.2 Potential impacts on incomes: Rental incomes

#### Impact description:

For the duration of the operational phase fifteen (15) landowners/legal entities directly involved in the Project, would benefit financially. Makana LM (as a landowner) and the approximate 200 commonage farmers who have grazing rights on the municipal land stand to benefit from the turbine rental and associated socio-economic benefits.

#### Impact significance:

Although *definite*, the impact is *slightly beneficial* as a limited number of land owners would benefit. The impact has an overall LOW significance (*few benefits*).

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.2: Rental incomes</b>					
Without mitigation	Long term	Study area	Slightly beneficial	Definite	Few benefits
With mitigation	-	-	-	-	-
No-go option	Long term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipality	Slightly beneficial	Definite	Few benefits

#### No-go option:

- No rental incomes and related financial benefits for affected parties.

#### Cumulative impact:

- Cumulative local economic impacts for the landowners of the various wind farms in the Makana LM.

**11.2.3 Potential impacts on land values: Farm portions included in the project**

**Impact description:**

The Albany Wind Farm and related infrastructure would in all likelihood add value to land that is included in the Project, as rental incomes would be secured for the duration of the project. For the duration of the operational phase a possible positive economic impact in terms of land values is anticipated for those landowners.

**Impact significance:**

Although probable, insufficient information is available (monetary values, concrete evidence of farm values, etc.) and a *slight severity* is thus applied as standard environmental principle. The impact would have a LOW overall significance (*few benefits*). Confidence in the rating is ‘unsure’.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.3: Economic impacts on land values: Farm portions included in the project</b>					
Without mitigation	Long term	Study area	Slightly beneficial	Probable	Few benefits
With mitigation	--	-	-	-	-
No-go option	Long term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipality	Slightly beneficial	Probable	Few benefits

**No-go option:**

- No infrastructure would be erected, no agreements with landowners would be concluded and none of the economic benefits in terms of a potential increase in land values and rental incomes would manifest.

**Cumulative impacts:**

- Economic benefits for the landowners affected by the three WEFs are expected.

#### **11.2.4 Potential impacts on land values/market values: Surrounding farms and Game Reserves**

##### **Impact description:**

Concerns have been raised that visual impacts of wind farms could potentially impact negatively on land values/market values of surrounding agricultural land and/or Game Reserves.

From a socio-economic perspective, experience indicates that infrastructure such as Eskom power lines and turbines would not have a negative impact on **agricultural property values**,<sup>38</sup> although the potential impact on **commercial land values** would be more complex to determine. Research done on the impact of wind turbines on tourism landscapes recognises that wind turbines are perceived more positively compared to other types of industrial facilities.<sup>39</sup>

The SIA Specialist conducted an interview with a land Valuer in 2014 who at the time indicated that Farm No. 68, Bedford district in extent of 919,920 hectares and located in very close proximity to the Cookhouse WEF, sold for R11,5 million (R150 000/ha for irrigated land and R7 800/ha for natural veld), which was at the time far above market value. The wind turbines have a significant visual impact on Farm No. 68 as well as surrounding farms. Thirty hectares of Farm No. 68 were under irrigation then and 889 hectares veld (grazing). Construction of the Cookhouse WEF therefore had no negative impact on the market value of the farm.<sup>40</sup>

In a more recent interview, a former estate agent in the Somerset-East area indicated that the resale value of an agricultural farm in close proximity (approximately 8km) to the Cookhouse WEF has also increased significantly over the last number of years when it was sold recently.<sup>41</sup>

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<sup>38</sup> Mr. Martin Swart. Independent Land Valuer, Kirkwood interviewed on 26 August 2014. Interview conducted for the SIA for the proposed Dassiesridge WEF, Eastern Cape Province. (INDEX)

<sup>39</sup> Wind turbines in tourism landscapes: Czech experience. Annals of Tourism Research. Volume 38 Issue 2. April 2011.

<sup>40</sup> Mr. Martin Swart. Independent Land Valuer, Kirkwood interviewed on 26 August 2014. Interview conducted for the SIA for the proposed Dassiesridge WEF, Eastern Cape Province. (INDEX)

<sup>41</sup> Telephonic interview with Mr. F Botha (formerly BKB Properties, Somerset-East) on 27 January 2020. The information could however not be verified.

In terms of commercial land, the former owner of eZulu Game Reserve, located close to Cookhouse WEF and visually impacted by turbines, informed that the Reserve was sold to overseas buyers at the beginning of 2020 “who made an offer that could not be refused”.<sup>42</sup>

**Impact significance:**

No evidence could be obtained to support the concern that the Albany WEF will negatively impact surrounding land values and it is the SIA Specialist’s opinion that it is *unlikely*.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.4: Economic impacts on land values / market values of surrounding farms</b>					
Without mitigation	Long term	Municipal	No effect	Unlikely	No significance
With mitigation	-	-	-	-	-
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	No effect	Unlikely	Don’t know

**No-go option:**

- Market values of surrounding farms would be determined in accordance with standard valuation practices and would not be influenced by visual impacts of developments such as the Albany WEF.

**Cumulative impact:**

- Negative cumulative impacts are unlikely. However, the detailed assessment of possible cumulative impacts on land/market values of farms fall outside the scope of this SIA study.

<sup>42</sup> Interview with Mr. Charles Price, eZulu Game Reserve on 31 January 2020.

### 11.2.5 General impacts for the local economy

#### Impact description:

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, child care, 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%)<sup>43</sup>, 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); and
- The establishment of local downstream industries and services that would support the Wind Farm’s operations (to a lesser extent).

#### Impact significance:

The monetary value of the contribution towards the local economy is unknown. However, when compared with Waainek WEF (24MW), the Albany project is expected to contribute considerably more (*moderate beneficial severity*) and is thus rated with a MODERATE overall significance (*some benefits*).

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 2: LOCAL ECONOMIC IMPACTS</b>					
<b>IMPACT 2.5: General impacts for the local economy</b>					

<sup>43</sup> The percentage shareholding of the community trust is yet to be established as the project is still under development and the tender documents, which may be amended by the DMRE, are yet to be published.

Without mitigation	Long term	Municipal	Moderately beneficial	Definite	Some benefits
With mitigation	-	-	-	-	-
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Beneficial	Definite	Beneficial

***No-go option:***

- No monetary contributions and economic spin-offs for the local economy and communities as a result of this Project. Status quo remains.
- Possible impacts on the existing tourism/game/hunting industries and subsequently negative local economic impacts will not manifest.

***Cumulative impact:***

- Positive impacts that are beneficial 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 is operational since 2016. Dividends received are contributed on community development projects/initiatives within a 50 km radius of the wind farm (Refer Addendum, Section 0 for the SED and ED projects implemented).
- 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 R570 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 R1.17 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 R4.5 billion over the 20-year project life and R1.2 billion has been committed to ED alone (IPP Office, 2018).<sup>44</sup>

#### **11.2.6 MITIGATION AND MANAGEMENT MEASURES to address local economic impacts during the operational phase**

- 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.
- Assist and guide the local community with regards to the needs of the WEF plant and the types of supporting industries and services required for its successful operation. Make ED funding available to assist the local SMME's with skills training and capacity building, etc.
- It is suggested that turbines, if possible, not be erected in direct view of lodges and strategic viewpoints at the Game Reserves.
- Implement all recommendations, mitigation and management measures of the Visual Impact Specialist wherever necessary to ensure that any intrusion impacts on surrounding establishments be limited.

### **11.3 Impact category 3: Skills Development and Social Responsibility**

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#### **11.3.1 Community projects, SED and ED contributions**

##### ***Impact description:***

To identify suitable projects for the SED and ED component, an IMA is appointed ahead of the operational phase to do a needs assessment and, following a stringent application process, source projects that are in line with the ED/SED program targets, aims and objectives. Pursuant to thorough evaluation by both the IMA and the Project, a decision is made by the Project Company to enter into a contract with the beneficiary for a specified duration. Such contract makes provision for a subsequent monitoring period of 6 months after the funding commitment has been fulfilled. Such monitoring is to ensure the project delivers as per its proposal and provide the necessary reports.

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<sup>44</sup> Obtained from EDF Renewables Representative, January 2020.

The Project is required to report quarterly to the DMRE’s Independent Power Producer Office (“IPPO”), which allows the IPPO to monitor use of SED and ED funds as committed by the Project (approximately 2.1% of revenue), as well as monitor the impact such contributions have on the community through funding of existing projects and enterprises. Albany WEF is committed to further design its own KPIs to assist monitor the direct impact each beneficiary has on the community, i.e. social inclusion, job creation and skills transfer.

**Impact significance:**

A definite, moderate to long term impact of real benefit to the affected parties is anticipated (*moderately beneficial*), resulting in impacts of MODERATE overall significance (*some benefits*). Mitigation and management will enhance the benefits of the impact, resulting in impacts with HIGH overall significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 3: SKILLS DEVELOPMENT AND SOCIAL RESPONSIBILITY</b>					
<b>IMPACT 3.1: Community projects, ED and SED contributions</b>					
Without mitigation	Long term	Municipal	Moderately beneficial	Definite	Some benefits
With mitigation	Long term	Municipal	Beneficial	Definite	Beneficial
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Beneficial	Probable	Beneficial

**No-go option:**

- None of the benefits associated with community shareholding, ED and SED would manifest for locals.
- Skills development and capacity building through training and enterprise development would not occur.

**Cumulative impacts:**

- The collaboration of the three wind energy projects would increase the economic power within the “renewable energy development nodes” and ED and SED projects would be able to compete in the broader economy of the region and country.
- Enhance local food security, employment creation and skills development, thereby increasing the local workforce.
- In the Eastern Cape up to date, R4.5 billion has been committed to SED in local communities (IPP Office 2018).

**11.3.2 Training, skills development and capacity building**

**Impact description:**

Training, skills development and capacity building during the operational phase will take place as follow:

- Training for employees during operations. This shall be determined by the needs identified during the operational phase of the project and cannot be quantified at this stage;
- Offering internships and possibly bursaries; and
- Support of educational projects through ED contributions (approximately 0.6% of revenue). In addition to the contractual obligation with the DMRE in terms of targets and obligations, Albany WEF would set their own set of KPIs to assist to monitor the impact of skills transfer.

**Impact significance:**

The impact of training, skills development and capacity building will hold *some benefits* (MODERATE significance) for the local communities and municipality. Mitigation and management will not change the rating significantly.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 3: SKILLS DEVELOPMENT AND SOCIAL RESPONSIBILITY</b>					
<b>IMPACT 3.2: Training, skills development and capacity building</b>					

Without mitigation	Long term	Municipal	Slightly beneficial	Definite	Some benefits
With mitigation	Long term	Municipal	Moderately beneficial	Definite	Some benefits
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderately beneficial	Definite	Some benefits

**No-go option:**

- No skills transfer and capacity building in terms of renewable energy technology.
- No skills development and training in terms of community upliftment and income-generating projects.
- No long-term advantages associated with training (entrepreneurial development, small business development, poverty alleviation, etc.) would manifest.

**Cumulative impacts:**

- Positive cumulative impacts of capacity building and training would hold some benefits and enhance skills of the local and regional workforce.
- As a result of the Waainek Wind Power’s GYD Programme since inception in 2016, 619 people have benefited from skills transfer.<sup>45</sup> This impact has been achieved with a 24MW wind farm, and the cumulative impact with Albany (140MW) is thus expected to be greater.
- In the Eastern Cape up to date, 37.9% of SED contributions have been used for education and skills development (IPP Office 2018).

**11.3.3 MITIGATION AND MANAGEMENT MEASURES to enhance the positive impacts of skills development and social responsibility during the operational phase**

- Identification of projects and respective training programmes should be done once a community needs analysis has been executed. Empower communities through training and leadership – not only to maintain a welfare relationship.

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<sup>45</sup> Information obtained from EDF Renewables representative, January 2020.

- Make gender and youth issues a specific outcome of the analysis to ensure that these groups are targeted.
- Provide feedback to the local communities and then draw up a community-accepted plan.
- All SED and ED plans should be transparently available to the local government and the community. If possible local government could play a role in monitoring progress of SED and ED projects.
- Effective information sharing could be done through the industry associated websites, emailed newsletters, municipal noticeboards, information events and meetings and existing local community channels used by the various wards.
- Ensure that the Trust/legal entity consists of democratically elected trustees.
- Community trustees need to have an understanding of how trusts work, financial management basics as well as some training in community facilitation and conflict resolution. There are tertiary institutions that are initiating such a programme and these could be approached to help deliver.
- It is recommended that fragmented community projects should at best be avoided and holistic income-generating projects for long-term income generation, employment creation and skills development would ensure greater sustainability.
- Link with existing NGOs and pre-established projects but make it a pre-requisite (and set targets) that new community-driven development processes be established and that the NGOs assist in skills transfer to these new groups and processes.
- There is a need for Wind Power companies to communicate with each other. Waainek, Albany and the Plan 8 WEFs need to at least be aware of each other's approaches in order to effectively communicate with local stakeholders and plan coherently.
- Implementation of appropriate structures and partnerships with the Municipality LED Unit to manage projects, distribute funds and monitor progress. Ensure that the community priorities and projects are co-ordinated with the IDP priorities.

## 11.4 Impact category 4: Individual and Family level Impacts

### 11.4.1 Impacts on the 'sense of place'

#### Impact description:

'Sense of place' has at least two meanings. Firstly, even though someone has not even visited a place they could have a sense of what it is like. That image could be realistic or unrealistic, or may be dramatically simplified, but is usually based on the physical characteristics of that place. The second meaning is the particular sense that individuals have of places they know by experience (www.encyclopedia.com).

In the study area biodiversity conservation is particularly important, which is exemplified by the Indalo Protected Environment and the supporting land uses of the majority of farms in and around the Project area (eco-tourism, game viewing and so forth). Respondents in the Kwandwe survey indicated that they visit the reserve to "have a bush experience" and that visual intrusions of turbines would "be a reminder of the (city) environment, which they are trying to escape". Potential impacts of turbines on wildlife, aesthetics and the landscape, and factors such as an increase in crime, could thus alter the community and tourists' sense of place.

#### Impact significance:

Impacts on the sense of place is *possible* and rated with an overall MODERATE negative significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 4: INDIVIDUAL AND FAMILY LEVEL IMPACTS</b>					
<b>IMPACT 4.1: Impacts on 'sense of place'</b>					
Without mitigation	Long term	Municipal	Moderately severe	Possible	Moderate negative
With mitigation	-	-	-	-	-
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderately severe	Possible	Moderate negative

***No-go option:***

- Status quo in terms of sense of place prevails.

***Cumulative impact:***

- Even though wind farms are usually perceived less negative than other industrial infrastructure (Frantal and Kunc, 2011), the establishment of more wind farms in the study area have the potential to increase negative cumulative impacts on the community's sense of place.

**11.4.2 Intrusion impacts**

***Impact description and significance:***

Intrusion impacts relevant to this SIA report are visual and noise impacts and have been investigated and rated by the respective Specialists and summarised in the section below.

**Noise impacts:** Wind turbines produce sound, primarily due to mechanical operations and aerodynamic effects at the blades. Modern wind turbine manufacturers have virtually eliminated the noise impact caused by mechanical sources and instituted measures to reduce the aerodynamic effects. But, as with many other activities, the wind turbines emit sound power levels at a level that can impact on areas at some distance away. The wind turbines will be clearly audible, but considering the likely ambient sound levels the significance of the noise impact is considered to be LOW. Mitigation is not required but general recommendations are proposed for the developer to consider. (Noise Impact Assessment Report).

**Visual impacts:** For purposes of the VIA various visual sensitive receptors (e.g. towns, villages, settlements, scenic routes, ridgelines, protected landscapes, etc.) were identified and assessed. In addition, nine (9) nature and game reserves that were considered to be potentially impacted were also assessed. In order to assess the visual impacts of the Albany WEF, a combination of the viewshed analyses, 3D simulations and field observations were adopted. Three main visual criteria were assessed with respect to the viewshed analyses, i.e. visibility, exposure and landscape sensitivity.

Overall, the visual impacts of the Albany WEF range from LOW for many receptors (either due to low sensitivity of receptors or distance from WEF) to HIGH for other more sensitive receptors such as formally protected nature reserves and game farms.

Based on the analyses, visual impacts are considered to be MODERATE to HIGH for the following four sensitive visual receptors, particularly to the closer western turbine cluster:

- Kwandwe Private Game Reserve North Indalo Protected Environment;
- Kwandwe West Indalo Protected Environment;
- Buffalo Kloof Protected Environment; and
- Kwandwe Private Game Reserve None Indalo Protected Environment.

The MODERATE to HIGH rating is due to the diminishing impact with increasing distance from the WEF for the four receptors with the higher rating being for portions of the properties located closer to the WEF. Night lighting will in particular, contribute to the HIGH impact and every effort should be made to minimise turbine lighting requirements.

There are many other receptors including public nature reserves and private game farms, agricultural farms, towns and villages, roads, etc. where the impacts will be LOW to MODERATE mostly due to low receptor sensitivity, distance and potential screening mostly due to the varied topography, particularly in the region of the Ecca Pass/Ridge to the north of the WEF (VIA, March 2021).

#### ***11.4.3 MITIGATION AND MANAGEMENT MEASURES to address negative impacts on individuals and households during the operational phase***

- Implement all mitigation and management measures as proposed in the Specialist Noise and Visual Impact Assessment Reports.
- Implement measures to increase communication and transparency between the land owners and Project as proposed in the previous sections of this report.

## 11.5 Impact category 5: Impacts on infrastructure and services

### 11.5.1 Impacts on services and community infrastructure

#### Impact description:

The Project will contribute to constant supply of energy to the region, which would be conducive for future developments and industry. On-site roads and fencing are likely to be upgraded and should be maintained as part of the landowners' lease agreement.

#### Impact significance:

Without management and mitigation negative impacts on roads and other infrastructure is *possible*. Mitigation will contribute to impacts of LOW overall significance (*few benefits*) for the study area.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 5: IMPACTS ON INFRASTRUCTURE &amp; SERVICES</b>					
<b>IMPACT 5.1: Impacts on services and community infrastructure</b>					
Without mitigation	Long term	Study area	Slight	Possible	Low negative
With mitigation	Long term	Study area	Slightly beneficial	Possible	Few benefits
No-go option	Long term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Long term	Regional	Moderately beneficial	Definite	Some benefits

#### No-go option:

- Status quo with regards to electricity supply will remain unchanged and no impacts on community infrastructure will manifest.

#### Cumulative impacts:

- Positive cumulative impacts of energy supply to the region, with advantages for households, business and industry.

### 11.5.2 General impacts on Makana LM and the broader region

#### Impact description:

Even though the cost-competitiveness of renewable energy sources still holds many challenges, the proposed Albany Wind Farm would also introduce **positive impacts** on a local and regional level. The proposed Wind Farm reinforces the strategy of the Eastern Cape to gear the Eastern Cape as the capitol for energy generation in South Africa, it is sustainable and cannot be depleted, requires less maintenance and lower operational costs than in the case of fossil fuels, produces little or no waste products such as carbon dioxide and other chemical pollutants and would contribute to a constant supply of energy to the region.

Implementation and operation of renewable energy projects, however, require local government involvement to assist with managing stakeholder and community relations. This poses **various challenges**, as there might be shortfalls in terms of capacity and management experience within the Municipality. Engagement between the IPP and local Municipality is also required during the operational phase to align SED and ED projects with LED priorities.

#### Impact significance:

The Project could have negative impacts of LOW overall significance on the municipality's capacity and management structures. With mitigation, the impact could hold *few benefits* (LOW positive) for Makana LM.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 5: IMPACTS ON INFRASTRUCTURE &amp; SERVICES</b>					
<b>IMPACT 5.2: Impacts on Makana LM (capacity and management structures)</b>					
Without mitigation	Long term	Municipal	Slight	Probable	Low negative
With mitigation	Long term	Municipal	Slightly beneficial	Possible	Few benefits
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Slight	Probable	Low negative

**No-go option:**

- No impacts, positive or negative, for Makana LM.

**Cumulative impacts:**

- Cumulative impacts could manifest for the Makana LM, which will depend on the level of their involvement in the WEF Projects' SED and ED projects and Trust/legal entity operations.

**11.5.3 MITIGATION AND MANAGEMENT MEASURES to address impacts on infrastructure and services during the operational phase**

- Engage with the LED Unit and inform them of local investments and plans. This unit is crucial for the needs analysis and for the planning and implementation of local community investments. Ensure that results of the needs assessment and SED and ED expenditure are aligned and included with the IDP priorities.
- Build capacity within the Municipality and include the relevant officials in training programmes that is provided for the consultants and company top- and middle management in terms of conflict resolution, community engagement, gender and race awareness, development economics, social justice and constitutionalism.

**11.6 Impact category 6: Land Use Impacts**

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**11.6.1 Impacts on agriculture**

**Impact description:**

The footprint of each turbine will be approximately 575 m<sup>2</sup> (foundations, switchgear and/or transformer) and 8 m wide access roads to each turbine. Lease agreements will be concluded with each landowner for the duration of the operational period and grazing and crop production will continue. Minimal impacts on agriculture is anticipated.

**Impact significance:**

Impacts on agricultural practices as a result of project infrastructure and activities that relate to the wind farm are not significant. No mitigation is proposed.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 6: LAND USE IMPACTS</b>					
<b>IMPACT 6.1: Impacts on agriculture</b>					
Without mitigation	Long term	Localised	Slight	Unlikely	No significance
With mitigation	-	-	-	-	-
No-go option	Long term	Localised	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Slight	Unlikely	No significance

**No-go option:**

- No impact will manifest.

**Cumulative impacts:**

- No cumulative impact is foreseen.

**11.6.2 Land use management**

**Impact description:**

An agreement between Albany Wind Power and the landowners would be required to manage and maintain collective infrastructure such as fences and roads and to ensure that adequate resources are allocated to address potential issues of trespassing, an increase in security risks (livestock, copper and cable theft, etc.), veld fires as a result of illegal activities and so forth.

**Impact significance:**

Poor land use management practices have the potential to result in negative impacts with *moderate severity* and LOW overall significance. Mitigation and management would ensure that benefits of LOW overall significance manifest for land owners and Albany Wind Power.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		

<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 6: LAND USE IMPACTS</b>					
<b>IMPACT 6.2: Land use management</b>					
Without mitigation	Long term	Localised	Moderate severe	Possible	Low negative
With mitigation	Long term	Localised	Slightly beneficial	Probable	Few benefits
No-go option	Long term	Localised	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	No effect	Unlikely	No significance

**No-go option:**

- Status quo will remain unchanged.

**11.6.3 Impacts on archaeological/historical sites and cultural practices**

**Impact description:**

An Archaeological Impact Assessment (“AIA”) was done for the proposed Albany WEF to establish the range and importance of the exposed and *in situ* archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage (Booth Heritage Consulting; May 2018, Revised May 2019). It was found that:

- Middle Stone Age (MSA) stone artefacts occurred in various locations over the proposed development area within the exposed and disturbed surface areas.
- Several stone packed features were also recorded within the proposed development area. These included stone packed / walled kraals, an 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.
- 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 national, running parallel to N2 national road.

**Impact significance**

The AIA concluded that the overall area is considered as having a *low archaeological heritage significance* and a *medium-high heritage significance*. Recommendations that must be considered before development continues were provided in the Specialist report.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 6: LAND USE IMPACTS</b>					
<b>IMPACT 6.3: Impacts on archaeological / historical sites</b>					
Without mitigation	Permanent	Localised	Moderately severe	Probable	Moderate negative
With mitigation	Permanent	Localised	No effect	Possible	No significance
No-go option	Permanent	Localised	No effect	Unlikely	No significance
Cumulative impacts	Permanent	Municipal	Severe	Possible	Moderate severe

**No-go option:**

- No impacts on archaeological / heritage resources as a result of this Project.

**Cumulative impacts:**

- Two wind energy facilities (Waainek WEF and Plan 8 WEF) that are situated within a 20 km radius of the proposed Albany WEF as well as the adjacent regions may spark a concern with regards to cumulative impacts that these projects may have on the heritage resources and the cultural landscape (Archaeological Impact Assessment, May 2019).

**11.6.4 MITIGATION AND MANAGEMENT MEASURES to address negative impacts on land uses during the operational phase**

- For the duration of the lease period retain on-going involvement with the current land management structures (land owners etc.) to ensure that responsibilities with regards to land management are adequately financed - collectively and individually where required. Responsibilities and financial provisions should form part of the lease agreements and it

could be a mandatory requisite of the agreements that land owners use a portion of their incomes towards land management (security, fencing and so forth).

- Structures and ancillary infrastructure be appropriately planned and placed and maintained in neat and appealing way.
- Do a Security Risk Assessment with the inputs of private land owners and include land use management responsibilities for all affected parties in the lease agreements where applicable.
- Should any land claims arise (that have been verified by the Regional Land Claims Commissioner), conduct negotiations with legitimate claimants and affected landowners to determine how economic benefits should be distributed.
- Consider all recommendations made in the Specialist AIA Report to minimise and/or eliminate potential impacts on archaeological / heritage resources.

## 11.7 Impact category 9: Community / Institutional Arrangements

### 11.7.1 Community mobilization

#### **Impact description:**

Negative attitude formation and community mobilization against the Project could result should adverse social and economic impacts manifest for landowners, communities, Private Game Reserves and other tourism related businesses as a result of visual/aesthetic impacts or the general wind farm operations. Another concern raised by I&APs was the potential of social conflict amongst communities due to unequal spread of financial benefits.

#### **Impact significance:**

Community mobilization is possible and rated as LOW and can effectively be mitigated to be negligent.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 7: COMMUNITY / INSTITUTIONAL ARRANGEMENTS</b>					
<b>IMPACT 7.1: Community mobilization</b>					

Without mitigation	Long term	Municipal	Moderately severe	Possible	Low negative
With mitigation	Long term	Municipal	No effect	Unlikely	No significance
No-go option	Long term	Municipal	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderate severe	Possible	Low negative

**No-go option:**

- No impact.

**Cumulative impact:**

- Cumulative impacts associated with visual/aesthetic impacts, the tourism/game/hunting industries, livelihoods and other local economic impacts could increase community mobilisation against the industry.

**11.7.2 MITIGATION AND MANAGEMENT MEASURES to address community mobilization against the Project**

- Keep open communication channels with the landowners and Private Game Reserves and address any potential issues as a matter of priority.
- Effective information sharing could be done through the industry associated websites, emailed newsletters, municipal noticeboards, information events and meetings and existing local community channels used by the various wards.
- Join the local Business Chamber of similar organisation that represent local business interests.
- Consult with surrounding landowners whose livestock, private residences and other infrastructure could be affected by dust, noise and traffic on access roads.
- Comply with all regulations of the Occupational Health and Safety Act.

**11.8 Impact category 7: Health and Safety Impacts**

**11.8.1 Health and safety risks for workers**

**Impact description:**

Operation and maintenance of the wind farm/turbines are not labour-intensive and would be intermittent, which decreases the likelihood of construction related accidents occurring. Temporary workers doing site clearance and maintenance would be on site occasionally over short periods in time, and possible health issues due to dust (respiratory issues), noise and dehydration would be limited, although still possible.

**Impact significance:**

The impact is rated with an overall LOW significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 8: HEALTH AND SAFETY IMPACTS</b>					
<b>IMPACT 8.1: Health and safety risks for workers</b>					
Without mitigation	Long term	Localised	Slight	Possible	Low negative
With mitigation	Long term	Localised	Slight	Unlikely	Low negative
No-go option	Long term	Localised	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Slight	Possible	Low negative

**No-go option:**

- No impact will manifest.

**Cumulative impact:**

- The cumulative impact on the workforce is rated as LOW.

**11.8.2 Community health and safety risks**

**Impact description:**

Community health and safety risks could include:

- Uncontrolled veld fires that destroy or damage surrounding farm land and infrastructure;
- Road accidents if employees of the wind farm 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.

**Impact significance:**

Community health and safety risks of MODERATE significance may manifest, but can be mitigated to be of LOW significance.

Impact	Effect			Risk or likelihood	Overall significance
	Temporal scale	Spatial scale	Severity of impact		
<b>PHASE: OPERATIONAL</b>					
<b>IMPACT DRIVER 8: HEALTH AND SAFETY IMPACTS</b>					
<b>IMPACT 8.2: Community health and safety</b>					
Without mitigation	Long term	Study area	Moderately severe	Possible	Moderate negative
With mitigation	Long term	Study area	Slight	Possible	Low negative
No-go option	Long term	Study area	No effect	Unlikely	No significance
Cumulative impacts	Long term	Municipal	Moderately severe	Possible	Moderate negative

**No-go option:**

- No impact will manifest.

**Cumulative impact:**

- Cumulative impacts on community health and safety may manifest.

**11.8.3 MITIGATION AND MANAGEMENT MEASURES to address health and safety impacts during the operational phase**

- Implement measures to suppress dust on a regular basis, such as spraying water on gravel roads, surfaces and stock piles.
- 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.
- 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.

## **12. CONCLUSION AND RECOMMENDATIONS**

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### **12.1 Conclusion**

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Albany Wind Power (Pty) Ltd is proposing the establishment of the Albany WEF, located in the Makana Local Municipal (“LM”) area and is located 7 km to the east of Grahamstown/Makhanda and is potentially 67 hectares in extent. Based substantially on the comments received relating to the draft EIA report and VIA, the project proponent has reduced the number of turbines from 66 to 43.

A Social Impact Assessment (“SIA”) is one of the Specialist studies required for the Project’s EIA and aims to identify and focus on issues and impacts related to the social and socio-economic environment within the Project’s area of influence.

Under the DMRE’s Renewable Energy Independent Power Producer Procurement Programme (“REI4P”), private companies such as EDF Renewables are required to participate in a highly competitive bidding process, in order to be awarded a 20 year long Power Purchase Agreement to sell electricity to Eskom. In order to select winning bids, the DMRE uniformly ranks all projects submitted according to a scorecard which is currently structured as follows:

- 70% of the score is based on the proposed energy tariff of the respective projects; and
- 30% of the score is based on the Economic Development (“ED”) commitments made by the respective projects on the following seven elements of the ED scorecard: job creation; local

content; preferential procurement, Black ownership, Black top management, ED and Socio-economic Development (“SED”).

Stakeholders within the Project’s area of influence were identified throughout public participation, EIA and SIA processes. The site specific study area consist of agricultural farms and communal land (municipal land), which is mainly used for grazing purposes by approximately 200 commonage farmers from previously disadvantaged communities. Land uses in the broader study area is mainly agriculture, but predominantly private game reserves and hunting farms that offer high-end luxury tourist accommodation and eco-tourism activities that rely on domestic and international tourists for their economic growth and survival. Residential land uses include Grahamstown/Makhanda and the villages of Bathurst and KwaNdwanyana and scattered homesteads on the surrounding farms. There are a few open cast mines and quarries and existing infrastructure that include Eskom substation and associated powerlines, the N2 and R67 roads and various smaller access roads.

There are a number of both public and private nature/game reserves within the study area that have formal conservation status either as proclaimed or declared a protected environment in terms of the Protected Areas Act and probably account for about 15 to 20% of the total study area with the biggest contributions being the Indalo Protected Environment (“Indalo”) and the Great Fish Nature Reserve. The Great Fish Nature Reserve managed by the Eastern Cape Parks and Tourism Agency (“ECPTA”), is located at a distance ranging from about 15 to 40 km from the nearest turbines. There are also a number of private game reserves that do not have formal protected status (i.e. zoned Agriculture) and these private nature reserves probably contribute in the order of a further 5% to the total study area (VIA, February 2021).

Tourism contributes R680 million to the GGP of the Sarah Baartman District Municipality (SBDM IDP, 2019/20 Review). The SBDM’s Tourism Master Plan calculates that tourism supports 1 936 jobs in the tourism industry; a total of 4 413 jobs within the tourism economy; and the equivalent of 294 SMMEs in the tourism economy.

The construction phase of the Albany WEF is labour intensive and stretches over a period of approximately 24 months. It is anticipated that the Project will result in seven (7) positive impacts (LOW to MODERATE significance) for the local economy, employment and skills development.

Ten (10) negative impacts (LOW to MODERATE significance) could potentially manifest for individuals, households and communities, such as health and safety risks, security issues, damage to road infrastructure, intrusion impacts, possible influx of jobseekers, and the likes. Transport of turbine components could result in temporary road closures with HIGH overall significance and cumulative impacts for the wider region. Negative impacts are generally short-term in nature and can be mitigated effectively.

At this stage the Albany WEF is expected to be operational for a 20 to 25 year period. Although this phase is less labour intensive, various socio-economic benefits would manifest for the local and regional economies. The assessment determined that four (4) positive impacts of LOW significance and three (3) positive impacts of MODERATE significance would manifest. These impacts relate to direct and indirect employment, rental incomes, community projects, SED and ED contributions, skills development and capacity building and general/induced impacts on the local economy.

Five (5) negative impacts of LOW significance and five (5) negative impacts of MODERATE significance could occur. The majority of the issues raised by I&APs relate to impacts on private game reserves and protected areas and the resultant impacts on the tourism/game/hunting industries. Visual and aesthetic concerns raised by I&APs and the subsequent negative impacts the development poses for job losses, devaluation of land and impacts on businesses, livelihoods and investments were the most significant issues raised.

Desktop studies, research documents and publications, consultation and questionnaires formed the basis of the SIA research. The following general conclusions, which relate to impacts on tourism and livelihoods, are made:

- No local research and published surveys could be obtained with regards to impacts on tourism/livelihoods;
- Wind farms and tourist destinations abroad (on which published literature is based) differ from the study area in terms of the tourist product offered, landscapes, communities affected, localities of the wind farms as well as the sizes of the development;
- No consensus exists in the international literature consulted with regards to wind farms' actual impacts on tourism (volumes, experiences and revenue), tourists' destination of choice and so forth;

- Some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area; whereas others were consistent in their conclusion that wind farms are innocuous in terms of local tourism demand, numbers, revenue and experiences;<sup>46</sup>
- Most respondents in the Kwandwe survey indicated a negative response towards such a development and the impact it would have to their experience (Africa and bush experience) and destination of choice;
- Impacts that have manifested for game reserves affected by Cookhouse and Waainek WEF's were mostly as a result of visual aspects (especially night light flicker). These game reserves implemented measures to address visual intrusions, i.e. to change game drive routes, do refurbishments and install lighting that distracts from light disturbances;
- The tourism industry is highly competitive, sensitive and susceptible to subtle changes in market conditions and it is recognised that a marginal change in the numbers of tourists could have a significant knock-on economic effect;
- Proximity to turbines and their localities (visual impacts on lodges and strategic viewpoints on the game farms) together with impacts on the sense of place, which could be influenced by changes in landscape (scenic resources), could potentially influence the local tourism market and subsequently livelihoods.

The reduction of the number of turbines with 23, has addressed some of the visual impacts associated with this Project.<sup>47</sup> It is however acknowledged that visual impacts alone is not the only determining factor and that impacts on the sense of place and changes to the fabric of the landscape (as a result of cumulative impacts) could also influence the community and tourists' perception of the study area and ultimately their choice of destination. A reduction in tourist volumes and rates charged may then result in financial losses, which may result in affected tourist establishments/game/hunting farms reducing their workforce. Negative impacts on downstream

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<sup>46</sup> Silva and Delicado, 2017 (Reference is made in the study to Broekel and Alfken, 2015; Riddington et al., 2010, Aitchison, 2012; Frantál and Kunc, 2011; Sousa and Kastenholz, 2015; Warren and McFadyen, 2010).

<sup>47</sup> With the amended only Kwandwe Private Game Reserve (Indalo), Kwandwe West Indalo Protected Environment, Buffalo Kloof Protected Environment, Kwandwe Private Game Reserve (none Indalo) have a moderate to high visual impact (VIA, February 2021).

supporting businesses and existing community projects supported by game reserves could also occur.

Negative local economic impacts on tourism/game/hunting industries, livelihoods and on potential job losses in these industries are 'possible' and rated with an overall MODERATE significance. Confidence in the rating is however 'uncertain' as: (i) no consensus exists with regards to wind farms' actual impacts on tourism; (ii) no measurable economic impact on tourism locally or abroad could be obtained; (iii) each tourism market would be sensitive to its own set of circumstances and generalisations cannot be made; and (iv) only four (4) of the game farms/protected environments in the study area are regarded as significantly visually impacted (moderate to high).

Establishment of the Albany WEF will make a 'definite' contribution to employment and the local economy during construction, as well as the lifespan of the Project. Employment during the two-year construction phase is rated with an overall MODERATE significance, whilst operational phase employment would be limited (LOW). However, important contributions towards the local economy in terms of procurement, SED and ED contributions (2.1% of revenue) and shareholding in respect of local ownership (approximately 26%) will manifest (MODERATE significance).

## **12.2 Recommendations**

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From a socio-economic perspective no issues have been observed or identified that would stop the Project from being implemented, provided that the social and socio-economic related mitigation and management measures, as proposed in the SIA report, be implemented and included in the EMPr where required.

### **12.2.1 Social Management Plan**

The objectives, activities, timeframes and persons responsible for implementing the management and monitoring measures to ensure effective execution and monitoring of the social processes have been included in the SMP (Section 13).

### **12.2.2 Conditions for Environmental Authorisation**

There are no specific socio-economic conditions that have to be included in the Environmental Authorisation once issued.

## 13. SOCIAL MANAGEMENT PLAN

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Albany Wind will appoint EPC and O&M Contractor(s) during the different phases of the Project. However, due to the nature of the programme some strategies are deemed confidential at this stage and a 'Procurement Strategy' will be compiled once the Project is a successful bidder.

Following are the management and monitoring measures for the Social Management Plan component of the Project.

### 13.1 Employment and skills development / capacity building

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#### 13.1.1 Objectives

- Maximise local employment and the use of SMMEs / local small businesses that are empowered through skills development and training initiatives.

#### 13.1.2 Activities and outputs

ACTIVITIES	TIMEFRAME	RESPONSIBLE / PARTIES INVOLVED	OUTPUT
<ul style="list-style-type: none"><li>• Identify the beneficiary communities.</li><li>• Establish a job seeker registration database.</li><li>• Do a skills analysis of the local workforce to identify available skills and gaps.</li></ul>	<ul style="list-style-type: none"><li>• Financial close</li><li>• Construction phase</li></ul>	<ul style="list-style-type: none"><li>• Community Employer Relations Officer</li><li>• Ward Councillor</li><li>• EPC Contractor</li><li>• O&amp;M Contractor</li></ul>	<ul style="list-style-type: none"><li>• Defined beneficiary groups/communities.</li><li>• Employment strategy.</li><li>• Identification of skills requirements that have to be sourced outside the local workforce.</li></ul>

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<ul style="list-style-type: none"> <li>Select individuals through the established means (random selection software, produce a shortlist of candidates, medical examinations, and so forth).</li> <li>Compile strategies to address employment equity of HDSA's (women, youth, disabled).</li> <li>Obtain the Makana LM database of SMME's and identify gaps (training, etc.).</li> <li>Feedback when tenders are awarded to promote transparency.</li> </ul>			<ul style="list-style-type: none"> <li>Recruitment targets included in Contractor Services Management Plan (CSMP). Penalties where contracts are breached.</li> <li>Compilation and implementation of a 'Gender Equity Policy'.</li> <li>Informed beneficiary communities.</li> <li>Low / no levels of social conflict.</li> </ul>
<ul style="list-style-type: none"> <li>Develop an empowerment programme for local SMMEs.</li> <li>Host a certification clinic.</li> <li>Participate in the Eastern Cape DEDEAT SMME Support programme.</li> <li>Skills development through community consultation (SMME Skills development programme)</li> </ul>	<ul style="list-style-type: none"> <li>Financial close</li> <li>Construction phase</li> </ul>	<ul style="list-style-type: none"> <li>EPC Contractor</li> <li>O&amp;M Contractor</li> <li>Department of Labour</li> <li>SARS</li> <li>EC DEDEAT</li> </ul>	<ul style="list-style-type: none"> <li>Prepared and trained SMME's that are ready to tender.</li> <li>Procurement strategy.</li> </ul>
<ul style="list-style-type: none"> <li>On-site training of locals where required.</li> <li>Specific training / capacity building to groups of individuals / SMMEs related to their field (e.g. fire-fighting, basic electrical training, health and safety etc.) where required.</li> </ul>	<ul style="list-style-type: none"> <li>Construction phase</li> </ul>	<ul style="list-style-type: none"> <li>Subcontractors (where required; and to maintain their own BBBEE Levels)</li> </ul>	<ul style="list-style-type: none"> <li>Local labour force, SMMEs and groups of individuals that are trained, equipped and enable to work on the Project and on similar construction projects in the future.</li> </ul>

## 13.2 Social responsibility (Trust, ED and SED contributions)

### 13.2.1 Objectives

- Formation of a legal entity/trust that would be representative of the communities/stakeholders that it represents.
- Administration and management of SED and ED contributions for feasible community projects that would result in community upliftment, and economic and social benefits for the broader local municipality.

### 13.2.2 Activities and outputs

ACTIVITIES	TIMEFRAME	RESPONSIBLE / PARTIES INVOLVED	OUTPUT
<ul style="list-style-type: none"> <li>• Conduct community needs assessment / skills / youth / gender analysis in beneficiary communities.</li> <li>• Source and liaise with beneficiaries.</li> <li>• Needs identification.</li> <li>• Project selection.</li> <li>• Contracting.</li> <li>• Administration and management of ED and SED contributions.</li> </ul>	<ul style="list-style-type: none"> <li>• Directly post construction phase / ahead of operational phase</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation and Monitoring Agent (IMA)</li> <li>• Ward Councillor</li> <li>• Community groups (Ward committees, Youth, Women, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Community accepted plan.</li> <li>• Defined community needs that are included in the Trust deed.</li> <li>• Identification of training requirements / capacity building needs.</li> <li>• Defined objectives of the SED program and primary targets.</li> <li>• Defined projects to be funded by SED and ED funding.</li> </ul>

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<ul style="list-style-type: none"> <li>• Provide feedback to communities. Use existing community channels, newsletters, website, etc.</li> </ul>			<ul style="list-style-type: none"> <li>• Informed communities.</li> </ul>
<ul style="list-style-type: none"> <li>• Establishment of legal entity/trust (draft trust deed, appoint board of Trustees, register trust, open bank account, etc.)</li> <li>• Register Trust with SARS.</li> <li>• Open bank account.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction phase / at the start of Operational phase.</li> </ul>	<ul style="list-style-type: none"> <li>• Trust administrator</li> <li>• Lender representative</li> <li>• Project owner representative</li> <li>• Independent Trustees</li> </ul>	<ul style="list-style-type: none"> <li>• Operational community trust/similar legal entity, with 50% Black Trustees and 50% independent Trustees (with relevant skills and experience).</li> <li>• Trust deed that contains trust objectives.</li> </ul>
<ul style="list-style-type: none"> <li>• Reporting and monitoring on behalf of the Trust</li> </ul>	<ul style="list-style-type: none"> <li>• Operational phase</li> </ul>	<ul style="list-style-type: none"> <li>• Trust administrator</li> </ul>	<ul style="list-style-type: none"> <li>• Annual submission of reports to DMRE's IPPO on funded projects, dividends received, projected dividends.</li> </ul>
<ul style="list-style-type: none"> <li>• Design KPIs (social inclusion, job creation, skills transfer) to monitor direct impact of projects on the community.</li> <li>• Monitor the use of ED and SED funds as committed by the project.</li> <li>• Monitor the impact of contributions on the community.</li> </ul>	<ul style="list-style-type: none"> <li>• Operational phase</li> </ul>	<ul style="list-style-type: none"> <li>• IMA</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly reports to the IPPO.</li> </ul>

### 13.3 Awareness / Community Engagement Plan

#### 13.3.1 Objective

- Promotion of transparency and implementation of public participation for the duration of the Project.
- Eliminate conflict and address potential issues in a pro-active manner.

#### 13.3.2 Activities and outputs

ACTIVITIES	TIMEFRAME	RESPONSIBLE / PARTIES INVOLVED	OUTPUT
<ul style="list-style-type: none"> <li>• Appointment of a Community Liaison Officer (CLO) or Public Relations (PR) Officer for the duration of the operational phase.</li> <li>• Compile protocol for stakeholders / landowners / other role players to raise complaints and make the procedures publicly available (visitor centre, website, Social media, etc.)</li> <li>• Do a security risk assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Prior to construction</li> <li>• Operational phase</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibility: Albany Wind Power</li> <li>• PR Officer</li> </ul>	<ul style="list-style-type: none"> <li>• Informed landowners, communities and stakeholders.</li> <li>• Low/no levels of social conflict. Issues that arise are addressed speedily.</li> <li>• Security and land use management practices form part of the lease agreements. Role-players are clear about their obligations, roles and responsibilities.</li> <li>• Effective communication between Albany, Waainek and Plan 8 WEFs to plan coherently (especially in terms of SED projects).</li> </ul>

## **14. ADDENDA**

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### **14.1 Sources**

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#### **14.1.1 Documents**

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- Environmental Noise Impact Assessment for the establishment of the Albany WEF near Grahamstown, Eastern Cape. Enviro-Acoustic Research cc. July 2017.
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- Renewable Energy: Where are the jobs? A critique of the government’s socio-economic programme. Alternative Information & Development Centre (AIDC). 2016. Liziwe McDaid (the Green Connection). Downloaded from [www.aids.org.za](http://www.aids.org.za).
- Visitor attitudes on the environment – Wind Farms. Failte Ireland national Tourism Development Authority. 31 January 2012. Downloaded from [www.failteireland.ie](http://www.failteireland.ie).

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#### **14.1.3 Websites**

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- [www.demarcation.org.za](http://www.demarcation.org.za)
- [www.encyclopedia.com](http://www.encyclopedia.com)
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- <https://municipalities.co.za/>
- [www.saps.gov.za](http://www.saps.gov.za)
- [www.statssa.gov.za](http://www.statssa.gov.za)
- <http://www.blaauwkrantz.com/lodges>
- <http://www.agriec.co.za/blog/posts/award-winning-rancher-works-with-nature>

#### **14.1.4 Consultation**

- Mr. Francois Botha (formerly from BKB Properties, Somerset East)
- Mr. Dale Howard; Pumba Private Game Reserve
- Mr. Charles Price; eZulu Private Game Reserve
- Mr. Dwaine Strydom; Amakhala Game Reserve

14.1.5 Questionnaires distributed to Game Reserves

STEP 1: REQUEST FOR COMPLETION OF QUESTIONNAIRE							
Appendix A Contacts	Affiliation	Email Address	Questionnaire Sent	Email Acknowledged	Follow-up Email Sent	Questionnaire Returned	Comment
1	Ms Ina Fölscher Mr Angus Sholto-Douglas Mr Graeme Mann	<a href="mailto:ina@kwandwe.co.za">ina@kwandwe.co.za</a> <a href="mailto:angus@kwandwe.co.za">angus@kwandwe.co.za</a> <a href="mailto:graeme@kwandwe.co.za">graeme@kwandwe.co.za</a>	✓	x	✓	✓	Completed Questionnaire Received
2	Mr Terry Stewart	<a href="mailto:termic@mweb.co.za">termic@mweb.co.za</a> <a href="mailto:ph@emeraldskysafaris.co.za">ph@emeraldskysafaris.co.za</a>	✓	x	✓	✓	Completed Questionnaire Received
3	Mr Aiden Sparrow	<a href="mailto:aidans@realnet.co.za">aidans@realnet.co.za</a>	✓	x		✓	Completed Questionnaire Received
4	Mr Basil Peinke Ms Bevan Peinke	<a href="mailto:info@eccapasshunt.co.za">info@eccapasshunt.co.za</a>	✓	x	✓	x	No Responsive Received; Numerous email addressed attempted
5	Mr Sean van Zyl	<a href="mailto:sean@fortgovernors.com">sean@fortgovernors.com</a>	✓	x	✓	x	No Response Received
6	Mr Hennie Brink	<a href="mailto:boplaas@igen.co.za">boplaas@igen.co.za</a>	✓	x	✓	x	No Response Received
7	Mr Charles Timm	<a href="mailto:charles.timm@kempston.co.za">charles.timm@kempston.co.za</a>	✓	x	✓	✓	Completed Questionnaire Received
8	Mr Kevin Bates	<a href="mailto:kcb@makana.gov.za">kcb@makana.gov.za</a>	✓	x	✓	x	Suggested email addresses failed, still awaiting alternative
9	Mr Lionel Wicks	<a href="mailto:lionel@lyssosafaris.co.za">lionel@lyssosafaris.co.za</a>	✓	x	x	x	No Response Received
10	Longwood Trust	No information supplied					Removed as per Mr van der Spuy instructions
11	Mr Greg Dixon	<a href="mailto:wpotemajje@gmail.com">wpotemajje@gmail.com</a>	✓	x		x	No Response Received
12	Mr Murray Crous	<a href="mailto:bushmangorge@hotmail.com">bushmangorge@hotmail.com</a>	✓	x	✓	x	No Response Received
13	Mr Nico Fick	<a href="mailto:nicofick@hotmail.com">nicofick@hotmail.com</a>	✓	x	✓	x	No Response Received
14	Mr Peter Wood Mr Rudi Venter	<a href="mailto:rosewood@telkomsa.net">rosewood@telkomsa.net</a> <a href="mailto:rudi.venter@border.co.za">rudi.venter@border.co.za</a>	✓	x	✓	✓	No Response Received
15	Mr Byron Sparg Ms Arlene Sparg Ms Danica Stockigt Ms Dawn Sparg Mr Nolan Sparg	<a href="mailto:baspar@ gmail.com">baspar@ gmail.com</a> <a href="mailto:danzstockigt@icloud.com">danzstockigt@icloud.com</a> <a href="mailto:safari@glennmelville.co.za">safari@glennmelville.co.za</a> <a href="mailto:glennmelvillefarm@gmail.com">glennmelvillefarm@gmail.com</a>	✓	x	✓	x	No Response Received
16	Mr Colin Coetzee	<a href="mailto:colin@game-africa.co.za">colin@game-africa.co.za</a>	✓	x	✓	✓	Completed Questionnaire Received

#### 14.1.6 Client survey done by Kwandwe Private Game Reserve

##### KWANDWE PRIVATE GAME RESERVE - CLIENT SURVEY ON POTENTIAL RENEWABLE ENERGY DEVELOPMENTS NEAR KWANDWE PRIVATE GAME RESERVE

The following three (3) questions were posed to Kwandwe's client base:

1. **Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?**
2. **Would being able to see a wind farm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?**
3. **How would the visibility of wind farms from within Kwandwe Game Reserve impact**

Several clients simply answered yes to all three questions and confirmed that they would no longer visit Kwandwe Private Game Reserve. The bulk of the responses where individuals responded in more detail are set out below (please note that the personal information of clients have been redacted in conformity with the Protection of Personal Information Act):

#### Some of the responses Kwandwe received to Question 1 include:

*"Yes it would - the reason for visiting the Reserve is to escape to nature and to "provide a unique wilderness tourism experience.""*

*"Absolutely. The natural vegetation, away from any development, is what makes visiting Kwandwe so wonderful. Having big visible wind turbines would be a constant reminder of the very things that one is trying to escape from."*

*"After visiting Kwandwe and having a wonderful all around experience I believe that having visibility of a windfarm nearby will detract from the experience for potential visitors... We believe that when a person decides to visit a game farm, part of the reason for choosing that kind of destination is to be immersed in nature and to be able to escape the reality of the built world. Therefore, any reminders of modern technology detract from that notion of being in the wilderness.*

*Yes"*

*"Whilst one has to be open to economic development I feel saddened by the turbines. When on safari one really doesn't want any reminders of outside civilization creeping in. Seeing turbines would certainly be a reminder of the outside world and would damage Kwandwe wild feel. I would definitely feel that Kwandwe is more close to civilization if they were around the flashing red lights at night are weird and would ruin the feeling of getting away from it all. Perhaps thought should be given to more central areas doing this and try to keep it away from areas where one is going precisely to try and get away from it all."*

*"It is rather disturbing to hear that they want to build a wind farm right next to Kwandwe I hope they*

*will reconsider this.. Firstly these wind turbines from my experience can be seen from kilometers away, this will definitely have an impact on the fauna in the area as well as the visual impact to tourists that visit Kwandwe. I visited Kwandwe to experience nature and get away from the city, by building turbines it will ruin this. I believe tourism brings in enormous revenue into our province and we need to look after it by preserving tourist spots such as Kwandwe. I am not against wind farms , but feel they can be build on areas where they do not impact on tourism”*

**The responses Kwandwe received to Question 2 include:**

*“Yes it would impact negatively - we would prefer to go to a destination without being able to see or hear wind turbines.”*

*“Yes, I’m afraid it would. If offered the choice of getting away from it all, to go back to nature, I think I’d choose somewhere with no visual reminders of development, electricity shortages, etc.”*

*“Being able to see a windfarm at Kwandwe both day and night would definitely be a reason for thinking twice about visiting Kwandwe.”*

*“It would depend on how close the wind farm is as the noise and visual pollution could interfere with trying to spot animals, falling asleep as well as bird watching.”*

***“Yes 100 % I am coming for the wildlife, pure nature without a windfarm”***

*“Thank you for your inquiry from Kwandwe and appreciate your taking time to consider the opinionsof visitors to the reserve.*

*In a nutshell I would like to take the opportunity to voice that for me personally, the large turbines do somewhat detract from the pristine nature of the bush.*

*Humans have taken more than their fair share of the earth already.*

*Simultaneously sighting wind farms and wild animals are a reminder of this status quo.*

*Our family and I have so enjoyed escaping to Kwandwe.*

*This would definitely add a scar to your environment.”*

**The responses Kwandwe received to Question 3 include:**

*“It would impact my decision negatively as I would prefer to visit a Big 5 Private Reserve where no Wind Farms are visible.”*

*“I’d probably choose not to visit Kwandwe, I’m sorry to say. I have been thinking of Kwandwe so much during lockdown, wishing I was there. I do hope that the powers that be find some other windy place and leave your precious reserve and views therefrom in their natural state. I’m sure the animals would agree.”*

*“Whilst one would applaud the decision to erect renewable non-carbon emitting power infrastructure rather than a coal burning power station, we believe that to position them near a nature reserve where they would be visible would impact our decision to visit Kwandwe.”*

*“I would still visit Kwandwe regardless :)”*

*“I find it sad for you as an organisation but to be honest I would prefer a different wildlife*

*location. It is unimaginable that such a plan will be realized"*

**Other responses received in connection with the spot survey are copied below (with the respondents' text being in red font).**

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*"1. Yes, I would find it less enjoyable and natural to see wind turbines while on the game reserve  
2. Yes, I would probably choose another destination that was wind turbine free.*

*Yes. I would go somewhere else if wind turbines were put up near Kwandwe."*

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- 1. Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? *Yes it would. You visit Kwandwe for a game experience, not commercial infrastructure viewing!***
- 2. Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *It would be a consideration, especially if you could see the turbines from many view points. If it was only visible from a very very small view point, the impact would be minimal.***
- 3. How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? *I would wonder if Game Rangers would start to visit parts of the reserve where visibility of the wind turbines is less to none thus lessening the opportunity to view game and all parts of the reserve and one would miss out on certain aspects of the reserve. Would certain Lodges see them more than others. One would then rather stay in a lodge where the turbines are not visible. Kwandwe is still such a special place I would come back!***

*I unfortunately would not visit Kwandwe. It would be ridiculous to erect these wind turbines iney view of the beautiful Kwandwe reserve*

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*"We were most concerned to receive your recent email regarding the proposal to construct a wind energy facility in the vicinity of, and quite clearly within view of, Kwandwe Private Game Reserve. This seems a very short sighted proposal that seems at odds with the important needs of balancing the local economy by way of generating jobs and improving livelihoods through established tourist related activities such as those at Kwandwe and other private game reserves.*

*We first went on safari to Kwandwe in 2018 based on recommendation from colleagues. Both couples travelled to and stayed at Kwandwe from the United Kingdom, just as we did. Both couples hold the same views as those expressed here regarding the proposed wind energy facility.*

*We made the journey to Kwandwe because it is a malaria free, high end game reserve. It is also a 'cultivated' wilderness emulating a pristine environment; visitors go there because it is a place to escape from every day life. Committed travellers who go on such safaris, and are prepared to pay a reasonable sum of money to do so, do not wish to see the "industry" of man when they stay in such an environment. They can see that in their own backyard. Guests are seeking something more special which to date Kwandwe has offered. Our intention to keep visiting Kwandwe would be adversely*

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*affected if the soft contours of the natural environment was interrupted day and night by the turbines. Visual impact is very important. What a mistake and disappointment that would be.*

*Wild animals are protected and KwanDwe presents as a wilderness environment. We do not wish to see man made structures – it goes against the very essence of what safari and game reserves are about. We would not elect to safari in such an environment. We could get that in many countries without travelling so far. This proposal is in our opinion, a serious error of judgement and would impact negatively on KwanDwe by the visual impact of unsightly wind turbines. Tourists would vote with their feet and go elsewhere.*

*To date, we have travelled to the Eastern Cape to enjoy malaria free safari. We contribute to the local economy in many ways – travelling to PE (by car or plane), staying in paid accommodation in Port Elizabeth, dining in restaurants. Many travellers undertake similar journeys and the local economies benefit. If the proposed wind facility goes ahead the negative impact would extend beyond the immediate Grahamstown region.*

*In summary:*

- 1. The visual impact of wind turbines would adversely impact on our safari experience and might result in us travelling elsewhere to stay on other game reserves.*
- 2. Yes, the impact of seeing wind turbines day and night would influence our choice of game reserve. We wish to escape man's industry.*
- 3. We would have to think very carefully about staying at KwanDwe in future. We had undertaken a commitment to the staff and bought in to the concept of the game reserve as presented at KwanDwe during our previous stays. We had intended to return in October 2021 (deferred from August 2020 due to the Coronavirus pandemic).*

*We politely request a re-consideration on the wind turbine project proposals to protect KwanDwe and other potentially affected game reserves.*

*We would be very interested in the outcome of the assessments being undertaken as this could influence our decision to visit KwanDwe in 2021 and beyond."*

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**Would the nature and type of infrastructure that is visible from KwanDwe be of relevance to your visual / aesthetic experience of the landscape? *It would be unfortunate.***

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *No it would not impact my decision. I stay at a game farm quite often and it has windmills that are visual to us and it does not worry as much as I thought it would.***

**How would the visibility of windfarms from within KwanDwe Game Reserve impact on your decision to visit KwanDwe? *It would not impact my decision. I would still go and stay there. This is the future and if we want to improve the planet environmentally then this is what we have to accept. Travelling around Europe is the same.***

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**Would the nature and type of infrastructure that is visible from KwanDwe be of relevance to your visual / aesthetic experience of the landscape?**

*Yes, though wind turbines are not the worst thing to see. But will spoil the "getting away from it all" experience for sure.*

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?

*Yes, but see answer to 3*

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe

*Unlikely - Kwandwe experience would still make up for it.*

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? *Yes, definitely.*

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *Yes. Imagine trying to stare gaze at night with red flashing lights distracting you.*

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? *With the tourism industry being so competitive it will make it easier for guests to find a similar product elsewhere that does not have any artificial eyesores.*

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Q1- *It would have a very negative impact.*

Q2- *Yes, definitely.*

Q3- *We might not visit Kwandwe in the future.*

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1. Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

*The reason for visiting wilderness areas like Kwandwe Private Game Reserve, is to get away from manmade structures and whatever reminds one of civilization.*

*We 'escape' to the bush to recharge, revitalize and disconnect from the world.*

*Therefore if there is any visibility of infrastructure, I would not go back to Kwandwe and choose another lodge where there is no visibility or sign of such infrastructure.*

2. Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *My reply would be the same as with the first question and I will add that the evening experience of seeing the stars is one of the highlight of any visitor.*

*We truly live under the African sky of stars... nothing could spoil the experience more than a flashing red lights)*

*I would most certainly choose another destination without flashing red lights.*

3. How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?

*Again my answer would be the same as for question 1*

*When choosing a wilderness experience, a break from everyday life and you are willing to pay a premium for that, the absence of civilization and any sign of it is key.*

*The visibility of windfarms will most definitely spoil the experience and therefore impact negatively on*

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*a decision to visit Kwandwe.*

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

*Many people go to game parks and nature reserves to reduce stress and improve their well-being. Finding peace in nature is similar to practising mindfulness. A windfarm will definitely spoil the country side and the nature experience. It would enhance that which you are trying to leave behind.*

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?

*A windfarm will definitely impact on my choice of destinations. Wildlife tourists are more and more looking for "wilder destinations" and seeing a windfarm will take the park in the opposite direction.*

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?

*I would not visit a Game Reserve where a windfarm is visible.*

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1. Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

*Absolutely, yes. A major appeal of visiting any wildlife reserve is to escape from the urban setting and to be surrounded by the natural earth, free of the mark of humans as far as possible; to be transported into another world. Any sign of modern humans, including buildings, roads, power lines and wind turbines, detracts from that immensely.*

2. Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?

*Yes. We choose our wildlife destinations primarily due to the sense of isolation that is felt when being there. The more natural the land and the outlook, the more appealing it is.*

3. How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?

*Kwandwe has always been our first choice when visiting the Eastern Cape, but the more there is that detracts from the experience, the more likely we will explore alternatives. To be brutally honest, the owner's very prominent home is a blight on the landscape within Kwandwe and to a lesser extent, the large asphalt runway (which is less visible). It will be more difficult in future to stop development on the borders of the reserve when there is significant development with a high visual impact, within the reserve itself. Although it is too late to do much about that, we hope that you are able to keep Kwandwe as visually wild as possible.*

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1. Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? **yes**
-

2. Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? **yes**
  3. How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? **negatively**
- 

1. Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? **Not really**
2. Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? **No - because we have been to Kwandwe several times and would always wish to return**
3. How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? **Not at all - see answer to question 2**

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**Please note that we are biased in favour of Kwandwe. What my wife and I are not sure of is the impact the development would have on the choice of people that have not already had the wonderful Kwandwe experience.**

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*This is devastating news the wonderful thing about Kwandwe is the open views without seeing anything for miles... it would destroy the idea of being in the bush seeing those wind turbines!!! I know they effect nature all around them too with the non stop sound they give off!! Seeing the red lights would spoil being in nature!!! Seeing a wind farm would sadly make us choose somewhere else even though we are desperate to be back at Fort House in September please God let them open flights then!!!*

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*Thank you for your email. We are saddened to hear about the proposed wind farm and it's visual impact upon Kwandwe.*

*It is important to consider that Kwandwe is not just about the wild life there, but the whole wild life experience.*

*To be honest Kwandwe is not the best wild life park when it comes to game watching.*

*The beauty of Kwandwe is the unique feeling of being genuinely in the wilds and I'm afraid that a wind farm would seriously affect it's natural environment.*

*We have visited Kwandwe and returned because of it's unique situation but we would not come again if there was a wind farm with a high visual impact. Even worse ,at night, the presence of navigation lights would ruin the atmosphere*

*I would go as far to say that a wind farm would ruin what Kwandwe had to offer and could even mean the end of this beautiful reserve.*

*There must be other places to put the wind farm.*

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1. **Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?** *We go to Kwandwe for the amazing African bush experience that Kwandwe offers – looking at very ugly wind turbines would hugely detract from this experience. We are horrified to learn of this potential development so close to the Kwandwe border.*
2. **Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?** *Yes definitely, it would ruin the whole African bush experience.*
3. **How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?** *I would hesitate to visit somewhere where my view would no longer be of the beautiful bush, but rather huge, ugly wind turbines.*

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

*YES, part of the experience is the lack of any “pollution” including infrastructure /buildings /lights and anything man made- nothing is currently visible apart from maybe some overhead electricity lines*

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *YES – the open space is wonderful as per my answer above and was considering the red lights on each unit as a real eyesore*

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? *Once they are in place it may well impact our choice of destination sadly . To see wildlife as is currently viewed at Kwandwe makes it a very special natural experience .*

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*I am deeply disturbed at the news of a potential windfarm between Grahamstown and Kwandwe Game Reserve. I commend and support any efforts in managing the effects this proposed project might have on the Reserve.*

*My limited knowledge of wind turbines comes from six years as Deputy chairman of the South East Queensland Electricity Council, which reported to Energex, a Queensland government statutory body. Information from a number of Australian and overseas studies would indicate to me the deleterious effects turbines could have on the migration of birdlife to Kwandwe each year and to the wider animal population. Research reveals recordings detect what is commonly described as “a pulsating, thumping or rumbling sound”, technically known as amplitude modulation, which relates to a change in noise levels that occur approximately once per second as the turbine blades rotate. This is compounded in rural areas and documentation of such would be known to those carrying out an Environmental Impact Assessment for you.*

*To answer your questions:*

1. *The visual effects on the wildlife experience of the landscape these aesthetically polluting structures would present would be unfortunately, quite profound. Viewing wildlife in Kwandwe at present*

*allows for the anticipation of never knowing what you'll find on any given game drive, on any day. This participation in the daily lives of animals in the reserve is the absolute drawcard for our visits. The presence of turbines would completely destroy the feeling of being in natural habitat.*

- 2. If potential visitors to Kwandwe Game Reserve were aware "the hand of man" would reveal windfarm sightings during the day and flashing electronic aviation warnings on turbines at night, I would be concerned it would greatly influence their decision to visit. Visitors to South Africa are looking for genuine wildlife experiences and Kwandwe Game Reserve currently enjoys well documented recommendations in this regard. If turbines were visible, both the wildlife tourist experience and the magic of safari would be severely diminished.*
- 3. Because my husband and I have been visiting Kwandwe since 2010, we will still visit. (Indeed we are booked for October again next year, having to postpone our October 2020 visit due to the COVID-19 lockdown). However, being able to see a windfarm during the day and its prescribed aviation lighting on turbines at night, would have have a huge impact on the wonderful wildlife experiences that continue to draw us back to Kwandwe.*

*We have visited many Reserves within South Africa since 2007, but in the past few years have made our stays at Kwandwe and just one other Reserve in the north. This has been a conscious decision based on the unique way the entire Kwandwe team manage the Reserve. Every aspect of that management of a variety of wildlife, together with the preservation of the land that supports them, is reflected in an unforgettable wildlife/safari experience.*

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**Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?**

*Yes. It would affect the perception of being in true wilderness if the wind farm is visible.*

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?**

*It would somewhat affect. Frankly I probably would not have known about the wind farm when making a decision to return to Kwandwe. But it may affect somewhat my decision to return after seeing the wind farms on site. I say "somewhat" because the overall Kwandwe experience is so positive that there are still many reasons to come back to Kwandwe for.*

**How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?**

*Same as above.*

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*"Part of the lure of going on a safari is the remoteness, being away from civilization. A wind farm would definitely take away from the visit and most likely would make me choose another location"*

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**Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? **NO****

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation**

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warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? **NOT IN THE SLIGHTEST**

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? **NOT AT ALL**

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1. Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

***\*I would not want to see wind turbines***

2. Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?

***\*Wind Turbines would ruin the natural & wild environment.***

3. How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?

***\*We would look for other options.***

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? ***It is my opinion that these wind turbines are not appropriately positioned anywhere close to Kwandwe. The beauty of the game reserve is the unparalleled view without seeing any lights or obstruction. That is the whole wildlife experience. These lodge are competing with the rest of the world specifically Africa where you have uninterrupted bush experiences. This would severely affect the bush experience and to my mind***

***would be a short term decision potentially detracting from the huge investment that overseas investors have made into Kwandwe. These investments are not viable in the first place and to do anything to detract from their viability is selfish and potentially constitutionally challengeable to my mind.***

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? ***The wind farm would be terrible specifically due to the electronic activation warning sign and during the day these beautiful unparalleled views would be spoiled. Kwandwe has spent hundreds of millions in regard to establishing Africa's most beautiful game reserve. The wind turbines can be put in thousands of different places in South Africa and to do anything to impact this investment would not be appropriate.***

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? ***It would definitely impact my decision to visit Kwandwe specifically with overseas guests that I bring there. Overseas guests are used to a certain standard and their standard is determined and comparable to what they have gone and seen in Africa. We are competing with Africa and specifically after covid the competition would be greater so this decision should not happen.***

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

***I have visited game reserves that have visible infrastructure before, one example is Riverbend at Addo which has huge power lines crossing the reserve. From a visual perspective I don't like it at all as it spoils***

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*the purpose of my visit – to be in the wilderness, away from it all. Infrastructure is a constant reminder of our lack of wilderness areas.*

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *Yes it does impact the decisions I make when choosing a Game Reserve, it is a part of the reason why we have always loved Kwandwe so much. There are some places I have been and I am not keen to go back for that exact reason, either they have a national road, a railway line, power lines or lights from towns at night. For my family we prefer to choose a destination away from all, where the sky is pitch black and the stars jump out, where there is no traffic or rail noise and where there is no infrastructure to spoil our views.*

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?

*I believe I have spoken to this as well, but there is another more important issue. We love our birds and are part of the Eastern Cape Birding Group, we have heard horror stories about how birds have been killed by wind turbines and this really upsets me. Viewing the birds is as important as the wildlife and wilderness and as much as wind turbines are green energy, which is good, they are in my view incompatible with wilderness areas.*

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

*Yes it would*

Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?

*Yes definitely - negatively*

How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?

*Would choose a game farm with uninterrupted sky views to enjoy the whole nature experience*

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*We both feel that the visual impact of the wind turbines so close to the boundary of Kwandwe would have an impact on the visual/aesthetic experience of the landscape. For us, the charm of Kwandwe is that once you are on the reserve you are not impacted in anyway by general civilisation. With the exception of the very soft light from Grahamstown which you can see at night the fact that you only see the vast expanse of the sky, and at night the stars, is a great feature of Kwandwe. Kwandwe also went to great expense to bury all the overground lines and cables for electricity and phones in order that these did not impact on the true safari experience we get there and it would be a great pity to have this spoiled.*

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Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?

*No provided game rangers were really aware of them and positioned vehicles so you don't have the turbines in the background of the photoNo problem at all*

*Said it would be very sad to see the turbines but understands the need for clean energy.*

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?**

*Nono*

*Yes he would prefer to be where he could not see wind farms.*

**How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?**

*No real impact*

*impact*

*Would impact his decision,*

*That said I think it would be more about where they are positioned around the reserve, how visible will they actually be and how visible will they be from the lodges.*

*In terms of Germany where I have travelled extensively, there are very few places left where there are no wind turbines. All the quaint little villages in the countryside are littered with turbines.*

*So not sure if that would concern overseas tourists or not. They mostly live with them all the time*

*So in all very indecisive.*

*I think the project needs to appreciate the inherent beauty of our country without infrastructure and should be doing everything possible to preserve that beauty so if the windfarm can be repositioned they should be looking at that.*

*However on the flip side as a nation we will only survive if we can get this economy to grow and that needs a bigger more reliable electricity infrastructure.*

- 
- 1. We have been visiting Kwandwe many times since its inception almost 20 years ago. The uniqueness of this special place is that you feel like hundreds of kilometres away from civilisation and it gives you the impression of a remote secluded gem. The hills in and around the resort is what makes this place so special apart from the experience as such. One can't go without the other.*
  - 2. Definitely. We are visiting Kwandwe for many reasons but one particular one is the quietness and also the open space without any pollution or signs of civilisation. The thought of having to see countless wind turbines and seeing red instead of stars on a sky without light pollution will impact our decision for sure. This would have a very severe impact on the economic benefits such as a big game farm must contribute to the local community.*
  - 3. The visibility of such a farm would impact our decision and we would seriously consider our choice of where to spend our money for a wilderness experience.*
- 

*Sadly I have to say that I do not believe I would ever want to visit a game reserve that I consider to be part of the Bush... Only to have to see man made monstrosities near by.  
It would be such a shame as Kwandwe is such a beautiful place... I hope for your sake it does not go ahead*

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*If they erect that wind farm then we would not come to Kwandwe again*

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**Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?**

*Yes, very much so. I go on safari to be in the wilds and away from civilization. Seeing turbines would ruin the whole experience*

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *Yes, for sure. I would go then to Londolozi or any other place, to be in the wilds***

**How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe?**

*I won't return as it is not what I expect from a wild life experience.*

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**Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape? *Most definitely – it would compromise entirely the experience of being in the wild***

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *Indeed it would – the entire purpose of visiting Kwandwe, and its special appeal is that it enables one to enjoy time away from the urban/industrial environment in which we spend our lives – and to have the windfarm visible at all times would be a complete intrusion***

**How would the visibility of windfarms from within Kwandwe Game Reserve impact on your decision to visit Kwandwe? - *yes it would – we would be devastated if we were unable to enjoy the experience of Kwandwe in its pristine state***

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- 1. Yes I think the visual/aesthetic nature of the Kwandwe experience is important – the largest private wilderness in the Eastern Cape (?) – a serious attraction.*
  - 2. Yes it will impact to varying degrees. Our 'wilderness-style' travelers will not book knowing this and this is a good portion of our guests. Other less serious bush people may tolerate it without enjoying it. I think that in fact the red night lights are worse than the day time impact. Night skies are a big part of the Kwandwe experience too.*
  - 3. Again yes – as above, I would have to screen and discuss this with potential guests without question. Sadly.*
- 

**Would the nature and type of infrastructure that is visible from Kwandwe be of relevance to your visual / aesthetic experience of the landscape?**

*Yes.*

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**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa?**

*Yes.*

**How would the visibility of windfarms from within KwanDwe Game Reserve impact on your decision to visit KwanDwe?**

*The entire point of the safari experience is to get away from urbanisation and to experience animals in a pristine nature setting. Any form of man-made infrastructure is likely to impact this experience. Turbines have night lights will detract from the night sky and aside from bird-strikes on the turbines I am led to understand that the subsonic sounds resulting from the turbines moving through the air may have an impact on elephant communication and behaviour because elephants utilise their stomach cavities to transmit similar subsonic signals.*

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*We have been regular visitors to KwanDwe Private Game Reserve over the past 7 years, and have brought many international visitors with us as well. KwanDwe is unique in the Eastern Cape for a number of reasons, but particularly for its sense of isolation, and real connection to nature and wildness. Its location between specific mountain ranges and bordering hills makes for this uniqueness and gives visitors a real sense of the past geography and splendour of Africa.*

*We have read with great concern the plan for a wind farm on the southern border of KwanDwe, and the potential impact of unsightly turbines on the horizon. If implemented this would mean that nearly every game drive would be punctuated by the distant, or close up, sight of turbines, and would certainly disturb the sense of isolation that is so unique to the KwanDwe experience.*

*We believe that this in turn will directly impact the attractiveness of KwanDwe to both foreign and local visitors, with further direct impact on the employment and community enhancement that KwanDwe provides, and ultimately on the wider conservation efforts that KwanDwe contributes to.*

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**Would the nature and type of infrastructure that is visible from KwanDwe be of relevance to your visual / aesthetic experience of the landscape? *Sadly, it would have a huge impact.* ☹️☹️☹️**

**Would being able to see a windfarm during both the day and the night (due to red electronic aviation warning lights) impact on your choice of destination for a wildlife tourist experience in South Africa? *Nothing will change our love of KwanDwe and we certainly wont look for alternate destinations, but it will lessen the impact of a visit....you will feel that you just cannot escape the city* ☹️☹️☹️**

**How would the visibility of windfarms from within KwanDwe Game Reserve impact on your decision to visit KwanDwe? *Same answer as 2 above* ☹️☹️☹️**

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*Yes, maybe the construction of a windfarm would have some short term effects, but in no way would that be a detriment to our returning to KwanDwe. If it did not affect the animals and their habits, seeing the windmills day or night would not be a hindrance to our return.*

*I worked on oil drilling rigs for 25 years and these same things came up numerous times. As long as the animals were undisturbed, we would not object to seeing KwanDwe again.*

*Thank you for your inquiry.*

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*We have been to Kwandwe twice now, The first time by ourselves and the second time with our two grandchildren. We have also been to Pumba twice and Shamwari. The real attraction of Kwandwe is the feeling that one is really in the Bush, with little of modern civilization to impact on the experience, so we would things to stay as they are.*

*However, to answer your specific questions, seeing windmills on the horizon, breaking its line would really impact the enjoyment. Being against the background of other hills would be preferable.*

*It also depends on the direction, being visible from the patio at Sunset and night-time would be bad, just occasionally seeing them during drives might be acceptable.*

*Their presence could possibly influence whether we visit again or not, though most other reserves also have the N2 visible.*

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*Further to the proposal in the vicinity of Kwandwe, a truly magnificent wildlife, breeding and Conservation reserve, we, as frequent guests, wish to contribute with great shock, that it would be of utmost interest to final outcome on wind turbines being finalised to please seriously consider that aesthetically this will completely change the unspoilt landscape of Kwandwe Game Reserve. These turbines in number, would be very relevant to this unspoilt natural landscape environment as will clearly visible to all who visit Kwandwe Game Reserve time and again. These proposed huge wind turbines would impact anyone wishing to visit this magnificent preserved land and true African Wildlife experience due to huge and obvious change to the visible landscape of the area.*

*Our future choice to visit Kwandwe Game Reserve and enjoy this amazing reserve would most certainly be impacted by fact that there could possibly be turbines visible day and night - being frequent visitors to the beautiful Eastern Cape, we are familiar with other turbines around the Eastern Cape - both the continual noise and red light shining off these at night would further put Kwandwe Game Reserve at the bottom of the list of the peace and tranquility a true Game Reserve offers. The proposed change huge turbines would make to this environment, would most certainly impact overseas tourists looking for the best true wildlife experience Kwandwe Game Reserve offers to guests. Future Tourism to Kwandwe Game Reserve, presently sought after as one of the best experiences in South Africa, would be seriously impacted from within and out of our Country and for one would look to alternative choices for a wildlife experience.*

*The greatest experience Kwandwe Game Reserve offers to their patrons is the magnificent Wildlife which would also be impacted by turbines as this is a huge disturbance to their natural instincts which everyone wishes to observe both during the day and on night drives, stopping during drives to observe the peace and beauty all around one and getting away from the maddening crowd of what is most people's daily lives! The disturbance to this natural habitat would be detrimental to the large bird and wildlife population with many high value animals Kwandwe Game Reserve produces in the ongoing conservation endeavour. As game farmers we are aware of wildlife behaviour and needs.*

*Kindly note that Kwandwe is a sought after destination with an amazing foundation supporting many families and all of this could be totally lost for mere fact that people who love to get away, do not want to be confronted with what is alien to the natural habitat of this part of the world. There is no doubt patrons loyal to Kwandwe will look for alternative destinations rather than see the changed landscape which will be a far cry from what is normal in this E.Cape countryside.*

*Please consider these factors in your E.I.A. of whether it is the right area to place wind farms around*

*such landmarks in the Eastern Cape.*

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Finally, one of Kwandwe's clients is Steve Lewis-Roberts, who has consented to the disclosure of his personal information:

*Thank you for informing us about the proposed Albany Wind Energy Facility. By way of background, it is relevant to note that I am a Chartered Town Planner. I am Senior Director at Pegasus Group, one of the UKs leading planning consultancies, and I have extensive experience of preparing and assessing Environmental Impact Assessments for major development proposals.*

*My professional opinion is that the proposed WEF will have a significantly adverse visual impact on the Kwandwe Game Reserve. We have visited Kwandwe on many occasions to experience the natural wilderness of South Africa, and there is no doubt that the proposed wind farm will undermine this experience, for the following specific reasons:*

- 1. The scale and location of the wind turbines would appear as visually intrusive and alien features in an otherwise undisturbed landscape. This would be harmful to the special character and natural beauty of Kwandwe Game Reserve.*
- 2. The visual dominance of the wind turbines throughout the day and night would inevitably impact on my choice to visit Kwandwe as a tourist destination. To be blunt, the USP of Kwandwe would be undermined as a direct result of the proposed development.*
- 3. The visibility of windfarms from within Kwandwe would mean that unfortunately I would no longer visit Kwandwe to enjoy the unique tourist experience currently offered.*

*I acknowledge the contribution that wind farms can make in addressing climate change. Nevertheless, wind farm developments need to be sited in appropriate locations and avoid sensitive landscapes. In this instance, the benefits of wind power should be balanced against the harmful environmental impacts on the natural landscape and the harmful economic impacts on the local tourist industry.*

*I am content for my personal views to be incorporated into your objections to the proposed development which will result in long lasting damage to the tranquillity and natural beauty of this special area.*

## 14.2 Waainek WEF: SED and ED Projects

<b>SED Project</b>
Order of the Holy Cross School: GYD funded the construction of a sports ground for Order of the Holy Cross School.
Tyilulwazi Pre-School: GYD funded a literacy programme and provided the school with books and computers for their library.
Fingo Festival Arts Centre: GYD funded cartooning murals, product development materials, performance art, stipends for facilitator and trainee, as well as printing and sundry.
Khulasande Sports Development: GYD funded a multi-facet sports development vehicle implemented to reach out to youth from the disadvantaged backgrounds in and around the Grahamstown community.
Artwork for Art – Access Music Project: GYD funded a music and instrument training programme where even interns were trained in leading various types of musical performances.
Masiphumelele: GYD funded a rotational literacy programme where the beneficiary goes around schools within the local township and assists with tutoring. Counselling and life-skills development training.
Khulasande Sprinters Project: GYD funded a multi-facet sports development vehicle implemented to reach out to youth from the disadvantaged backgrounds in and around the Grahamstown community. This project expanded the reach of Khulasande as well as the number of beneficiaries the programme has.
Ikamva Youth: An educational support programme where GYD funded tutoring, printing and stationary, travel and transport, career guidance workshops, computer literacy, winter school, training, stipends etc.

<b>ED Project</b>
Yoruba Solar: A renewable energy SMME that has a solar energy technology installation business (Solar pumps, geysers, panels etc). GYD funded a business training at the Raizcorp business school as well as equipment for the installations of solar pumps, one of the services provided by Yoruba to their customers.
NA Mlatsha Gardening Services: GYD assisted with registration of business, business training at Raizcorp Business Centre as well as equipment to carry out garden services in the local community.
Phaphamani Childrens Literature: GYD funded the design, printing and publishing of an isiXhosa and isizulu children’s book. GYD also funded the establishment of an online platform for sales of the various publications.
Ludwe Consulting: GYD funded business intervention to assist the 100% black owned in the development of poultry structures for 10 000 birds in the Grahamstown area along with Agro-processing activities.
Fabo Trading: GYD has funded the training of artisans of various skills set, as well as the equipment they need to carry out their work independently.

### 14.3 Significance rating methodology

## IMPACT ASSESSMENT

### METHODOLOGY FOR ASSESSING THE SIGNIFICANCE OF IMPACTS

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:

- Temporal scale;
- Spatial scale;
- Risk or likelihood;
- Degree of confidence or certainty;
- Severity or benefits; and the
- Significance.

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.

Table 8.1: Significance Rating Table.

<b>TEMPORAL SCALE (THE DURATION OF THE IMPACT)</b>	
Short term	Less than 5 years (Many construction phase impacts are of a short duration).
Medium term	Between 5 and 20 years.
Long term	Between 20 and 40 years (From a human perspective almost permanent).
Permanent	Over 40 years or resulting in a permanent and lasting change that will always be there.
<b>SPATIAL SCALE (THE AREA IN WHICH ANY IMPACT WILL HAVE AN AFFECT)</b>	
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 Nelson Mandela Bay Metropolitan 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.
International/Global	Impacts affect other countries or have a global influence.
<b>LIKELIHOOD (THE CONFIDENCE WITH WHICH ONE HAS PREDICTED THE SIGNIFICANCE OF AN IMPACT)</b>	
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.

Table 8.2: Impact Severity Rating.

<b>Impact severity (The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or affected party)</b>	
<b>Very severe</b>	<b>Very beneficial</b>
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.
<b>Severe</b>	<b>Beneficial</b>
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time	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

consuming, or some combination of these. For example, the clearing of forest vegetation.	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 may not be possible to determine the severity of an impact.

Table 8.3: Overall Significance Rating.

<b>OVERALL SIGNIFICANCE (THE COMBINATION OF ALL THE ABOVE CRITERIA AS AN OVERALL SIGNIFICANCE)</b>	
<b>VERY HIGH NEGATIVE</b>	<b>VERY BENEFICIAL</b>
<p>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.</p> <p>Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.</p> <p>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.</p>	
<b>HIGH NEGATIVE</b>	<b>BENEFICIAL</b>
<p>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.</p> <p>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.</p> <p>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.</p>	
<b>MODERATE NEGATIVE</b>	<b>SOME BENEFITS</b>
<p>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.</p> <p>Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.</p>	
<b>LOW NEGATIVE</b>	<b>FEW BENEFITS</b>
<p>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.</p> <p>Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.</p> <p>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.</p>	
<b>NO SIGNIFICANCE</b>	

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 may 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 particular development on people's psychological perspective of the environment.

All feasible alternatives and the "no-go option" will be equally assessed in order to evaluate the significance of the "as predicted" impacts (prior to mitigation) and the "residual" impacts (that remain after mitigation measures are taken into account). The reason(s) for the judgement will be provided when necessary.

All impacts must have a "cause and comment", a significance rating before mitigation, after mitigation and for the no-go option. Impacts should also indicate applicable mitigation measure/ recommendations to reduce the impact significance.

#### 14.4 Qualifications and expertise of the SIA Consultant

**Name:** Marchelle Terblanche  
**Qualifications:** BA (Development Sciences), UJ 1994  
**Experience in years:** 26  
**Personal details:** Date of birth: 23 February 1972  
 Nationality: SA Citizen  
 Languages: English, Afrikaans

#### **Skills base and core competencies:**

- Socio-economic Impact Assessments.
- Manage Environmental Impact Assessment processes in accordance with NEMA (2010) and MPRDA (Act 28 of 2002).
- Compilation of Water Use Authorisation Applications (WULA) in accordance with the National Water Act (Act No. 36 of 1998).
- Implement Public participation programmes in accordance with NEMA (2010), MPRDA (Act 28 of 2002) and the NWA (Act 28 of 2002).
- Lodging of Subdivision of Agricultural Land Act applications (Act No. 70 of 1970).
- Feasibility studies, socio-economic surveys.
- Human resource assessment and skills analysis to determine real community-based needs, which guide the technical planning to some extent.
- Institutional development (legal entity formation and community-based structures), basic skills development training.

**Educational background:**

- 1989: Hoërskool Verwoerdburg (Centurion)
  - 1993: Rand Afrikaans University (University of Johannesburg)  
Degree: BA (Development Studies)  
Main subjects: Development Studies, Political Science, Anthropology, Economics
  - 1998: X-Pert Managing by Project Academy  
Certificate: 'Project Management Tools, Techniques and Processes'
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**Employment history:**

- September 2011 – Current  
Associate Consultant: Social Development  
Integrated Rural and Urban Development Expertise (Pty) Ltd (INDEX) (Pretoria, Gauteng)
  - 1997 - 2011  
Independent Social Development Consultant  
Marchelle de Bruyn Development Consultants (Gauteng; Western Cape)
  - Aug 2008 – Sep 2010  
Co-owner of Starfish Galley (restaurant Mossel Bay Yacht and Boat Club)
  - 1997 – July 2005  
Manager: Community and Social Development  
Integrated Rural and Urban Development Expertise (Pty) Ltd t/a INDEX (Pretoria, Gauteng)
  - May 1996 – April 1997  
Recruitment consultant  
Admiral Catering (working holiday in London, England)
  - 1994 - April 1996  
Development Consultant and Social Facilitator  
Afrosearch (Pty) Ltd (Pretoria, Gauteng)
  - 1992 – 1993  
Clerk (Part-time while busy with studies) - International Programme Purchasing  
South African Broadcasting Corporation (SABC) (Aucklandpark, Johannesburg)
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**Selected project experience:**

**Socio-economic Impact Assessments**

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- SEIA for the Waterberg JV Resources Platinum Mining Right, Blouberg Local Municipality, SEIA for the proposed Waterberg JV Resources Platinum Project, Blouberg Local Municipality, Limpopo Province. Bateleur Environmental & Monitoring Services.
  - SEIA for the proposed Rondevly Colliery, Victor Khanye Local Municipality, Mpumalanga Province. Vandasark (Pty) Ltd / Elemental-Sustainability (Pty) Ltd.
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- SIA for the proposed Umsobomvu Wind Energy Facility near Noupoot, Northern Cape Province. Innowind (Pty) Ltd / EOH Coastal and Environmental Services.
- SIA for the proposed Aggeney's PV Solar Energy Facility near Pofadder, Northern Cape. Solar Capital (Pty) Ltd.
- SEIA for the proposed Bayview Wind Farm, Nelson Mandela Bay Metropolitan Municipality, Eastern Cape Province. Bayview Wind Power (Pty) Ltd / EOH Coastal and Environmental Services.
- SIA for the proposed Kameelboom Concentrated Solar Power Plant near Marydale, Northern Cape Province. AE-AMD Renewable Energy (Pty) Ltd / Rock Environmental Consulting (Pty) Ltd.
- SIA for the proposed Dassiesridge Wind Energy Facility near Uitenhage, Eastern Cape Province. Innowind (Pty) Ltd / EOH Coastal and Environmental Services (Pty) Ltd.
- SEIA for a proposed coal mining right for Lefa Colliery in the Metsimaholo Local Municipality, Free State Province. Ergosat (Pty) Ltd.
- SEIA for the proposed Driefontein Colliery located north-east of Middelburg in the Steve Tshwete Local Municipality, Mpumalanga Province. Canyon Resources (Pty) Ltd / uKhozi Environmentalists.
- SEIA for the extension of the Mooifontein Colliery operations, Emalahleni Local Municipality, Mpumalanga Province. Eyethu Coal (Pty) Ltd / Geovicon Environmental.
- SEIA for the proposed Mineral Residue Expansion at Goedehoop North Colliery. Anglo Operations (Pty) Ltd / Geovicon Environmental.
- SEIA for the proposed Anglo Hope No.4 Seam project, Goedehoop Colliery (South). Anglo Operations (Pty) Ltd / Geovicon Environmental.
- SIA for a proposed coal mining right for Lefa Colliery in the Metsimaholo Local Municipality, Free State Province. Ergosat (Pty) Ltd / REC Services (Pty) Ltd.
- SIA for the proposed Welgedacht Colliery Mining Right application, Ekurhuleni Metropolitan Municipality. Totapix (Pty) Ltd / REC Services (Pty) Ltd.
- SIA for the proposed Jachtlvakte precinct integrated housing development, Nelson Mandela Bay Municipality, Eastern Cape Province. SRK Consulting.
- SIA and public participation for the proposed Vaalkop and Witkop PV Solar Facilities on various sites near Orkney, Northwest Province. Savannah Environmental (Pty) Ltd.
- SIA and public participation for the proposed Kgabalatsane Solar PV 1 and 2 facilities near Brits, Northwest Province. Savannah Environmental (Pty) Ltd.
- SIA for the proposed Integrated Housing Development on various portions of the farm Zandfontein 317-IR (Kirkney/Andeon South), City of Tshwane Metropolitan Municipality. REC Services (Pty) Ltd.
- SIA and public participation for the proposed township establishment on Ptn 397 and 399 of the farm Driefontein 85-IR, Ekurhuleni Metropolitan Municipality, Gauteng.

- SIA for the proposed construction of the Wadrift Dam, an off-stream storage dam on the farm Doukama Portions 10 & 13, Bitou Local Municipality, Western Cape Province.
- SIA for the proposed housing development on Rietfontein 115IR (Harry Gwala informal settlement) near Wattville, Ekurhuleni Metropolitan Municipality, Gauteng province.
- SIA for the proposed Coega Ridge Housing Development (46 000 units) north of Motherwell, Nelson Mandela Bay Municipality, Eastern Cape.
- SIA for the proposed development of Laguna Bay Resort and Visitor Centre, Jeffrey's Bay, Eastern Cape. Coastal and Environmental Services.
- SIA and public participation for the proposed Residential development on Portion 76 of the farm Hammanskraal 112-JR, Gauteng. ChemC Environmental cc.
- Public Participation and SIA for the closure planning of the Xstrata Alpha Mine defund operations, Vryheid, KZN. ChemC Environmental cc.
- SIA for the upgrading of the Wemmershoek Waste Water Treatment Works and the decommissioning of the Franschoek WWTW and the construction of a transfer and outfall sewer between the two, Western Cape.
- Public participation and Social Scoping for a proposed housing development on various portions of the farm Hansmoeskraal 202, George, Western Cape.
- Social Scoping and public participation for two proposed Medical Waste Processing Plants in City Deep (Johannesburg) and Killarney Gardens (Cape Town). Rock Environmental Consulting (Pty) Ltd.
- Public participation and Social Scoping for the preliminary design for the proposed N12 / Elizabeth Road half diamond interchange, Ekurhuleni Metropolitan Municipality – Gauteng Blue IQ Project. Rock Environmental Consulting (Pty) Ltd.

#### **Subdivision of Agricultural Land (Act 70 of 1970) Applications**

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- Lodging and successful execution of various Renewable energy Land Use Change and Long-term lease applications, amongst others for:
  - Highlands North and South Wind Energy Facilities, Eastern Cape Province;
  - Haga Haga Wind Energy Facility, Eastern Cape Province;
  - Chaba and Thomas River Wind Energy Projects, Eastern Cape;
  - Oyster Bay Wind Energy Facility, Eastern Cape;
  - Kakamas Hydro Electric Power, Northern Cape;
  - Peddie Wind farm (former Ciskei).
- Lodging and successful implementation of more than 80 Subdivision, Rezoning and Land Use Change applications in all of South Africa's provinces.

#### **Water Use Licence Applications**

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Water Use Licence Applications for various water uses for mines and Township establishments in Mpumalanga and Gauteng provinces:

- Proposed Witfontein X57 township development, Ekurhuleni Metropolitan Municipality.
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- Proposed Witfontein X78 township development, Ekurhuleni Metropolitan Municipality.
- MR Aust Sandwerke CC, district of Cullinan, Gauteng.
- Krosa (Pty) Ltd, north of Tshwane.
- Brandbach CC, district of Cullinan, Gauteng.
- Izinyoni Sandmine, District of Bronkhorstspuit, Guateng.
- Aquavista Mountain Estate, Bronkhorstspuit dam, Gauteng.
- Expert Sand and Hardware (Pty) Ltd, district of Brokhorstspuit, Gauteng.
- Cudonamix (Pty) Ltd, district of Bronkhorstspuit, Gauteng.

#### **Public Participation processes**

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- Public Participation for AngloGold Ashanti Ltd in accordance with the MPRDA for an Exploration Right on Ptn 47, 73, 79, 80 and 85 (all portions of Portion of Portion 2) and a Portion of Portion 2 of Witkop 439 IP, Northwest province.
- Public Participation for the proposed construction of the N12/Alliance Road interchange, Ekurhuleni Metropolitan Municipality.
- Public participation for various mine prospecting applications on a large number of farms in the Beaufort West, Carnarvon and Richmond districts.

#### **Other**

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- Feasibility studies for income generating projects for the Alpha Community, Xstrata Alpha Mine, Vryheid, KZN.
- Perception analysis of the Bosveld Boerbok Club Annual Regional Show.
- Basic skills development training for Crushco and Alfa Mines, Gauteng. Responsibility: Develop relevant training material and facilitate courses.
- Implementation phase for the Alverton Restitution Project, Lydenburg, Mpumalanga Provinces. Responsibility: Institutional formation, community participation, project co-ordination
- Business plan development in respect of land claims lodged by Sekwayi, Mogane and Mashilane communities, Pilgrim's Rest 2 District. Responsibility: Institutional formation, community participation, project co-ordination.
- Feasibility studies for Carewell Primary Health Care Clinics. Responsibility: Feasibility studies and the compilation of business plans for PHC clinics in various rural and urban areas in South Africa.