

**PROPOSED KAROO RENEWABLE ENERGY FACILITY ON A SITE NEAR
VICTORIA WEST,
NORTHERN CAPE PROVINCE**

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1. INTRODUCTION

1.1 Background

Savannah Environmental (Pty) Ltd, as Environmental Assessment Practitioners (EAP), has been appointed by South African Renewable Green Energy (Pty) Ltd. (SARGE) to conduct an Environmental Impact Assessment (EIA) for the proposed establishment of the Karoo Renewable Energy Facility which would consist of both a wind energy facility component and a photovoltaic solar facility component, as well as associated infrastructure on a site located approximately 34 km south of Victoria West in the Northern Cape Province.

Before a project of this nature can proceed an EIA needs to be undertaken. The EIA process consists of two phases, namely the Scoping Phase and a detailed EIA Phase. As part of the EIA process, a Social Impact Assessment (SIA) is required to be undertaken.

1.2 The Karoo Renewable Energy Facility

The Karoo Renewable Energy Facility comprises the proposed construction and operation of a commercial renewable energy facility consisting of both a wind energy facility component and a photovoltaic solar facility component, as well as associated infrastructure. A broader area of approximately 200 km² is being considered within which the facility is to be constructed. The proposed facility would have a generating capacity of approximately 350MW and would include:

- ⊕ Up to 150 wind turbines and concrete foundations to support them (~300MW);
- ⊕ An array of photovoltaic (PV) panels (~50MW);
- ⊕ Cabling between the project components, to be laid underground where practical;
- ⊕ An on-site substation to facilitate the connection between the facility and the grid;
- ⊕ An overhead power line (132kV) of ~6km in length feeding into the Eskom electricity network at the existing Skietkuil/Biesiespoort Substation;
- ⊕ Internal access roads; and
- ⊕ A workshop area for maintenance and storage.

The project is proposed on portions of the following farms which are located approximately 34 km south of Victoria West. The main study area falls within the Northern Cape Province although a smaller section falls within the Western Cape Province:

- ⊕ Nobelsfontein 227;
- ⊕ Annex Nobelsfontein 234;

- ⊕ Ezelsfontein 235;
- ⊕ Rietkloofplaaten 239;
- ⊕ Modderfontein 228; and
- ⊕ PhaisantKraal 1 (Western Cape).

Surrounding farms include the following:

- ⊕ Matjesfontein 220;
- ⊕ Klipfontein 219;
- ⊕ Farm 231;
- ⊕ Uitval 229;
- ⊕ Caffer Kraal 232;
- ⊕ Gabriels Baken 2;
- ⊕ Mordant Klaassenskraal 176 (Western Cape);
- ⊕ Mordant Klaassenskraal 14/11 (Western Cape);
- ⊕ Taayboschfontein 15 (Western Cape);
- ⊕ Rooikrans Retreat;
- ⊕ Zwartkopjes 240/1 and 240/2;
- ⊕ Grootklip 238;
- ⊕ Waterval 237;
- ⊕ Kookfontein 226; and
- ⊕ Houdenbeck 222.

The power line for the facility will feed into the Eskom electricity network at the existing Skietkuil/Biesiespoort Substation within the study area.

1.3 Purpose of the report

The purpose of this report is therefore the following:

- ⊕ Provide an overview of the socio-economic environment and characteristics of the receiving environment;
- ⊕ Provide the findings of the preliminary social assessment undertaken during the Social Scoping Phase;

- ⊕ Indicate the anticipated core impact categories and impact areas (possible hot spots); and
- ⊕ Determine the need and content of future social studies to be undertaken as part of the detailed Social Impact Assessment during the EIA phase.

2. The report thus aims to assist the project proponents, consultants and communities to identify social issues that have to be incorporated as part of the detailed EIA Phase and which would serve to focus the EIA study.

DEFINITION OF A SOCIAL IMPACT ASSESSMENT

Burdge (1995) describes a Social Impact Assessment as the "...systematic analysis in advance of the likely impacts a development event (or project) will have on the day-to-day life (environmental) of persons and communities." A SIA therefore attempts to predict the probable impact of a development (before the development actually takes place) on people's way of life (how they live, work, play and interact with one another on a daily basis), their culture (their shared beliefs, customs and values) and their community (its cohesion, stability, character, services and facilities), by:

- ⊕ Appraising the social impacts resulting from the proposed project;
- ⊕ Relating the assessed social impacts of the project to future changes in the socio-economic environments that are not associated with it. This would serve to place the impacts of the project into context;
- ⊕ Using the measurements (rating) to determine whether the impacts would be negative, neutral or positive;
- ⊕ Determining the significance of the impacts; and
- ⊕ Proposing mitigation measurements.

An SIA is thus concerned with the human dimensions of the environment, as it aims to balance social, economic and environmental objectives and seeks to predict, anticipate and understand the potential impacts of development.

The usefulness of an SIA as a planning tool is immediately clear, in that it can assist the project proponent to conceptualise and implement a project in a manner which would see the identified negative social impacts addressed through avoidance or mitigation and the positive impacts realised and optimised. It would also allow the community to anticipate, plan for and deal with the social changes once they come into effect. In this sense then, the SIA is an indispensable part of the EIA, the Environmental Management Plan (EMP) and any participative activity (e.g. community involvement in mitigation and monitoring during planning and implementation).

3. APPROACH DURING THE SCOPING PHASE

The broad steps followed as part of the social scoping study included:

- ⊕ Determining the scope of the assessment;
- ⊕ Preliminary literature review;
- ⊕ Projecting anticipated impacts;
- ⊕ Determining core areas of impact; and
- ⊕ Reporting.

These steps are briefly outlined below.

3.1 Scope of the Assessment

Based on information received from Savannah Environmental, the scope of the assessment was determined. The site and some surrounding farms were visited to enable the consultants to familiarise themselves with the socio-economic environment.

3.2 Literature Review, Analysis and Desktop Studies

The literature review assisted the consultants in establishing the social setting and characteristics of the study area, as well as the key economic activities. Secondary data was gathered and analysed for the purposes of the study. Such data included maps, census data, internet searches, and municipal documents published by the Pixley Ka Seme District Municipality and the Ubuntu Local Municipality.

3.3 Projecting Anticipated Impacts

Preliminary anticipated impacts to be expected during the construction and operational phases have been identified and noted in the Scoping Report.

3.4 Reporting

Data and information received during the above three steps were included and presented as part of the Social Scoping Report.

4. KEY DESCRIPTION OF THE AFFECTED ENVIRONMENT

4.1 General Description of the Study Area

The proposed study area falls within the Ubuntu Local Municipal area, which forms part of the Pixley Ka Seme District Municipality. Even though a small section of the study area (farm Phaisantkraal and bordering properties) falls within Beaufort West Municipal area in the Western Cape Province, the Social Scoping report would mainly focus on the socio-economic character of the Ubuntu Local Municipal area, as well as the Pixley Ka Seme District

Municipality due to the fact that the largest part of the study area is situated within these municipal boundaries. During the EIA phase, however, more focus would be placed on the Beaufort West Municipality and the Central Karoo District Municipality as these areas might also be impacted on by the proposed project.

The main town within the Ubuntu Local Municipal area is Victoria West, with smaller towns such as Loxton and Richmond. Two smaller settlements, namely Merriman and Hutchinson were established as part of the railway system's settlements. Hutchinson is approximately 12 km south-east of Victoria West situated on the Cape Town-Kimberley railway line, just off the R63, and thus in close proximity to the proposed site.

The Beaufort West Local Municipality includes the towns of Beaufort West, and the smaller settlements of Merweville and Nelspoort situated in the depths of the Central Karoo. Beaufort West is the heart of the Central Karoo and was originally established as a service centre for the rail and road transport and for the rural agricultural activities. The town has managed to maintain some economic growth even though the rail transport and the agricultural sectors are declining in terms of economic opportunities. This could mainly be attributed to the high volume of traffic passing through the town on the N1 (BWM IDP, 2010).

Nelspoort is approximately 42 km north east of Beaufort West and was established around the construction of a Tuberculosis (TB) Sanatorium. This facility is not functioning anymore which left the community with almost no services except for the school in the town (BKS, 2004 & BWM IDP, 2010). Merweville is situated within the Karoo Plains and is often compared to the desert region of Nevada and Arizona in the USA. The town is situated next to a river and several fountains which led to the development of an efficient irrigation system. Various vegetable gardens, pomegranate hedges and orchards are thus found in town (BKS, 2004).

Victoria West is surrounded by private farms but also has land that is used for communal farming and a game camp. Sheep, mutton and wool Merino sheep, Dorper Sheep and Angora goats) are the main farming activities in the Victoria West and Beaufort West areas, while hunting and eco-tourism activities are fast becoming a significant industry. Wool is mainly used for export purposes, while meat is generally produced for the local market (Ubuntu LM IDP, 2009 & BKS, 2004). Olive production, apricots and prickly pears are some of the other agricultural activities found in the Beaufort West area (BKS, 2004).

The vegetation in the study area is typical Karoo veld characterised by plains, broken ridges, small bushes and grasslands as the main features. The Karoo area also has a number of archaeological, historical and rock art sites, especially of the San.

4.2 Population Dynamics

4.2.1 Population Figures

According to the 2001 Census figures, the total population within the Ubuntu Local Municipality totals 16 376 which indicates a decrease in the population from the 1996 figures (19 712). The Community Survey undertaken in 2007 indicates the total population as 16 153 which again points to a decrease in the population (Ubuntu LM IDP, 2009).

This decrease would have far reaching consequences for the municipality's service delivery, as well as with regards to grants and subsidies made available to them. The decrease could be the result of a stagnating economy that is unable to provide school leavers with sufficient job opportunities.

The total population for the Beaufort West area (including Nelspoort and Merweville) was estimated at 40 000 for 2010 (BKS, 2004).

Typical to the Northern Cape the area is scarcely populated with most of the residents living in scattered towns and settlements. The farms in the study area mainly house the property owners and the farm workers. Some property owners do not even permanently reside on their properties. The study area is thus also very scarcely populated.

4.2.2 Age Groups

The largest sections of the Ubuntu Local Municipality residents fall within the 15 to 34 years age category (5 450 individuals), followed by the 35 to 64 age category (4 550). Approximately 3 601 individuals make up the 5 to 14 years category (Census 2001 Statistics as included in the Ubuntu LM IDP, 2009).

The age structure in the Beaufort West Municipal area is also very young and the majority of the economic inactive section of the population is younger than 18 years (BKS, 2004).

It is thus clear that the majority of the residents within the Ubuntu and Beaufort West Local Municipalities can be classified as youths which increase the pressure on the development of job opportunities and other social services such as schooling, community facilities, orphanages and other child care facilities. A large section of the population would also become economically active within the next 5 to 10 years and proper education would thus be a key to ensuring a good quality life.

4.2.3 Education Levels

The educational levels among the population of Ubuntu are relatively low which impact on the employment potential of the population and therefore also on the local economic development and job creation initiatives (Ubuntu LM IDP, 2010).

Literacy and educational levels within the Beaufort West Municipal area is low (BKS, 2004). The percentage of people with a higher education in Beaufort West is 5%, compared to the Central Karoo District with 6%. However, in terms of occupational skills, Beaufort West has a proportion of 17%, compared to Central Karoo District with 14%. The low level of education, particularly amongst historically previously disadvantaged females is indeed of concern. As the demands of the economy diversify, the potential exists for functional and technical education in schools. The municipality however, indicated their willingness to invest in technical education that will support local economic development (BWM IDP, 2010).

4.2.4 Employment Status and Income

According to the Statistics South Africa's 2001 survey, the labour force in the Ubuntu Local Municipality include 6 189 individuals. This includes the employed (66%) and unemployed (34%), but not those that are not economically active but who would normally form part of the labour market (Ubuntu LM IDP, 2009).

The labour market actually constitutes 62% of the total population. Should those be taken into consideration, the unemployment rate of 34% could therefore be somewhat misleading due to the fact that people not seeking work, who can be classified as unemployed people, are not included.

Of the employed labour force, 69% earn less than R800 per month. This gives an indication of the poverty that exists among the majority of residents within the Ubuntu Local Municipality.

The unemployment rate in the Beaufort West area is calculated at 58% which can be classified as a high unemployment rate with subsequent high poverty rates (BKS, 2004). According to the BWM IDP (2010), only 36% of the economically active people (18 years and older) are unemployed. Irrespective of the actual unemployment rate it was stated that the low income levels remain a concern (BWM IDP, 2010).

Declining economic activities and limited business opportunities in both the areas worsen the situation with regards to unemployment. This again leads to various social challenges especially with regards to the involvement of the unemployed in various types of criminal activities (BKS, 2004 & BWM IDP, 2010).

4.2.5 Employment Sectors

The main employment sector in the Ubuntu Municipal area is the agricultural sector (livestock farming), followed by the wholesale and trade sector. Few people are employed within the manufacturing and construction sector (Ubuntu LM IDP, 2009).

Within the Beaufort West Municipal area, the majority of those employed are employed within the commerce, community services and agricultural sectors (BKS, 2004).

4.3 Basic Services

4.3.1 Housing Provision

A large section of the population of the Ubuntu Local Municipality lives in formal housing. There is still a housing backlog estimated at 1 554 houses, which needs to be attended to (Ubuntu LM IDP, 2009).

The housing backlog within the Beaufort West Municipality amounts to more than 3 000 houses which are increasing on a daily basis. Various steps have been put in process by the municipality to address this backlog (BWM IDP, 2010).

4.3.2 Sanitation Services

In the formal towns of the Ubuntu Municipality, sanitation services are provided, although informal settlements at various towns still make use of the bucket system. This give a clear indication of the need for the upgrading of the sanitation infrastructure and services provided (Ubuntu LM IDP, 2009).

Within the towns of Beaufort West and Nelspoort, all sites, except a very small number of shacks in Beaufort West itself (approximately 20) have access to water borne sanitation, while Merweville is still using "suction tanks" (BKS, 2004).

4.3.3 Water Provision

The Ubuntu Municipality falls within the Karoo which can be classified as a semi-desert area. No natural surface water is found in the area and rainfall is low which hampers the provision of water (quantity and quality) to the water users. Water meters and water networks in all the towns need replacement (Ubuntu LM IDP, 2009).

The majority of the residents in the Beaufort West area have access to potable water. Water services are also of a high standard and all sites have been provided with a water meter. Residents in Nelspoort and Merweville have access to at least one water point per site. The protection and management of the water sources remains important due to the scarcity of the water sources in the area (BKS, 2004).

4.3.4 Waste Services

The majority of households in the towns of Victoria West, Richmond and Loxton have waste removal once a week. The landfill site in Victoria West, however, should be moved as it is creating health risks to the communities.

Littering and illegal dumping still occur and should be urgently addressed as this rubble increases the health risks experienced by the communities (Ubuntu LM IDP, 2009).

Refuse removal in the town of Beaufort West is up to standard and working efficiently (BKS, 2004).

4.3.5 Electricity Provision

All formal houses in the Ubuntu Local Municipality are provided with electricity. The electricity distribution system is, however in a poor condition and needs to be upgraded (Ubuntu LM IDP, 2009).

All towns within the Beaufort West Municipality have access to Eskom supplied electricity (BKS, 2004).

4.3.6 Health Services

The health services in the area seem to be insufficient and therefore one of the socio-economic goals of the Ubuntu Local Municipality is the establishment of health programmes and the provision of health services (hospitals, clinics and mortuaries) to the benefit of all the residents (Ubuntu LM IDP, 2009).

The prevalence of HIV/Aids, alcohol abuse and other communicable diseases are high. Awareness creation among the local residents is critical to combat the spread of these diseases and to limit family violence and crime associated with alcohol abuse (Ubuntu LM IDP, 2009).

In the Beaufort West area, the spread of HIV/Aids is especially perturbing and it is anticipated that the disease could even lead to a decline in the population in future, which would again impact on the increased need for orphan and health care facilities. The high prevalence could be attributed to the trucking industry and the location of the town around the N1 (BKS, 2004).

The Beaufort West area has one provincial hospital, three municipal clinics, one district municipal clinic and nine mobile clinics which service the rural and remote areas (BKS, 2004).

4.3.7 Safety and Security

At this stage, the emergency infrastructure and personnel of the Ubuntu Local Municipality are not up to standard. All towns within the area need ambulance and fire fighting services (Ubuntu LM IDP, 2009).

Crime levels are relatively low and mostly involve minor crimes, although the incidences of family violence and crime associated with alcohol abuse remains a grave source of concern (Ubuntu LM IDP, 2009)

4.4 Tourism and Leisure

From a tourist point of view, Victoria West is wedged between mountains and a river and is well placed along of the main routes between Cape Town and Johannesburg via Kimberley. Various attractions in and around town include:

- ⊕ The Victoria West Town Hall;
- ⊕ The Victoria West Museum;
- ⊕ The Anglican Church in Victoria West;
- ⊕ The Apollo Theatre;
- ⊕ The Gunpowder Magazine building;
- ⊕ Victoria West Caravan Park;
- ⊕ The Victoria West Dam; and
- ⊕ The Mannetjies Roux Museum.

Game farms with some hunting establishments are also found in the rural areas surrounding the town.

Tourism is becoming a more important contributor to the economic activity in the Ubuntu Local Municipal area. It does not only generate income, but also as provides various job opportunities and prospects for SMME development. Due to the proximity of Richmond, Victoria West and Loxton on main tourism routes (N1, N12 and R63) the development of tourism needs serious prioritisation in the formulating of strategies for local economic development (Ubuntu LM IDP 2010).

According to the Ubuntu Tourism Strategy (Creative Harvest, 2009) the area could be developed as a prime tourist destination but significant effort would be required which could include the following:

- ⊕ Focused Tourism Development;
- ⊕ Restoration and listing of Heritage sites for tourism development purposes;
- ⊕ Active promotion of the municipality as a destination to create tourism demand;
- ⊕ Competent human resources to champion tourism in the municipality; and
- ⊕ Tourism infrastructure development.

Tourism within the Beaufort West area is centred around the accommodation sector (including restaurants) within town, as well as the Karoo National Park situated just outside of

Beaufort West. The area is internationally known for its plant species and archaeological sites. Various other tourism attractions also exists within Beaufort West town (BKS, 2004). Tourism therefore remains an important sector to stimulate general economic growth.

4.5 Economy

The local economy of Victoria West and surrounds are based on the agricultural activities taking place on privately owned farms. This is mainly focused on livestock farming. Although it is not always that lucrative, it supports a number of people in the area. The undiversified local economy is thus quite vulnerable to economic fluctuations.

An industry with potential for growth is the tourism sector due to the area’s location with regards to the N12 and the N1. The municipality therefore developed a tourism strategy to be implemented over the next ten years to promote this economic sector. This would focus on

- ⊕ Leisure tourism;
- ⊕ Retail tourism;
- ⊕ Meetings, incentives, conferences, and exhibitions (MICE); and
- ⊕ General business.

5. POTENTIAL IMPACTS ASSOCIATED WITH THE PROPOSED KAROO RENEWABLE ENERGY FACILITY

5.1 Construction Phase

The following socio-economic impacts have the potential to materialise during the construction phase of the project:

5.1.1 Job Creation

Potential Impact	Temporary job creation during construction phase
Nature	During the construction phase some locals would be able to secure employment, as those semi-skilled and even unskilled labourers could be trained to assist with the construction of the solar panels and mounts. General construction related activities associated with the wind energy facility would also create temporary employment opportunities. It is anticipated that community members from Victoria West and Hutchinson can be sourced. Some specialists would also be required who would probably be sourced from elsewhere in South Africa or even internationally.
Extent	Local to Regional

Indirect / Cumulative Impacts	The proposed project could further result in capacity building through on-site training and skills development opportunities.
Potential Significance	Moderate
Potential Alternatives	None

5.1.2 Inflow of workers

Potential Impact	Inflow of workers to the area
Nature	An increase of people movement in an area usually creates the perception that criminal activities increase. This would probably be the perception among property owners in the study area irrespective of whether local people or outsiders are employed. Concerns relate to small livestock theft and damage to or theft of fences. Should locals be employed it could, however, minimise the perceived and actual risk in this regard. A large workforce could furthermore impact on the existing social networks through conflict between the locals and outsiders, as well as the spread of sexually transmitted diseases.
Extent	Local
Indirect / Cumulative Impacts	Increased safety and security risks for animals and people Health related impacts
Potential Significance	Moderate
Potential Alternatives	Local labourers should be employed where possible.

5.1.3 Influx of jobseekers

Potential Impact	Influx of jobseekers to the construction site
Nature	The possibility for the influx of jobseekers to the construction site exists, and could materialise prior to actual construction. It is anticipated that the jobseekers would mainly consist of local unemployed persons from within the area (e.g. from Victoria West, Hutchinson and farms in the vicinity of the site). Due to the

	remoteness of the site, a large number of jobseekers are however not foreseen.
Extent	Local
Indirect / Cumulative Impacts	Conflict between so-called "outsiders" and locals, additional pressure on infrastructure and services and in-migration of outsiders remaining in the study area after the project has been completed
Potential Significance	Moderate
Potential Alternatives	None

5.1.4 Accommodation of workforce

Potential Impact	Impact of accommodation facilities for workforce
Nature	Should the workforce be accommodated on site (which is highly unlikely and not preferred) it could result in environmental pollution and social problems between the workforce and locals residing in the area (e.g. landowners and farm workers). Should an outside workforce be accommodated at nearby accommodation facilities (Bed and Breakfast facilities) and/or in towns within close proximity to the study area such as Victoria West or Hutchinson it could be beneficial to the local hospitality industry, but in worst cases could also result in conflict between the outsiders and the local community members.
Extent	Local and Regional
Indirect / Cumulative Impacts	Positive: Possible economic spin-offs / Economic benefits to local hospitality industry / Possible additional job creation Negative: Conflict between locals and outsiders / Possible environmental pollution / Increase in safety and security risks / Increased fire risks
Potential Significance	Moderate
Potential Alternatives	Workers should not be accommodated on site and existing accommodation facilities should be utilised as far as possible.

5.1.5 Impacts on daily living and movement patterns

Potential Impact	Impacts on daily living and movement patterns of surrounding residents due to construction activities.
Nature	Construction related activities could impact on the daily living and movement patterns of the locals due to e.g. increased construction vehicle activity on the local gravel roads, increased noise and possible construction of new access roads on site. Farming activities could furthermore be negatively impacted on by general intrusions and noise associated with the construction activities. At this stage it does not seem as if any residential dwellings are located in close proximity to the proposed construction site and the impact is thus anticipated to be minimal.
Extent	Local
Indirect / Cumulative Impacts	Safety and security risks associated with construction activities
Potential Significance	Moderate
Potential Alternatives	None

5.1.6 Local procurement

Potential Impact	Local procurement of goods, materials and services
Nature	At this stage it is not anticipated that local procurement would be achievable for the technology requirements associated with a project of this nature. Local procurement would be more focused on the procurement of general construction materials and goods
Extent	International
Indirect / Cumulative Impacts	Possible economic stimulus
Potential Significance	Moderate to Low
Potential Alternatives	Sourcing of locally manufactured items

5.1.7 Construction vehicles

Potential Impact	Increased construction vehicles on local roads
Nature	Large volumes of construction vehicles would be transporting goods and materials to the construction site. Even though the local road (N12) is being upgraded, an increase in heavy vehicles adds to the risk of accidents. Damage to the local gravel road's surface is a further source of concern, as well as risks to animals and pedestrians crossing the road.
Extent	Local and Regional
Indirect / Cumulative Impacts	None
Potential Significance	Moderate
Potential Alternatives	Transporting materials via rail to the Biesiespoort Station if feasible

5.1.8 Impact on farming activities

Potential Impact	Impact on farming activities
Nature	The construction activities (noise, dust and intrusion) could impact on farming activities and existing farming activities would not be able to continue on site during the construction phase. The intensity of the impact would thus depend on the type of activities undertaken on the properties and whether stock can easily be moved to other grazing areas.
Extent	Local
Indirect / Cumulative Impacts	Possible stock losses
Potential Significance	Moderate
Potential Alternatives	None

5.1.9 Impact of construction of power line

Potential Impact	Impact of power line
Nature	The construction activities associated with the construction of the power line (approximately 6 km) would impact on the daily living

	and movement patterns of those property owners affected. At this stage it is anticipated that the proposed power line could link at the Biesiespoort substation on the farm Nobelsfontein 227. Should the project be extended, farms on route to the new Gamma Substation could be affected.
Extent	Local
Indirect / Cumulative Impacts	None
Potential Significance	Low
Potential Alternatives	None

5.2 Operational Phase

During the operational phase the following impacts could be anticipated:

5.2.1 Job Creation

Potential Impact	Job creation during operational phase
Nature	Various individuals could be employed during the operational phase of the project. They would be responsible for maintenance of the solar energy facility (e.g. cleaning of panels / security personnel) and the wind energy facility (cleaning of blades / security personnel). Maintenance of the roads could furthermore result in jobs created. Capacity building and skills development throughout the life of the facility could be to the benefit of the employees and could assist them in obtaining transferable skills.
Extent	Local
Indirect / Cumulative Impacts	Positive economic spin-offs / Social upliftment / Capacity building and skills development
Potential Significance	Moderate
Potential Alternatives	None

5.2.2 Inflow of workers

Potential Impact	Inflow of workers
Nature	The maintenance and operation of the wind energy and solar energy facilities are not deemed to result in any major change in the population size, especially if locals are permanently employed. At this stage, it is anticipated that the main impact in this regard would relate to the movement of workers from their place of residence to the site. An inflow of a very limited number of specialists on an intermittent basis is also not anticipated to have any negative impacts on the social environment.
Extent	Local
Indirect / Cumulative Impacts	Increased vehicle movement on local roads
Potential Significance	Moderate to Low
Potential Alternatives	None

5.2.3 Impact on daily living and movement patterns

Potential Impact	Impact on daily living and movement patterns of surrounding property owners.
Nature	The impact on daily living and movement patterns during the life of the facility mainly refers to the permanent visual impact of the solar energy and wind energy facilities, as well as the associated power line, which again impacts on the character of the area and thus on the sense of place as experienced by the residents and visitors. Lighting pollution at night is also a concern. From a social perspective, it is however, anticipated that the natural landscape (koppies) could, to some extent, screen the solar energy facility from the road users and the surrounding residents. This is however less so with regards to the wind energy facility.
Extent	Local
Indirect / Cumulative Impacts	Possible impact on people's perception of the area and possible subsequent property losses
Potential Significance	Moderate

Potential Alternatives	None
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5.2.4 Safety and security

Potential Impact	Safety and security impacts
Nature	<p>It is, at this stage, not anticipated that the operation of the proposed wind energy and solar energy facilities would have a negative impact on the safety and security of surrounding residents. Permanent security personnel would be employed and their presence in the area could even limit other possible criminal activities.</p> <p>As the site would be fenced, unauthorised entry to the site would be highly unlikely, thereby creating limited safety risks in this regard.</p>
Extent	Local
Indirect / Cumulative Impacts	Possible illegal poaching of game and animals / General theft
Potential Significance	Moderate
Potential Alternatives	None

5.2.5 Possible impact on tourism

Potential Impact	Possible impact on tourism
Nature	<p>The proposed wind energy and solar energy facilities could become a local tourism attraction, as these types of facilities are generally viewed in a positive light, mainly due to the clean technology used and overall positive impact on the environment. It could be included as an attraction in the Ubuntu Local Municipality's Tourism Strategy.</p>
Extent	Local
Indirect / Cumulative Impacts	Increased visitors to the area / Positive injection for the local tourism industry
Potential Significance	Moderate

Potential Alternatives	None
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5.2.6 Local procurement

Potential Impact	Local procurement
Nature	During the operational phase local procurement for general materials, goods and services (e.g. catering and security) could materialise
Extent	Local and Regional
Indirect / Cumulative Impacts	Economic spin-offs
Potential Significance	Moderate
Potential Alternatives	None

5.2.7 Impact on farming activities

Potential Impact	Impact on farming activities
Nature	It is expected that the existing farming activities undertaken on the property (sheep farming) would be able to continue although in a more limited manner. Areas that would not be able to be utilised for farming purposes anymore would include the actual footprint of the turbine structures, the footprint of the solar mounts, access roads, fire breaks and associated buildings.
Extent	Local
Indirect / Cumulative Impacts	Possible economic losses
Potential Significance	Moderate
Potential Alternatives	None

5.2.8 Health related impacts

Potential Impact	Health related impacts
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Nature	As the operations at the proposed facilities would not result in any air pollution, the subsequent health impacts on communities and property owners in close proximity or sensitive receptors are deemed insignificant.
Extent	Local
Indirect / Cumulative Impacts	None
Potential Significance	Low
Potential Alternatives	None

6. SPECIALIST STUDY TO BE CONDUCTED DURING THE EIA PHASE

6.1 Significant Impacts to be assessed during EIA Phase

All the issues noted above would be further assessed during the EIA Phase of the project. Additional areas of impact could also come to the fore which would then have to be addressed as part of the detailed studies.

6.2 Methodology

6.2.1 Further Literature Review

A comprehensive literature review and analysis would be undertaken during the EIA phase of the project. This would assist the consultants to acquire further demographic and socio-economic information with regards to the receiving environment and to build on the initial profiling of the local population's socio-economic characteristics.

6.2.2 Consultation Sessions and Fieldwork

During the EIA Phase additional primary data would also be gathered by means of consultation with the stakeholders and affected parties, and linkages with the public participation process.

6.2.3 Analysis of data compiled by parallel studies

If available, the social impact assessment team will study and analyse the information gathered by the biophysical studies (e.g. information related to technical, environmental, economic and demographic aspects and land-use changes, impact on other facilities, services, and so forth) done in parallel with the public participation process and social studies. This

would assist the social team to assess the impact of the proposed development on the direct (surrounding communities) and indirect (regional) environment.

6.2.4 Variables to be assessed

The following variables would be typically assessed¹ as part of the SIA:

- ⊕ Population impacts;
- ⊕ Community/institutional arrangements;
- ⊕ Conflicts between local residents and newcomers;
- ⊕ Individual and Family level impacts;
- ⊕ Community infrastructure needs; and
- ⊕ Intrusion impacts.

For the purpose of assessing the impacts associated with the proposed project, the above variables will be adapted to allow for the assessment undertaken during the EIA phase. These variables would relate to the construction and operational phases of the proposed project.

6.2.5 Significance Criteria

During the EIA phase, the anticipated social impacts would be rated according to a specific rating approach which would include the extent of the impact, the probability of the impact occurring, the magnitude, the duration of the impact and its significance, as stipulated by Savannah Environmental. It is important to note that this rating approach, which would indicate the intensity of each impact, as well as the mitigation proposed, could result in a change in the status of the impacts as identified as part of the Scoping process.

6.2.6 Reporting

The Social Impact Assessment Report could include the following:

- ⊕ A background description of the social environment including demographic and socio-economic characteristics, land-use profile, infrastructure requirements etc.;
- ⊕ A background description of the local economy;
- ⊕ Linkages with the integrated development planning processes in the area;
- ⊕ An assessment of the anticipated social impacts – negative and positive (including core aspects needing attention);

- ⊕ Rating of impacts;
- ⊕ Formulation of specific mitigating strategies to minimise negative social impacts and enhance positive impacts of the proposed development;
- ⊕ Conclusions and recommendations (also for further studies, if necessary).

7. CONCLUSION

Based on the initial assessment of the receiving environment and the anticipated impacts associated with the wind energy and solar energy facility, it is concluded that there are no fatal flaws associated with the project at this stage.

The main potential social benefits associated with the construction and operation of the proposed Karoo Renewable Energy Facility refers to the job opportunities, the creation of "green energy" and possible socio-economic spin-offs created through the process.

The majority of social impacts are of a moderate significance, but are anticipated to respond to mitigation or enhancement measures. As indicated above, all the anticipated impacts would be further assessed during the EIA phase of the project.

8. SOURCES CONSULTED

8.1 Documents

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8.2 Websites

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www.beaufortwestsa.co.za

www.demarcation.org.za

www.northerncape.gov.za

www.northerncape.org.za

www.pixleykasemedm.co.za

www.ubuntu.gov.za

9. APPENDIX A: QUALIFICATIONS AND EXPERIENCE OF SPECIALIST

Ms. Ingrid Snyman holds a BA Honours degree in Anthropology. She has fourteen years' experience in the social field. Ms. Snyman has been involved in various Social Impact Assessments during her career as social scientist. These project themes consist of infrastructure development, waste management, road development, water and sanitation programmes, township and other residential type developments. She has also been involved in the designing and managing of numerous public participation programmes and communication strategies, particularly on complex development projects that require various levels and approaches.

Ms. Snyman has no vested interest in the outcome of the project and hereby declares her independence with regard to the study undertaken for the above mentioned project