



Socio-Economic Impact Assessment Report

PROPOSED SOUTRIVIER SOUTH OVERHEAD TRANSMISSION LINE, NEAR
VICTORIA WEST, NORTHERN CAPE PROVINCE

Marchelle Terblanche | INDEX Social Consulting Services | 5 February 2023

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| Socio-economic Impact Assessment Report for the proposed Soutrivier South Overhead Transmission Line | |
|--|---|
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DECLARATION OF INDEPENDENCE

I, Marchelle Terblanche, in my capacity as the Socio-economic Impact Assessment Consultant, hereby declare that I -

- Act as an independent Social and Socio-economic Assessment Practitioner;
- Have 26 years' experience of practice and experience in Socio-economic Impact Assessments and related community development work. My Blurb is attached as Annexure, Section 11.3.
- 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.



2023 / 02 / 02

Date

LEGAL REQUIREMENTS

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND ENVIRONMENTAL IMPACT REGULATIONS, 2014 (AS AMENDED) - REQUIREMENTS FOR SPECIALIST REPORTS (APPENDIX 6):

| Regulation GNR 326 of 4 December 2014, as amended 7 April 2017, Appendix 6 | Section of report |
|--|-------------------------|
| 1. (1) A specialist report prepared in terms of these Regulations must contain- a) details of- i. the specialist who prepared the report; and ii. the expertise of that specialist to compile a specialist report including a curriculum vitae; | Page II Section 10.3 |
| b) a declaration that the specialist is independent in a form as may be specified by the competent authority; | Page III |
| c) an indication of the scope of, and the purpose for which, the report was prepared; | Section 1.1 and 3.2 |
| (cA) an indication of the quality and age of base data used for the specialist report; | Section 3.3.2 |
| (cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change; | Section 7 and 7.5 |
| d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment; | Section 3.3.3 |
| e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used; | Section 3.3 |
| f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives; | Section 5.2 |
| g) an identification of any areas to be avoided, including buffers; | Section 5.2.1 |
| 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; | Section 5.2.1 |
| i) a description of any assumptions made and any uncertainties or gaps in knowledge; | Section 3.4 |
| j) a description of the findings and potential implications of such findings on the impact of the proposed activity, (including identified alternatives on the environment) or activities; | Section 7 |
| k) any mitigation measures for inclusion in the EMPr; | Section 7 |
| l) any conditions for inclusion in the environmental authorisation; | Section 8.2 |
| m) any monitoring requirements for inclusion in the EMPr or environmental authorisation; | Section 8.2 |
| n) a reasoned opinion- | Section 8.2 |

| | |
|--|------------------------|
| <p>i. (as to) whether the proposed activity, activities or portions thereof should be authorised;</p> <p>(iA) regarding the acceptability of the proposed activity or activities; and</p> <p>ii. if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;</p> | |
| <p>o) a description of any consultation process that was undertaken during the course of preparing the specialist report;</p> | <p>Section 3.3.6</p> |
| <p>p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and</p> | <p>Section 3.3.6.3</p> |
| <p>q) any other information requested by the competent authority.</p> | <p>n/a</p> |
| <p>2) Where a government notice <i>gazetted</i> by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.</p> | <p>n/a</p> |

EXECUTIVE SUMMARY

WKN Windcurrent SA (Pty) Ltd is planning to develop five Wind Energy Facilities (WEF's) with associated infrastructure and their respective Overhead Transmission Lines (OHL's) located between Victoria West and Loxton in the Northern Cape Province. These facilities are referred to as the "Victoria West WEF Cluster". One of the OHL's associated with this Cluster, i.e. the Soutrivier South OHL is the subject of this report (The Project). The Soutrivier South OHL will however only be constructed if the Soutrivier South WEF comes to fruition. The OHL will be built by the successful renewable energy project developer of the Soutrivier South WEF and would need to conform to the applicable Renewable Energy Independent Power Producer Procurement Programme's (REI4P's) minimum thresholds for the WEF development. The Project can therefore not be seen in isolation. Once operational, the Soutrivier South OHL will be ceded to Eskom.

INDEX *Social Consulting Services* was appointed to do the Socio-economic Impact Assessment (SEIA) that forms part of the Basic Assessment (BA) to be submitted to the National Department of Forestry, Fisheries and Environment (DFFE) in terms of Environmental Impact Assessment Regulations (2014 as amended) under Section 24 of the National Environmental Management Act (No. 107 Of 1998) (NEMA).

The Soutrivier South WEF is located approximately 40 km south-west of Victoria West and 40 km south-east of Loxton in the Pixley ka Seme District and Ubuntu local Municipality (LM) in the Northern Cape Province. Typical small, sparsely populated Karoo towns are scattered throughout the study area, whereas the larger towns serve the purpose of agricultural service centres with higher population densities. The study area in general experiences high levels of unemployment, poverty and social grant dependence and low levels of education. The local economy is largely based on agriculture, mainly goat, sheep and game farming. The manufacturing sector contributes only marginally to employment. Increasing the access to basic services and health, education and social services remain a challenge. Economic empowerment is limited by inadequate available employment opportunities and a lack in entrepreneurship and skills. For this reason, the municipalities in the study area are increasing their focus on skills development.

For the 8-month construction period, various positive and negative social and socio-economic impacts have been identified and are summarized below:

| Construction impacts | Before mitigation | After mitigation |
|--|-------------------|------------------|
| Temporary employment | FEW BENEFITS | FEW BENEFITS |
| Local procurement | FEW BENEFITS | FEW BENEFITS |
| Induced local economic impacts | FEW BENEFITS | FEW BENEFITS |
| Training / skills development / capacity building | FEW BENEFITS | SOME BENEFITS |
| Employment equity | FEW BENEFITS | SOME BENEFITS |
| Impacts associated with an influx of jobseekers / temporary construction workers | LOW NEGATIVE | LOW NEGATIVE |
| Intrusion impacts | LOW NEGATIVE | LOW NEGATIVE |

Limited (approximately 50) direct construction-related employment opportunities will realize. In addition, indirect employment and direct and induced economic impacts will manifest locally and nationally. These

impacts will contribute to an increase in the livelihoods of directly and indirectly participating households for the duration of construction. Although limited, training and skills development has the potential to alleviate poverty levels over the medium to long-term, as the people involved in the Project will acquire skills. The Project also has the potential to increase the skills and capacity of the municipal structures if they are actively involved from the onset of the Project. Strong emphasis is therefore placed on measures to include the Local Economic Development (LED) Units in the processes to enhance participation and transparency.

Negative impacts are short-term in nature and can generally be mitigated effectively. The implementation of an effective employment process in collaboration with the municipal LED Units is essential to address impacts associated with an influx of jobseekers / temporary construction workers and to avoid or minimize residual short to medium term consequences for the municipalities and landowners.

Operational phase impacts over the 25-year lifespan of the Project and their significance ratings are reflected in the following table:

| Operational impacts | Before mitigation | After mitigation |
|---|--------------------------|-------------------------|
| Contribution to the national power supply | SOME BENEFITS | SOME BENEFITS |
| Impacts on sense of place | LOW NEGATIVE | LOW NEGATIVE |

The OHL will enable the Soutrivier South WEF to feed the up to 270MW electricity it generates into the grid, thereby enhancing the reliability and stability of supply that would contribute to economic development in the country as a whole. The South African economy is in dire need of a larger and more stable electricity supply. The knock-on effects of this will be considerable as the economy will be better able to grow. Positive long-term impacts of 'moderate significance' will thus manifest nationally.

Due to the limited number of sensitive receptors, the short length of the powerline and the intermittent maintenance that will be done, the impact on sense of place is rated as 'low negative'.

Should the Soutrivier South WEF be decommissioned after its 25 years' lifespan, the Soutrivier South OHL will likely also be decommissioned. Social and socio-economic impacts are expected to be similar to those that took place during the construction phase. It is not possible to accurately rate and assess decommissioning impacts at this early stage of the process due to a changing social environment and it is therefore recommended that a detailed SEIA be undertaken at the time of decommissioning to determine the actual impacts. No rating is thus provided for impacts associated with decommissioning.

From a social and socio-economic perspective negative impacts that could manifest for this Project are either of low or moderate significance and can be mitigated to acceptable levels. No issues of high significance have been identified. Based on the findings of this SEIA it is the opinion of the Specialist that the construction and operation of the Soutrivier South OHL may proceed, provided that the mitigation, management measures and requirements as set out in this report be incorporated in the EMP and implemented wherever applicable.

GLOSSARY OF ABBREVIATIONS

| Abbreviation | |
|---------------------|--|
| ART | Anti-Retroviral Therapy |
| AIDS | Acquired Immune Deficiency Syndrome |
| BBBEE | Broad-Based Black Economic Empowerment |
| BW | Bid window |
| BWLM | Beaufort West Local Municipality |
| BA | Basic Assessment |
| CKDM | Central Karoo District Municipality |
| CLO | Community Liaison Officer |
| CPF | Community Policing Forum |
| CS | Community Survey |
| CSMP | Contractor Social Management Plan |
| DFFE | Department of Forestry, Fisheries and the Environment |
| DM | District Municipality |
| DMRE | Department of Mineral Resources and Energy |
| EA | Environmental Authorisation |
| EAP | Environmental Assessment Practitioner |
| ECO | Environmental Control Officer |
| ED | Enterprise Development |
| EMC | Environmental Monitoring Committee |
| EMPR | Environmental Management Programme report |
| FET | Further Education and Training |
| GDP | Growth Domestic Product |
| GDP-R | Gross Domestic Product by Region |
| GVA | Gross Value Added |
| HIV | Human immunodeficiency virus |
| HTVL | High voltage transmission lines |
| IDP | Integrated Development Plan |
| IPP | Independent Power Producer |
| IPPO | Independent Power Producer Office |
| IP4 | Independent Power Producer Procurement Programme |
| KPA | Key Performance Areas |
| LED | Local Economic Development |
| LGSETA | Local Government Sector Education and Training Authority |
| LM | Local Municipality |
| LSDF | Local Spatial Development Framework |
| LSU | Livestock Unit |

| | |
|---------------|---|
| MoU | Memorandum of Understanding |
| NEMA | National Environmental Management Act |
| NDP | National Development Plan |
| NGO | Non-government Organizations |
| NSSD | National Strategy for Sustainable Development |
| NSDP | National Spatial Development Perspective |
| OHL | Overhead Transmission Line |
| PGDS | Provincial Growth and Development Strategy |
| PKSDM | Pixley ka Seme District Municipality |
| PLC | Project Liaison Committee |
| PPP | Public participation process |
| PSEDS | Provincial Spatial Economic Development Strategy |
| QLFS | Quarterly Labour Force Survey |
| RE | Renewable Energy |
| REI4P | Renewable Energy Independent Power Producer Procurement Programme |
| SAPS | South African Police Service |
| SDF | Spatial Development Framework |
| SED | Socio-economic development |
| SEIA | Socio-economic Impact Assessment |
| SMME's | Small, Medium and Micro Enterprises |
| SMP | Social Management Plan |
| TB | Tuberculosis |

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1 INTRODUCTION

1.1 Project Background

WKN Windcurrent SA (Pty) Ltd is planning to develop five Wind Energy Facilities (WEF's) with associated infrastructure and their respective Overhead Transmission Lines (OHL's) located between Victoria West and Loxton in the Northern Cape Province. These facilities are referred to as the "Victoria West WEF Cluster" and consist of:

- Taaibos North WEF and OHL;
- Taaibos South WEF and OHL;
- Soutrivier North WEF and OHL;
- Soutrivier Central WEF and OHL;
- Soutrivier South WEF and OHL;
- Taaibos to Soutrivier Collector OHL; and
- Soutrivier to Gamma Collector OHL.

The Victoria West WEF Cluster is located approximately 40 km south-west of Victoria West and 20 km south-east of Loxton, south of the R63 as indicated in Figure 1.



Figure 1. Locality of the Victoria West WEF Cluster

Each of the WEF's and their respective OHL's will require their own Environmental Authorization (EA). Environmental Impact Assessment (EIA) applications for the five WEF's and Basic Assessment (BA) applications for the seven OHL's need to be submitted to the National Department of Forestry, Fisheries and Environment (DFFE) in terms of Environmental Impact Assessment Regulations (2014 as amended) under Section 24 of the National Environmental Management Act (No. 107 Of 1998) (NEMA).

A Socio-economic Impact Assessment (SEIA) is one of the Specialist studies required for the NEMA process and INDEX *Social Consulting Services* was appointed for this purpose. The Soutrivier South OHL is the subject of this SEIA report and is analyzed and rated for BA purposes (The Project).

1.2 Locality

The locality of the Soutrivier South WEF and its associated OHL is indicated in the figures below. The OHL is situated about 40 km south-west from Victoria West and 40 km south-east from Loxton.

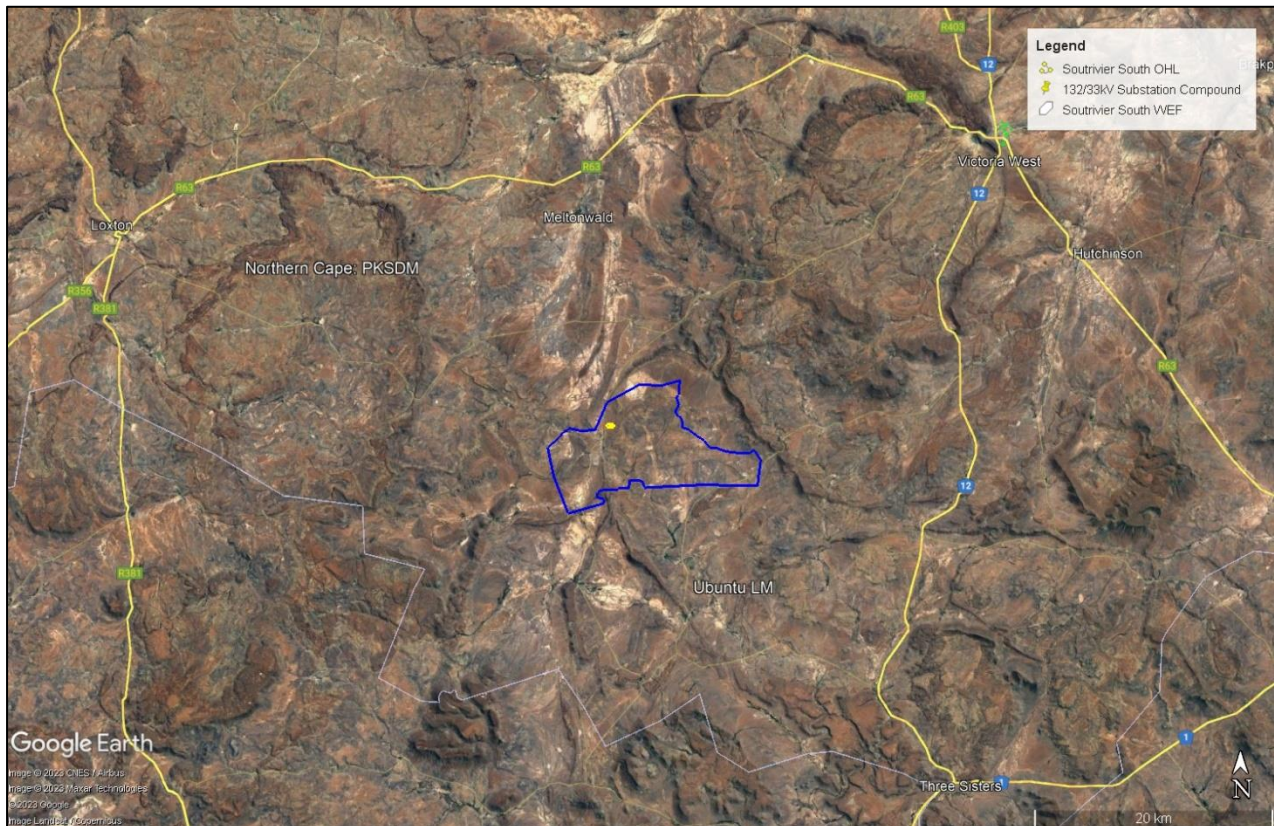


Figure 2. Regional locality of the Soutrivier South WEF and OHL

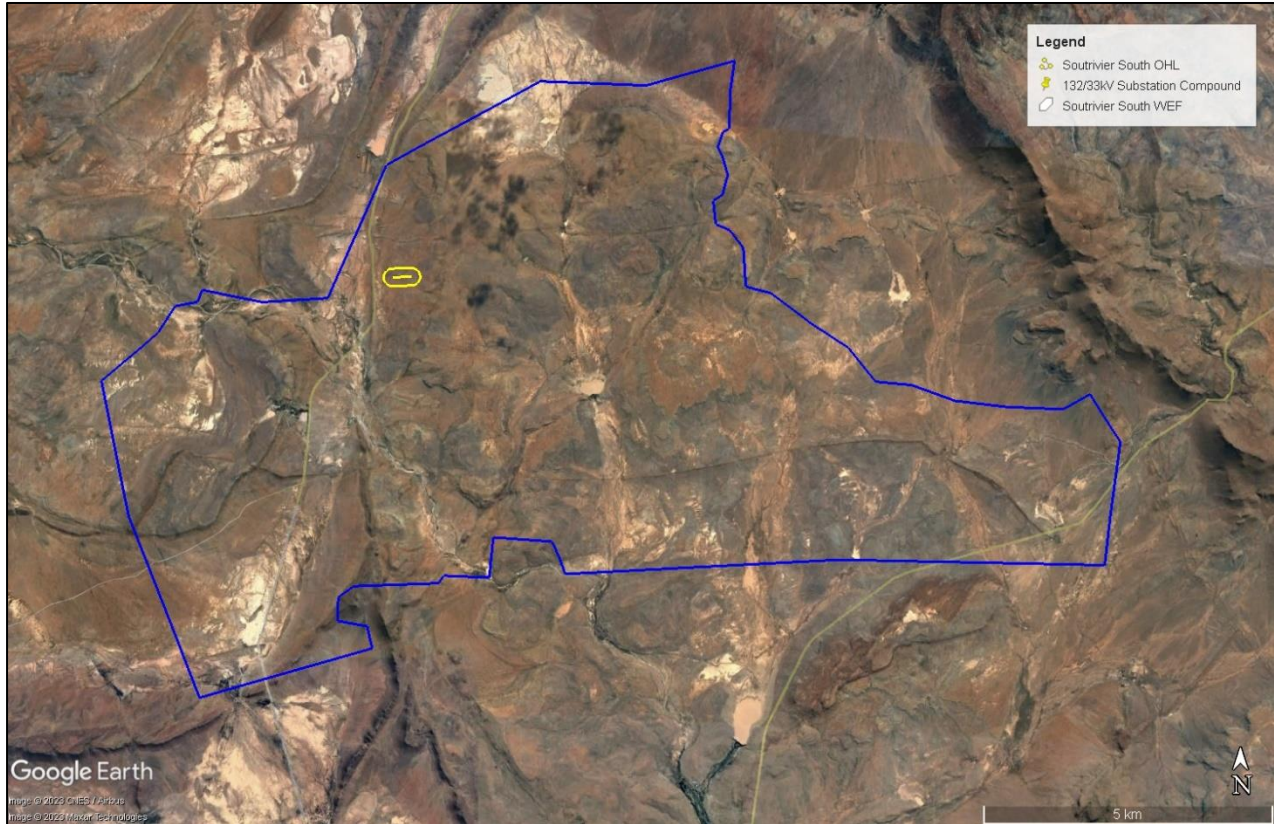


Figure 3. Locality of the Soutrivier South OHL

2 DESCRIPTION OF THE PROJECT

2.1 Land portions

Details of land portions directly included in the Project are provided in Table 1.

Table 1. Landownership

| Farm Name and number | Land owner |
|------------------------|------------------|
| Remainder Farm No. 197 | Bonnievale Trust |

2.2 Project details

The design specifications of the Soutrivier South OHL are indicated in the following table:

Table 2. Design specifications

| SOUTRIVIER SOUTH OHL DESIGN SPECIFICATIONS | |
|--|---------------------|
| OHL Capacity | Up to 132 kV |
| Length of line | < 1 km |
| Technology type | Monopole or lattice |
| Service road width | Jeep track |

2.3 Construction phase

Construction of the OHL is anticipated to take place over an 8-month period. It is anticipated that about 50 construction related jobs will become available, of which 15% will be skilled, 30% semi-skilled and 55% unskilled.¹ Lower and semi-skilled workers are usually required to perform civil and electrical duties such as earth mobilisation, excavations for foundations, trenching, access roads, cable installations and so forth. Higher skilled professional entail Project Managers, Engineers, Environmental Control Officers, etc.

2.4 Operational phase

Once operational the Soutrivier South OHL will be handed over to Eskom, who will perform the maintenance procedures during the lifespan of the OHL. Electricity generated at the Soutrivier South WEF will be collected at the Soutrivier South collector substation for evacuation via the Soutrivier to Gamma collector OHL to the existing Gamma substation.

2.5 Social and Socio-economic Process

Even though the Soutrivier South OHL will be ceded to Eskom once operational, the OHL will be built by the successful renewable energy project developer of the Soutrivier South WEF and would need to conform to the applicable Renewable Energy Independent Power Producer Procurement Programme's (REI4P's) minimum thresholds for the WEF development, thereby ensuring that REI4P social and economic benefits will be realized in the relevant communities.

For this Project's **construction phase**, the social and socio-economic process mainly relate to employment and procurement during construction. Once **operational** the maintenance and operation of the OHL will become Eskom's responsibility and social responsibility in terms of REI4P requirements would not be required.

2.5.1 Identification of the Beneficiary Communities

In line with the REI4P requirements, communities within a 50 km radius from a RE Project are eligible to become beneficiaries and are usually defined as the recipient / beneficiary communities.

The image below illustrates the 50 km radius and indicates that two municipalities (Ubuntu Local Municipality (LM) and Beaufort West LM (BWLM)) and two districts (Pixley ka Seme District Municipality (PKSDM) and Central Karoo District Municipality (CKDM)) located in two provinces (Northern and Western Cape) will be participating.

¹ Information obtained from client, November 2022.

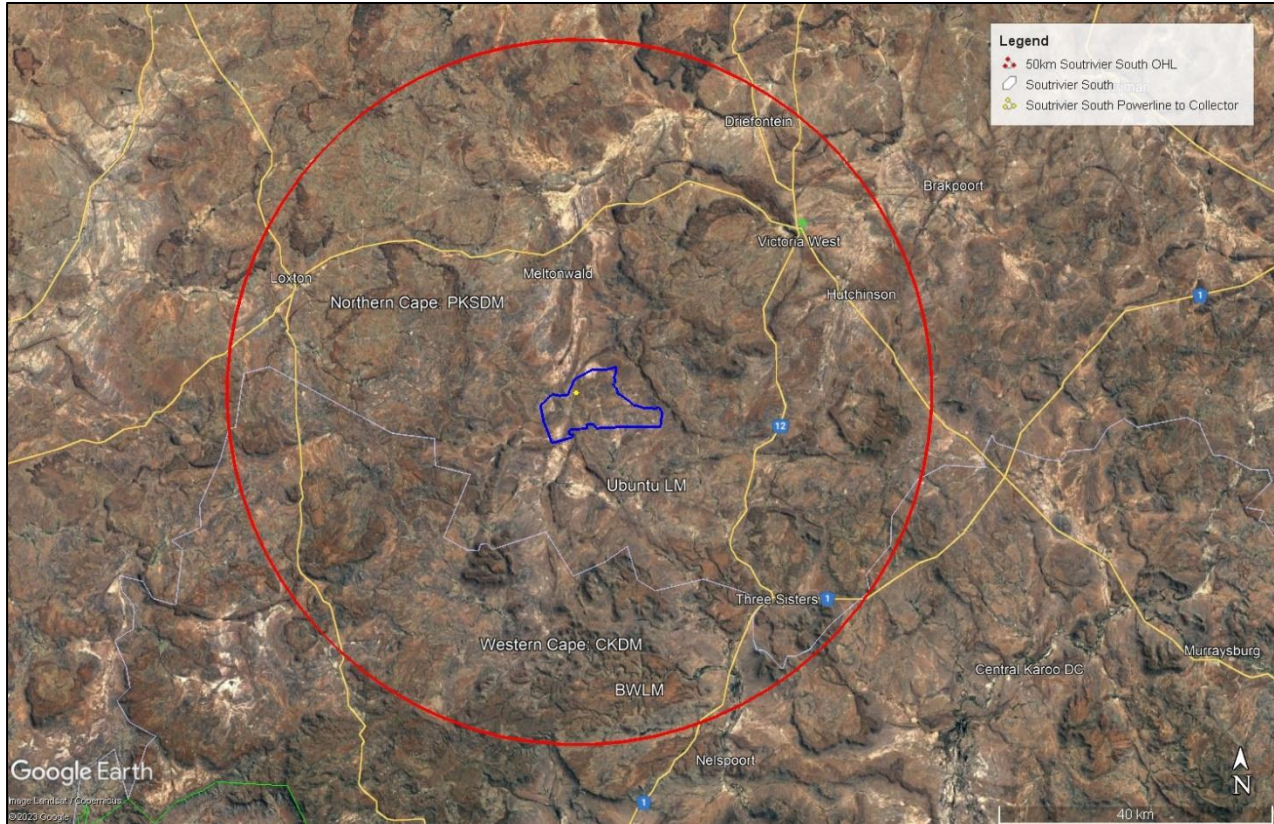


Figure 4. 50 km radius from the Soutrivier South OHL

2.5.2 Employment

The employment requirement of the REI4P ensures that a percentage of the South African workforce (at this stage a minimum of 20%) in the Project comes from the local communities and the OHL's construction phase is thus also required to comply with these minimum thresholds. As far as possible the employment of locals is encouraged to mitigate potential negative impacts that could manifest as a result of an influx of outsiders, conflict between locals and outsiders and so forth. Communities' proximity to the construction site should therefore be a direct measure of their likelihood to be presented with an opportunity to participate in the construction phase of the Project.

Since inception of the RE Projects in South Africa (Bidding window (BW) 1 – 4), employment thresholds and targets were exceeded consistently. 48 110 job-years during construction, and 15 182 job-years during operations for South African citizens have realized (IPPP Overview, December 2021).

2.5.3 Procurement

In addition to employment, procurement will also be subject to the REI4P, of which local content will weigh 25% of the REI4P Round 5 Economic Development Scorecard for evaluation of wind energy project bids.²

Local procurement includes:

- Procurement of local contractors and Small, Medium and Micro Enterprises (SMME's), wherever possible, to build the WEF; and
- Procurement of material, goods and services from local suppliers and small businesses for construction and maintenance and repairs during the operational phase.

3 SCOPE AND PURPOSE OF REPORT

3.1 Specialist Credentials

The SEIA Specialist's Blurb is attached in Section 10.3: Annexures (*Blurb of SEIA Specialist*).

3.2 Purpose of Report

Possible social and socio-economic impacts associated with the Soutrivier South OHL are assessed for purposes of this report. The aim is to determine the effect of the proposed development on a specific group of people or a community's way of life, character or social cohesion prior to the development taking place. The developer should therefore optimize the benefits of the Project and implement mitigation that would minimize the possible negative impacts before they manifest.

This SEIA Report provides the following:

- Broad overview of the Project, design and activities to be undertaken;
- Purpose of a SEIA;
- Legal guidelines and policies within which this Project should function from a social and economic perspective;
- Gaps, assumptions and limitations of the study;
- Study scope of work, methodology and the impact significance rating method used;
- Definition of the study area / Project area of influence;
- Identification of sensitive receptors within the site-specific study area and a sensitivity map;
- The socio-economic profile of the region and the social characteristics of the affected environment;
- Anticipated positive and negative social and socio-economic impacts for the construction, operation and decommission phases and their significance ratings;

² REI4P Round 5 Economic Development Scorecard for evaluation of wind energy project bids. Subject to revision for current bidding window.

- Mitigation and management measures for each impact category;
- Recommendations from a socio-economic perspective; and
- Social Management Plan for implementation.

3.3 Approach and Methodology

This Report complies with Appendix 6 of the NEMA 2014 EIA Regulations (GN R982 of 4 December 2014), as amended. Steps followed for the study are outlined below:

3.3.1 Scope of the assessment

Based on information received from the client, the scope of work was determined. Photographs, aerial maps and a survey of the area and surrounds orientated the consultant and assisted to determine sensitive receptors and the potential social impacts that could emerge.

3.3.2 Desktop studies and literature review

Various secondary data sources were used to collect information, determine and analyze the social and economic characteristics of the study area and to assist in the assessment of impacts, which include:

- Maps, census data and other sources that provided baseline statistics;
- Planning and policy documents (national, provincial and municipal);
- Overview of the Renewable Energy Independent Power Producer Procurement Programme (REI4P);
- Data and results of similar studies extrapolated from documents, articles, publications and case studies locally and internationally; and
- Interviews and questionnaires with stakeholders.

Section 10 contains the list of sources consulted.

3.3.3 Site visit

A site visit was undertaken on 26 and 27 July 2022 to familiarize the specialist with the social environment and to identify sensitive receptors within the Project's area of influence.

3.3.4 Definition of the Study Area

For purposes of the analyses the study area needs to be defined. The following three study areas are relevant for this SEIA:

- The **site-specific study area** is the area that experiences direct impacts related to Project activities such as noise, dust, visual impacts, land use impacts and land acquisitions. The site-specific study area is, for purposes of the SEIA, defined as an approximate 500 m buffer around the powerline infrastructure.

- The **local study area (direct area of influence)** is the area that would experience the direct positive economic impacts (job creation, etc.) as well as the negative impacts related to sense of place, an influx of workers and the associated social risks. The geographical area includes the surrounding farms, smaller towns and settlements located closest to the Project – usually within a few kilometres from the site and located within the affected and surrounding wards.
- The **regional study area (indirect area of influence)** is the area that would experience impacts related to indirect and induced impacts, such as pressure on local service delivery and resources and induced impacts of economic contribution. Certain of the direct impacts, including job creation, effects of an influx of jobseekers and so forth would also manifest here. The geographical area extends to the cities and towns within the local and district municipalities – a radius of approximately 50 km for this Project.

3.3.5 Identification of Stakeholders and Sensitive Receptors

Stakeholders and sensitive receptors within the study area have been identified.

Stakeholders in the site-specific and local study areas

- Landowners, including their workers and dependents
- Road users (R63, R381 and access roads)
- Ubuntu LM - IDP Unit
- Ward Councillors (Ubuntu LM)
- Residents located in Ward 3 (Ubuntu LM)

Stakeholders in the regional study area

- Pixley ka Seme District Municipality (PSDM)
- Central Karoo District Municipality (CKDM)
- Beaufort West Local Municipality (BWLM) – LED Unit
- Organized Agriculture
- Existing Independent Power Producers (IPP's)
- Emergency services

3.3.6 Primary data

3.3.6.1 Public participation

In order to elaborate on the baseline social, socio-economic and economic environment links are established with the Public Participation Process (PPP) to be done for the EIA. Comments and issues that emerge will be included and assessed and this draft SEIA report updated accordingly.

3.3.6.2 Consultation and fieldwork

Consultation with key stakeholders took place from July 2022 to October 2022. Meetings, telephonic discussions and questionnaires formed the basis of the consultation up to date.

The list of stakeholders consulted is included in Section 9 (*References*) and will be updated during the course of the process.

3.3.6.3 *Issues and concerns*

Comments and inputs obtained through consultation pertain to:

- Labour, employment and SMME processes. It is often a challenge to identify suitable local labour and the correct channels need to be used (e.g. Department of Labour, existing database in the municipality (local and district), Office of the Mayor and so forth);
- Skills requirements that might not be available locally and a need for training and capacity building for locals, SMME's and municipal Officials;
- Influx of workers and related concerns, such as conflict, pressure on basic service delivery and social issues that emerge;
- Accommodation for an outside workforce, which could become problematic if the contractors do not provide accommodation and locals rent out / sell their houses to people that move in, resulting in potential increase in informal settlements and greater dependence on local government and social grants;
- There is no registered landfill site in Victoria West and there is a concern about waste management at the construction site;
- Water service provision is an issue at Victoria West and Loxton (water is presently being pumped from Hutchinson) and could be problematic for the Project;
- Road damage caused by construction vehicles and an increase in traffic. Roads are not always repaired sufficiently when construction periods have ended;
- District and local hospitals are understaffed and underequipped;
- Local Disaster Management and Fire Prevention are not adequate;
- Gaps within the municipal structures and insufficient capacity and experience relating to RE projects, negotiations and so forth;
- Lack in transparency and communication and the general feeling that municipalities are being bypassed in the decision-making processes;
- Missed opportunities have taken place in previous RE projects. Need to learn from the past to improve future projects;
- Potential security risks and an increase in crime during construction;
- Poor land use management practices (gates left open, etc.) and safety issues for livestock and game;
- Damage to the veld and grazing during construction and the possibility that rehabilitation is not done sufficiently.

3.3.7 *Secondary data*

Where applicable the SEIA findings and ratings have been aligned with other Specialists' findings, since many of the issues of social relevance are interweaved with environmental concerns.

3.3.8 Impact variables to be assessed

For purposes of this SEIA the following variables have been assessed:

- Economic and socio-economic impacts that relate to local procurement and induced / indirect local economic impacts.
- Labour force impacts such as temporary / permanent / indirect employment, training and skills development, SMME development and employment equity.
- Population impacts including the inflow or outflow of temporary workers.
- Impacts on the surrounding landowners such as intrusion impacts; land use impacts; devaluation of farmland values; sense of place and security risks.
- Individual and family level impacts, including disruption in daily living and movement patterns.

3.3.9 Significance rating

Potential impacts associated with the proposed Project are assessed in terms of their overall significance on the socio-economic environment during construction. The criteria used are:

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

The Significance Assessment Criteria is set out in the Annexure, Section 11.1.

3.3.10 Mitigation and management

For each of the impacts identified mitigation and management measures are proposed and it is indicated how these would change the overall significance if such measures were implemented. It is recommended that mitigation and management measures be included in the Environmental Management Programme Report (EMPr) where required.

3.3.11 Cumulative impacts

The OHL projects included in the Victoria West WEF Cluster are considered for the assessment of cumulative impacts. Refer Section 7.5.

3.3.12 Alternatives

No site or design alternatives for the Soutrivier South OHL are assessed, as slight changes to the locality and types of pylons will not impact the SEIA ratings significantly. However, the OHL is assessed against the 'No-

Go' alternative in Section 7.4 (*Alternatives*). The 'No-Go' alternative is the option of not constructing the Project and the status quo would prevail.

3.3.13 Conclusion and Recommendations

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

3.4 Assumptions and Limitations

- Baseline socio-economic data for this draft SEIA Report was obtained from various sources, which include Census 2011, Community Survey (CS) of 2016, municipal planning documents and specialist studies conducted as part of the Project. Even though there are some gaps in the data and some of the statistics contradict each other, data was nevertheless adequate to develop a community profile at a sufficient level of detail for this SEIA.
- Sources (primary and secondary) are not exhaustive and additional information can still come to the fore that can influence the contents and findings of the SEIA study. Additional inputs from stakeholders, where relevant, will be included and assessed.
- Consultation with stakeholders for the SEIA but does not aim to replace the Public Participation Process required by NEMA.
- Technical and other information provided by the client is assumed to be correct.
- The purpose of the SEIA is to identify social and economic impacts and determine how these would impact on the social fabric of the receiving environment. An in-depth analysis of economic impacts and/or an Economic Cost Benefit Analysis fall outside the scope of the SEIA.
- The assessment of the impact on sense of place is mainly based on the specialist's opinion, as sense of place is a personal experience and not easily measured.

4 LEGAL FRAMEWORK AND POLICY GUIDELINES

The legal framework and policy guidelines within which this Project should function from a social and socio-economic perspective are set out in this section of the report.

4.1 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 organization through internal decision-making, budget allocations and oversight processes;
- **Track the effectiveness of responses** to verify whether adverse human rights impacts are being addressed, 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.

4.2 National Policy context

The National Environmental Management Act, 1998 (Act 107 of 1998)

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), as amended, 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 care 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 that holds relevance to this Project:

- Identification of non-agricultural opportunities such as tourism, mining and a "green" economy;
- Innovative, targeted and better coordinated provision of infrastructure and service 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.

National Strategy for Sustainable Development and Action Plan (2011) (NSSD)

The NSSD builds on the 2008 South Africa National Framework for Sustainable Development and several initiatives that were launched by the business sector, government, Non-Governmental Organizations (NGO's), civil society, academia and other key role players to address issues of sustainability in South Africa.

This is a proactive strategy that regards sustainable development as a long-term commitment, which combines environmental protection, social equity and economic efficiency with the vision and values of the country. The NSSD marks the continuation of a national partnership for sustainable development. It is a milestone in an ongoing process of developing support, and initiating and up-scaling actions to achieve sustainable development in South Africa.

The following five strategic objectives are identified in the NSSD:

- Enhancing systems for integrated planning and implementation
- Sustaining our ecosystems and using natural resources efficiently
- Towards a green economy
- Building sustainable communities
- Responding effectively to climate change

National Spatial Development Perspective (2006) (NSDP)

The NSDP is regarded as a major achievement in the continued drive by the State to eradicate the damage wrought by colonial and apartheid settlement patterns and economic activity in South Africa. It is a framework for focused intervention by the State in equitable and sustainable development and represents a key instrument in the drive towards ensuring greater economic growth, buoyant and sustainable job creation and the eradication of poverty.

The NSDP argues that macro-economic considerations are important, but development is strongly shaped by processes on the ground, i.e. in specific regions. Regions are thus the critical foundations of development processes. The NSDP provides:

- A set of principles and mechanisms for guiding infrastructure investment and development decisions;
- A description of the spatial manifestations of the main social, economic and environmental trends that should form the basis for a shared understanding of the national space economy; and
- An interpretation of the spatial realities and the implications for government intervention.

In order to contribute to the broader growth and development policy objectives of the government, the NSDP puts forward a set of five (5) normative principles:

- 1) Rapid economic growth that is sustained and inclusive.
- 2) Provision of basic services to all citizens wherever they reside.
- 3) Government spending on fixed investment focused on localities of economic growth and/or economic potential in order to gear up private-sector investment, to stimulate sustainable economic activities and to create long-term employment opportunities.
- 4) Efforts to address past and current social inequalities should focus on people, not places.
- 5) To overcome spatial distortion of apartheid, future settlement and economic development opportunities should be channelled into activity corridors and nodes that are adjacent to or that link with main growth centres.

4.3 Provincial context

Northern Cape Provincial Growth and Development Strategy (PGDS)

The Northern Cape Provincial Growth and Development Strategy (PGDS) is a critical tool to guide and coordinate the allocation of national, provincial and local resources and private sector investment to achieve sustainable development outcomes.

The Pillars of the PGDS are:

- Increasing investment in the province
- Improving skills and capacity building
- Broadening participation in the economy
- Increasing competitiveness

Important key sectors have been identified as drivers of economic growth in the province:

- The Agricultural sector (including agri-processing and land reform)
- The Industrial sector (Including Manufacturing)
- The Tourism sector
- The Service sector (including government services)

Northern Cape Provincial Spatial Economic Development Strategy (PSEDS)

The purpose of the Provincial Spatial Economic Development Strategy (PSEDS) is to:

- Provide spatial context to Growth and Development strategy;
- Address spatial imbalances, curb urban sprawl and ensure sustainable interventions;
- Identify priority areas and types of development;
- Align to municipal spatial development frameworks;
- Guide budgeting processes of the province and municipalities; and
- Influence investment decisions of the private sector.

4.4 District and Local Municipal Context

Pixley ka Seme District Municipality Integrated Development Plan (IDP 2022-2027)

Pixley ka Seme District Municipality's IDP provides the framework to guide the Municipality's planning and budgeting over the course of a set legislative time frame. It is an instrument for making the Municipality more strategic, inclusive, responsive and performance driven. The IDP is therefore the main strategic planning instrument which guides and informs all planning, budgeting and development undertaken by the Municipality in its municipal area. The IDP is guided by the vision of the Municipality: "Developed and Sustainable District for future Generations".

The mission of the District include the provision of support to its local municipalities, to promote and enhance integrated development planning and to align development initiatives in the District to the National Development Plan.

Ubuntu Local Municipality Integrated Development Plan (IDP) (2017 – 2022)

In terms of Section 34 of the Local Government Municipal Systems, 2000 (Act 32 of 2000) each municipality is required to develop a five-year IDP and review it annually to assess its performance against measurable targets and respond to the demands of the changing circumstances. The IDP links the community's needs through stakeholder engagement with the Local Municipality's planning, which has to be integrated with Provincial and National Government. The result of the integrated planning process is an inclusive and strategic plan for the development of the municipality that assists them to:

- (i) Focus on the most important needs of the communities and effectively use resources;
- (ii) Speed up delivery;
- (iii) Attract additional funds;
- (iv) Strengthen democracy;
- (v) Overcome the legacy of the past; and
- (vi) Promote coordination between local, provincial and national government.

The IDP identified the mission of the municipality, to be pursued in an integrated and synergistic manner, to:

- Maximize the utility of the municipal resources in a sustainable, developmental and economic manner to better the life of all;
- Improve institutional effectiveness and efficiency;
- Optimally develop our human, financial and natural resources;
- Create an enabling environment for local economic growth in order to create employment opportunities and alleviate poverty;
- Work with all our existing and prospective partners to establish a vibrant tourism industry;
- Participate in the fight to reduce the HIV/AIDS infection rate and lessen the impact thereof;
- Focus on youth development, women empowerment and enabling the disabled to play a meaningful role in unlocking human potential;
- Ensure a safe, secure and community friendly environment; and
- Maintain sound and sustainable management of financial and fiscal affairs.

Ubuntu Local Municipality Local Economic Development 2011

The Local Economic Development (LED) is the document that guides the process to create better conditions for economic growth and poverty eradication by employment creation through job creation and training. The process is undertaken collectively by the public sector, the community and the private sector for the establishment of successful private enterprises to create wealth, jobs and improved living standards for the local communities.

The aim of LED is thus to facilitate economic growth through activities that build up the economic strength in the local area in order to improve the quality of life and future of the inhabitants.

4.5 Other Policy Guidelines

Renewable Energy Independent Power Producer Procurement Programme (REI4P)

The Department of Mineral Resources and Energy's (DMRE's) Independent Power Producer Procurement Programme (IRP4) was established at the end of 2010 as one of the government's urgent interventions to enhance South Africa's electrical power generation capacity.

Energy and supply is, however, not only about technology, but also has to impact economic growth and socio-economic development. As such, the REI4P has been designed to also include and contribute to the national development objectives, such as job creation, social upliftment, local industry development and increasing opportunities for economic ownership.

The Integrated Resource Plan for electricity (IRP) provides South Africa's long-term plan for electricity generation. It primarily aims to ensure security of electricity supply, minimize the cost of that supply, limit water usage and reduce greenhouse gas emissions, while allowing for policy adjustment in support of broader socioeconomic developmental imperatives. The IRP2019 was promulgated in October 2019 and replaced the IRP2010 as the country's official electricity infrastructure plan.

The IPP projects of the first seven bid windows (BW1, BW2, BW3, BW3.5, BW4, 1S2 and 2S2) were distributed across all nine provinces of South Africa.

Up to date in the Northern Cape Province, 48 renewable projects with a combined output of 3 566MW have been procured. 1 459MW of this output is generated by wind energy.

5 DESCRIPTION OF THE STUDY AREA

5.1 Regional and Local Study Area

5.1.1 Municipalities

The Soutrivier South OHL is located in the Ubuntu LM (Ward 3: extent of 16 891 km²), situated in the southern section of the Northern Cape Province. The Ubuntu LM is the largest of the eight municipalities (20 140 km²) that make up the PKSDM, accounting for almost a quarter of its geographical area. About 34% of Ubuntu's population resides in the rural areas, with continued rural-urban migration that is foreseen. Demand for service delivery, housing and infrastructure is highest in the urban areas (Ubuntu LM IDP.2017-2022).



Figure 5. Locality of Ubuntu Local Municipality

(Source: municipalities.co.za)

Some of the main challenges in Ubuntu are the reduction of poverty, basic service delivery (infrastructure), insufficient and clean water, poor access to services such as education and health and sustainable job creation (Ubuntu LM IDP, 2017-2022; Ubuntu LM, July 2022).

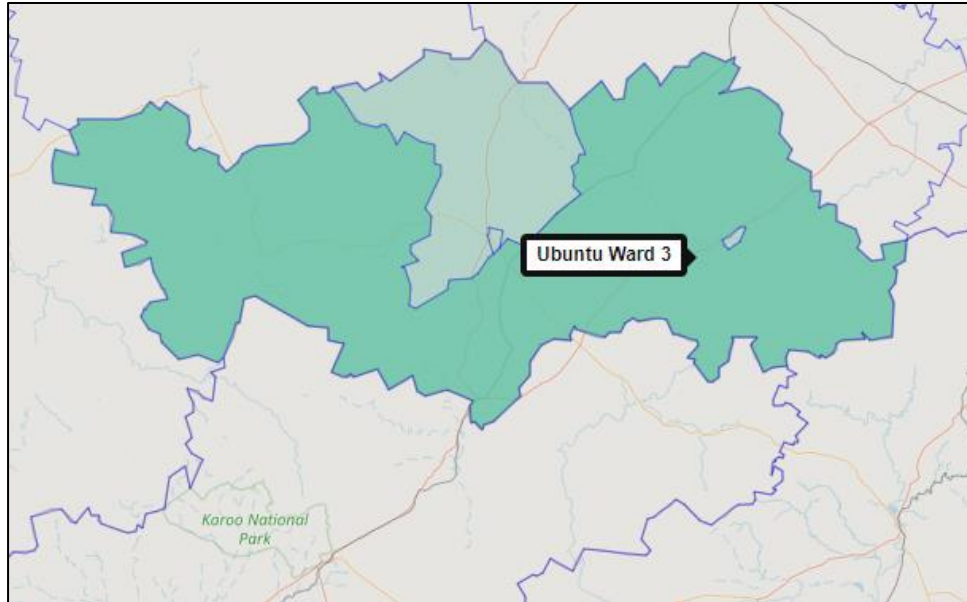


Figure 6. Ubuntu LM, Ward 3

(Source: wazimap.co.za)

5.1.2 Towns

Main towns in Ubuntu LM are Victoria West, Hutchinson, Loxton and Richmond. Victoria West, the seat of the local municipality, is located approximately 55 km north-east of the Project. The town consists of 8 254 residents, of which 69.3% are Coloured people and 82.1% speak Afrikaans as first language (Census 2011). The majority of residents are employed in the Wholesale and Trade industries, followed by Construction, Finance (and other) and Livestock, Farming and Agriculture (Ubuntu LM IDP, 2017-2022).

The closest town to the Project, Loxton, is a typical rural Karoo town situated about 20 km north-west of the Project and has a population of 1 053 people (Census 2011). It is in one of the major wool-producing and one of the largest garlic-producing areas in South Africa (southafrica.co.za/loxtion).

Table 3. Towns near the Project

| Town | Approximate distance to Project |
|---------------|---------------------------------|
| Loxton | 20 km |
| Victoria West | 55 km |
| Hutchinson | 60 km |
| Nelspoort | 70 km |
| Carnarvon | 75 km |
| Beaufort West | 88 km |
| Richmond | 130 km |

5.1.3 Land Uses

The local study area is characterised by large farms on average 6 000 ha to 12 000 ha in extent, although smaller farm portions are also evident. The landscape character is typical of the Great Karoo with plains and

open valleys, koppies, rocky ridges and outcrops and plateaus. Vegetation consists mainly of bush-veld and grass is very scarce.



Figure 7. Typical landscape of the local study area

Farming is adapted to the situation and mainly revolves around small livestock and game farming (hunting). Dry climatic conditions are such that cropping is very limited and is restricted to valley bottoms often near or around farmsteads. Quality of groundwater is generally poor due to the high salt content. Whilst commercial farmers own most of the farms in the study area, some of the surrounding towns have made commonage available that emerging farmers can rent (Ubuntu LM IDP, 2017-2022).

A limited number of farmsteads are scattered in and around the local study area. A few holiday accommodation / guest farms are prevalent, mainly in closer proximity to arterial roads and in the surrounding towns. Meltonwold, a historical Karoo Guest Farm, is located about 17 km north of the proposed OHL. The establishment offers 23 rooms in a guest farmhouse, camping and wedding and conference venues (meltonwold.co.za).

Infrastructure features include the N12, R381, R63 roads and a number of local gravel access roads, a railway line and the Nobelsfontein WEF (about 60 km to the east).

5.2 Site Specific Study Area

For this SEIA Report the site-specific study area is defined as the Soutrivier South OHL and a buffer of about 500 m around the site.

5.2.1 Sensitive receptors and sensitivity mapping

Sensitive receptors from a social and socio-economic perspective include any existing infrastructure and land uses that could potentially be negatively impacted as a result of construction activities (noise, dust,

visual, traffic, etc.) or during the operational phase, which is in the case of a powerline of this nature, usually due to visual impacts.

The figure below illustrates that a local access road (road observers) is the only feature of social and/or socio-economic relevance within the 500 m buffer.

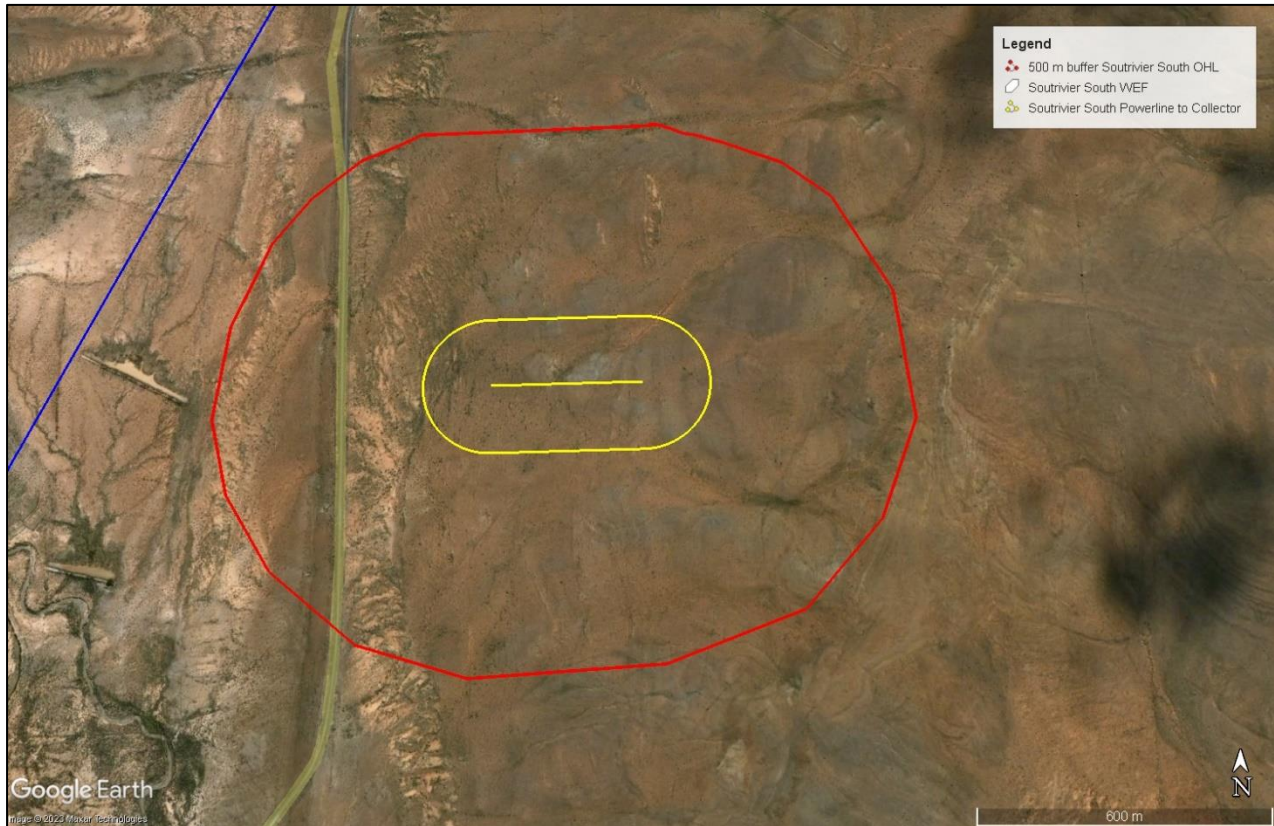


Figure 8. Soutrivier South OHL: 500 m buffer

5.3 Renewable Energy Projects and Power Lines in and Around the Study Area

The proposed Soutrivier and Taaibos WEF's with their respective OHL's fall within the Central Strategic Transmission Corridor and just outside the Beaufort West Renewable Energy Development Zone (REDZ) 11. The following existing and authorized Renewable Energy Projects and associated electrical grid connections occur in and around the study area³:

- Nobelsfontein Wind Energy Facility;
- Brakpoort Solar PV Facility;
- Mainstream Wind and Solar Energy Facility;
- Aurora Power Solutions (APS) Betelgeuse PV Solar Project Four (east of the Gamma Substation);

³ The South African Renewable Energy EIA Application Database (REEA) (REEA_OR_2022_Q1)

- Umsinde Emoyeni Wind Energy Facility Phase 2 (east of APS Betelgeuse PV Solar Project Four);
- Ishwati Emoyeni Wind Energy Facility (east of Umsinde Emoyeni Wind Energy Facility Phase 2);
- Poortjie Wes Wind Energy Facility;
- Nuweveld East, North and West Wind Energy Facilities.

A number of existing High Voltage lines travers the broader study area, especially towards the south in the direction of Three Sisters, and further towards the east where the powerlines connect with the existing Gamma Substation. These include the Kromrivier Traction / Nobelsfontein 1 132 kV line, the Gamma / Kappa 1 765 kV line, the Droërivier / Hydra 2 400 kV powerlines and the Hydra / Droërivier 1 and the Droërivier / Hydra 3 400 kV lines.

6 BASELINE DATA OF THE STUDY AREA

6.1 Population data

6.1.1 Population size

Demographic data, including migration patterns, determine and influence how fundamental services within a municipal area are delivered. In the context of this Project, these statistics provide a baseline against which some of the impacts of the Project, such as the possible influx of outsiders, over the medium and long-term can be measured.

The table below provides a summary of the relevant population trends in the local study area.

Table 4. Demographic data

| Demographics | PKSDM | Ubuntu LM | Ward 3 |
|--|---------|-----------|--------|
| Population | 195 596 | 19 471 | 4 715 |
| Households | 56 308 | 6 034 | 1 609 |
| Average household size | 3.5 | 3.2 | 2.9 |
| People per km ² | 1.9 | 1 | 0.3 |
| Age structure (2016) | | | |
| - Under 15 yrs | 25.8 % | 27.7 % | - |
| - 15 to 64 yrs | 68.2 % | 66.8 % | - |
| - Over 65 yrs | 6 % | 5.5 % | - |
| Population growth per annum (2011-2016) | 1.1 % | 1.04 % | - |
| Female headed households | 36.8 % | 33.7 % | - |
| Dependency ratio per 100 (15 – 64 yr) (2016) | 46.7 | 49.7 | - |

(Source: www.wazimap.co.za; Census 2011; CS 2016)

Provincial data indicates that during the period 2011 to 2016 the PKSDM and Ubuntu LM both experienced higher annual population growth rates than the Northern Cape population, at 1.1% and 1.04% per annum respectively, compared with 0.8% for the Province (CS 2016).

Both the district and local municipalities have experienced considerable declines in their dependency ratios from 2011 to 2016; from 60.4 to 46.7 for the PKSDM and 63.5 to 49.7 for Ubuntu LM. This means that the portion of the population that falls within the working age group / Economic Active Population (15 to 64 years) has been increasing significantly and broadly indicates an improvement of the socio-economic condition of local communities over this time period.

The population in the study area is mostly urbanized. The table below provides the number of people in the main towns.

Table 5. Population in the towns

| Town | Population |
|---------------|------------|
| Beaufort West | 34 085 |
| Nelspoort | 1 699 |
| Richmond | 5 121 |
| Victoria West | 11 000 |
| Hutchinson | 367 |
| Loxton | 1 053 |
| Carnarvon | 6 612 |

(Source: Census 2011)

6.1.2 Language and race

The majority of citizens in the study area are Coloured people, followed by Black people. Afrikaans remains the predominant language spoken.

Table 6. Languages and race

| | Languages spoken | | | Race | | |
|-----------|------------------|----------|---------|----------|-------|-------|
| | Afrikaans | IsiXhosa | English | Coloured | Black | White |
| PKSDM | 76% | 19% | 1% | 63% | 30% | 6% |
| Ubuntu LM | 83% | 13% | 1% | 73% | 23% | 4% |

(Source: wazimap.co.za; CS 2016)

6.2 Labour Force

Data that relates to unemployment, education and skill levels provide an insight into the existing labour force and to what extent the study area would be able to supply in the labour demand.

6.2.1 Education

Education levels in general, as well as tertiary levels, are unacceptably low. Less than 25% of the people above 20 years of age in the study area have obtained a matric qualification and less than 6% have obtained a tertiary education.

Table 7. Education levels

| Education (2016) | PKSDM | Ubuntu LM |
|------------------|--------|-----------|
| No schooling | 11.9 % | 11.8 % |
| Matric | 24 % | 23.1 % |
| Higher education | 5.4 % | 3.9 % |

(Source: CS 2016; municipalites.co.za)

In terms of Tertiary education levels, the following statistics could be obtained for the Ubuntu LM:

Table 8. Higher education levels, Ubuntu LM

| Highest Education | Rural Area | Richmond | Sabelo | Victoria West | Loxton |
|---|------------|------------|------------|---------------|------------|
| Certificate | 12 | 9 | 12 | 30 | 3 |
| Higher Diploma | 54 | 21 | 3 | 117 | 9 |
| Bachelor's Degree | 36 | 15 | 0 | 18 | 6 |
| Honours Degree | 18 | 3 | 0 | 9 | 3 |
| Higher Degree / Masters / PhD | 9 | 0 | 3 | 6 | 6 |
| Other | 3 | 9 | 0 | 15 | 0 |
| Total | 129 | 57 | 18 | 198 | 27 |
| % of total Ubuntu LM 20+ yr old population | 1 | 0.5 | 0.2 | 1.5 | 0.2 |

(Source: Ubuntu LM IDP, 2017-2022)

6.2.2 Unemployment

Unemployment figures for the study area are reflected below.

Table 9. Unemployment rate

| Unemployment | PKSDM | Ubuntu LM |
|--|--------|-----------|
| Unemployment 2011 (official) | 28.3 % | 29.1 % |
| Unemployment 2018 (official) | 34.1 % | - |
| Youth unemployment 2011 (official) 15-34 yrs | 35.4 % | 34.8 % |

(Source: Census 2011; PKSDM IDP, 2022-2027)

In 2011 the Ubuntu LM had an unemployment rate of 29%, slightly above the PKSDM figure of 28.3%. Unemployment in PKSDM rose to 34.1% in 2018 (PKSDM IDP, 2022-2027). The 2011 figures are relatively on par with national unemployment at 29.8%. However nationally the unemployment in the 4th quarter of 2018 dropped to 27.1% (www.statssa.gov.za).

6.2.3 Youth unemployment

Unemployment amongst South Africa's Youth continues to be a burden, irrespective of education levels. According to the Quarterly Labour Force Survey (QLFS) for the first quarter of 2022, the national

unemployment rate was 63.9% for those aged 15 - 24 years and 42.1% for those aged 25 - 34 years, while the current official national rate stands at 34.5% (StatsSA; www.statssa.gov.za). In 2011 Ubuntu LM had a Youth unemployment rate of 34.8%, whilst the PKSDM rate was 35.4% during the same period (Census 2011). Even though more recent figures are not available for the study area, it could be expected that this rate remained constant or even increased over the last decade considering the economic climate and the negative impact the COVID-19 lockdown has had on economies. With about 75.1% of young people (15 – 24 years) in the labour force nationally being inactive, it is clear that the Youth has become considerably discouraged (lost hope of finding work that suits their skill or in the area they reside) and therefore remains vulnerable.

6.2.4 Incomes

Approximately 44% of the Ubuntu households are classified as Indigent as they earn less than R1 600 per month. The graph below shows that the town of Victoria West can be considered financially healthy in terms of their income per household, although 46% households are still classified as Indigent (Ubuntu LM IDP, 2017-2022).

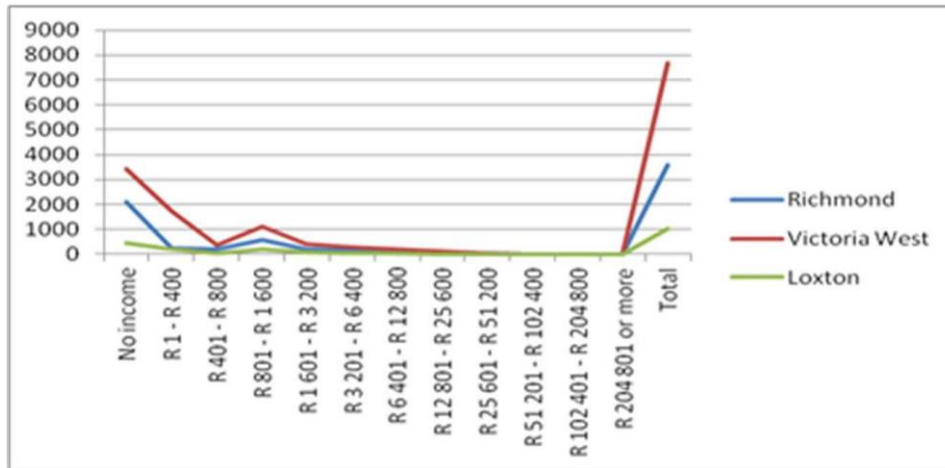


Figure 9. Ubuntu LM Income levels

(Source: Ubuntu LM IDP, 2017-2022)

6.2.5 Employment per sector

Statistics of employment sectors provide a further indication of the available skills in the study area.

Table 10. Sector of employment

| Sector of employment | PKSDM | Ubuntu LM |
|----------------------|-------|-----------|
| Formal | 67 % | 69 % |
| Informal | 18 % | 19 % |
| Private household | 13 % | 11 % |

(Source: wazimap.co.za; Census 2011)

Statistics with regards to Ubuntu's contribution to employment could not be obtained. In order to ascertain the regional trend, the Beaufort West Local Municipality (BWLM), located adjacent to the south, the Central Karoo District Municipality (CKDM) and PKSDM's contributions to employment are provided in the table below. Whilst agriculture remains to be a significant contributor to employment in the CKDM, government dominates employment in PKSDM, followed by agriculture, forestry and fishing. Manufacturing's contribution to employment is the lowest, ranging between 1.5 and 2.7% in the BWLM and the two districts reflecting low skill levels in this sector.

Table 11. Contribution to employment⁴

| Employment sectors | Beaufort West LM (2017) % | CKDM (2019) % | PKSDM LM (2018) % |
|---|---------------------------|---------------|-------------------|
| Agriculture, forestry & fishing | 19.7 | 24.1 | 17.7 |
| Manufacturing | 2.1 | 1.5 | 2.7 |
| Construction | 4.2 | 4.5 | 9.5 |
| Wholesale, retail trade, catering & accommodation | 24.4 | 22.9 | 16.6 |
| Transport, storage & communication | 5.1 | 4.4 | 2.8 |
| Finance, insurance, real estate & business services | 10.1 | 8.5 | 7.5 |
| General government | 18.3 | 17.5 | 29.7 |
| Community, social & personal services | 15.6 | 16 | 10 |

(Source: BWLM IDP, 2017-2022; PKSDM IDP, 2022-2027)

6.3 Economic profile and Indicators

Main economic sectors in PKSDM are Community services (26.6%), Agriculture (16.6%), Transport (15.1%), Trade (12.9%), Finance (12.8%), Electricity (7%), Construction (3.3%), Manufacturing (3.2%) and Mining (2.6%); whilst Agriculture dominates the Ubuntu LM's economy. Livestock (sheep, goat and cattle) and game are the nucleus of farming activities. All farms are dependent on underground water. The main agricultural products are wool for the export market and meat for the local market.

In the broader district the following take place (PKSDM IDP, 2021-2022):

- Agriculture is one of the main economic activities despite the largely semi-arid and arid environment in the district. The Orange, Vaal and Riet Rivers contribute to fertile land and the irrigation of grains and vegetables.
- Livestock farming in the region include cattle, sheep and goat farming.
- Game breeding has also been identified as one of the opportunities which could be linked with the tourism sector for Game reserves and hunting activities.
- Agro-processing of various plant and meat products take place.
- Mining in the district is mainly linked to alluvial diamond mining along the Orange River and various semi-precious stones. The region also has various salt pans for the potential of salt production. The

⁴ Statistics for Ubuntu LM could not be obtained.

development of new Orion Mine in the region provides prospects for job opportunities and procurement opportunities.

- Tourism in the district contributes 15.6% to the provincial Gross Value Added (GVA). Ubuntu LM is not at this stage one of the larger contributors in terms of tourism.
- In terms of Renewable Energy it is stated that by successfully attracting a share of the IPPPP portfolio investment, all municipalities in the district, including Ubuntu, are benefitting from substantial SED and ED contributions leveraged by the IPPPP commitments. The SED and ED contributions provide an opportunity for the identification of viable projects that will promote the economic development of the region.

Consultation with the local and district municipalities indicated a need for greater support for agricultural initiatives.⁵ Even though commercial farmers own most of the farms, some of the towns have made commonage available that emerging farmers can rent. The identified issues are (Ubuntu LM IDP, 2017-2022):

- More land for emerging farmers / land reform;
- Skills training for emerging farmers and Youth;
- Upgrading of infrastructure;
- Sub-letting of commonage land by emerging farmers to commercial farmers;
- Stock theft;
- Management of the commonage; and
- Financial assistance for emerging farmers.

6.4 Social Indicators

6.4.1 Health

HIV/AIDS and tuberculosis (TB) data for the PKSDM and Ubuntu LM could not be obtained. However, the following issues in the health care sector have been identified (Ubuntu LM July 2022; PKSDM July 2022; Zutari (Pty) Ltd):

- Inadequate health facilities;
- Understaffed hospitals and poor conduct of health staff;
- Shortage of medical equipment;
- Shortage of ambulances;
- Underutilized facilities; and
- Poor access to health care facilities (transport).

⁵ Ubuntu LM and PKSDM consultation: 26 / 27 July 2022.

6.4.2 Crime

Crime statistics of the Victoria West South African Police Service (SAPS) are provided below. Although crime seems to be relatively under control, the Ubuntu IDP (2017-2022) states that crime is more prevalent in Richmond than in its other towns. SAPS stations are located in Victoria West, Richmond and Loxton and three stations are located in Beaufort West.

Table 12. Victoria West SAPS crime statistics

| CRIME CATEGORY – VICTORIA WEST | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 |
|--|------------|------------|------------|------------|
| CONTACT CRIMES (CRIMES AGAINST THE PERSON) | | | | |
| Murder | 6 | 5 | 3 | 3 |
| Sexual Offences | 12 | 16 | 16 | 12 |
| Attempted murder | 8 | 7 | 14 | 6 |
| Assault with the intent to inflict grievous bodily harm | 54 | 57 | 54 | 55 |
| Common assault | 30 | 34 | 34 | 37 |
| Common robbery | 7 | 1 | 2 | 3 |
| Robbery with aggravating circumstances | 6 | 2 | 5 | 5 |
| Total Contact Crimes (Crimes Against The Person) | 123 | 122 | 128 | 121 |
| CONTACT-RELATED CRIMES | | | | |
| Arson | 6 | 5 | 3 | 2 |
| Malicious damage to property | 12 | 16 | 16 | 25 |
| Total Contact-Related Crimes | 18 | 21 | 19 | 27 |
| PROPERTY-RELATED CRIMES | | | | |
| Burglary at non-residential premises | 34 | 22 | 22 | 45 |
| Burglary at residential premises | 49 | 36 | 36 | 39 |
| Theft of motor vehicle and motorcycle | 0 | 2 | 6 | 0 |
| Theft out of or from motor vehicle | 18 | 11 | 11 | 16 |
| Stock-theft | 40 | 34 | 31 | 43 |
| Total Property-Related Crimes | 141 | 105 | 106 | 143 |

(Source: www.saps.gov.za/services/crimestats.php)

6.5 Institutional Profile

6.5.1 Housing, infrastructure and services

In general the level of service delivery has improved for both local municipalities between 2011 and 2016, except for access to piped water inside dwellings, which declined slightly.

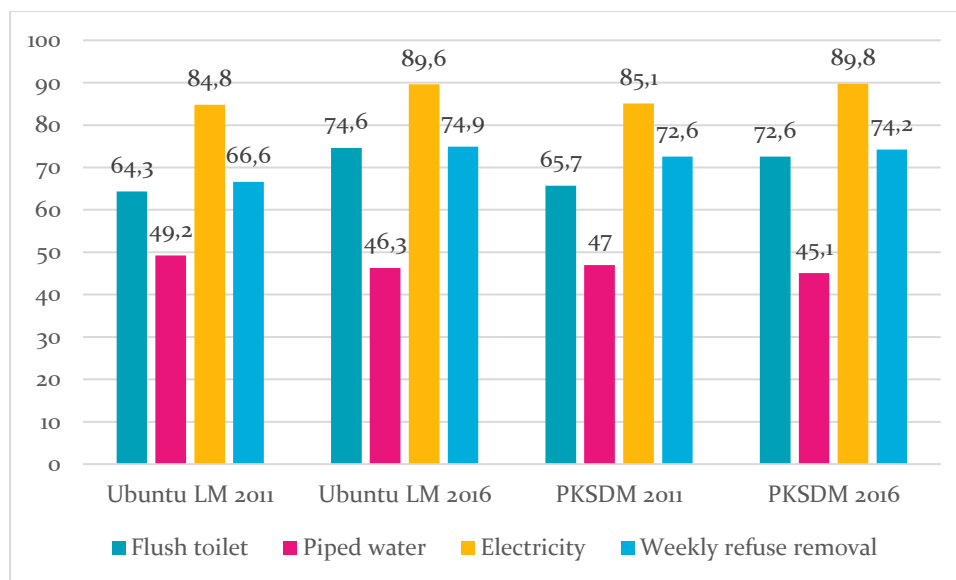


Figure 10. Access to Municipal Services

(Source: StatsSA; Census 2011; CS 2016)

In relation with national trends, relative few households live in informal dwellings in the Ubuntu LM. According to the 2016 CS, 92.9% households in Ubuntu live in formal dwellings.

There is a housing backlog of 2 150 in Ubuntu, of which 1 500 are in Victoria West, 500 in Richmond and 150 in Loxton (Ubuntu LM IDP, 2017-2022).

6.5.2 Health Facilities

Health care facilities in the district are indicated below:

Table 13. Health care facilities

| Health care facility | PKSDM |
|-----------------------------|-------|
| Fixed facility clinics | 27 |
| Mobile clinics | 5 |
| Hospital (Regional / Local) | 8 |
| District hospital | 1 |
| Ambulances | 2 |
| Ambulances | 2 |

(Source: PKSDM IDP, 2021-2022).

The district hospital in PKSDM is situated in De Aar. Ubuntu LM has two hospitals i.e. in Victoria West and Richmond. Consultation with the local municipal officials identified a shortage of medical staff in Victoria West.⁶ Inadequate health facilities, limited equipment and the shortage of ambulances are some of the

⁶ Ubuntu LM consultation, 26 July 2022.

other issues identified for the wider municipal area (Ubuntu LM IDP, 2017-2022). Access to the facilities (transport) is also an existing issue.

6.5.3 Educational Facilities

The following educational facilities occur:

Table 14. Education facilities

| Education facilities | Ubuntu LM | BWLM |
|----------------------|-----------|------|
| Primary schools | 12 | 17 |
| Secondary schools | 3 | |
| Tertiary | 0 | 0 |

(Source: Ubuntu LM IDP, 2017-2022; BWLM IDP, 2017-2022)

6.6 Local Economic Development

The Ubuntu LM has formulated the following developmental priorities and strategic objectives which are aligned with National Key Performance Area 2, i.e. LED (Ubuntu LM IDP, 2017-2022):

- Private Sector Investment Upliftment & Acceleration
- Public Sector Investment Upliftment & Acceleration
- Tourism Upliftment & Acceleration
- Agriculture & Agri-processing Upliftment & Acceleration
- Industry Upliftment & Acceleration
- Commerce Upliftment & Acceleration
- SMME Upliftment & Acceleration
- Industrial & Commercial Economic Zone Establishment

6.7 Local social and economic issues

Typical small, sparsely populated Karoo towns are scattered throughout the study area, whereas the larger towns serve the purpose of agricultural service centres with higher population densities. The study area in general experiences high levels of unemployment, poverty and social grant dependence and low levels of education. Hence, the most critical challenge remains the reduction of poverty. Despite its strategic locality in terms of national transport corridors, the study area still currently has a low level of development. The local economy is largely based on agriculture, mainly goat, sheep and game farming. The manufacturing sector contributes only marginally to employment.

Increasing the access to basic services and health, education and social services remain a challenge. Economic empowerment is limited by inadequate available employment opportunities and a lack in entrepreneurship and skills. For this reason, the Ubuntu LM and PKSDM are increasing their focus on skills development of their labour force, sustainable job creation and employment equity by targeting previously disadvantaged groups, such as women, the disabled and the Youth. Renewable energy investment has been identified as a major opportunity to attain these development goals.

Consultation with the relevant municipalities for this SEIA revealed a great need for Officials to be empowered as they often feel side-stepped in the decision-making processes. The following contributions were made:

- The study area's strength is agriculture and agricultural related projects and initiatives need to become the focus (this is also relevant to SED and ED contributions for RE projects).
- Links with identified IDP and LED initiatives need to be established to ensure continuation of municipal goals and that real community-based needs are met.
- A skills / needs analysis prior to commencement of projects are required, instructing municipalities in advance of the exact type and level of skills needed.
- Very strong emphasis is placed on education and specifically the training of SMMEs and the unemployed so that skills transfer and capacity building become a residual positive impact post construction.
- There is a need for the establishment of a coordinated SMME training "Village" that service the broader district and region.
- Links with existing training institutions such as tertiary institutions need to be established (SED and ED programmes).
- In order to aid improved cooperation between parties and avoid duplication of initiatives, a central Forum / Development Committee or similar structure is required for the RE node.
- Improved communication and transparency between the IPP's and municipal structures are required. This include involvement from the on-set of projects; drafting of a Memorandum of Understanding (MoU) so that parties are aware of their roles, responsibilities and timeframes; appointment of a dedicated Community Liaison Officer (CLO) / Project Liaison Committee (PLC); and so forth.

7 SOCIO-ECONOMIC IMPACTS IDENTIFIED

7.1 Construction phase impacts

This section of the SEIA discusses and provides the potential social and socio-economic impacts anticipated for the 8-month construction period of the powerline. The SEIA significance impact assessment rating table is included in Section 10.2.1 (*Full impact assessment – SEIA: Construction phase*).

7.1.1 Temporary employment

Cause and comment:

It has been established that approximately 50 temporary employment opportunities will become available over the 8-month construction period. Of these about 55% will be allocated to unskilled, 30% to semi-skilled and 15% to skilled workers. Semi- and lower skilled workers are usually required to perform electrical and civil duties (site clearing, excavation and casting of concrete foundations, stormwater reticulation, trenching, access roads, cable installations, structural steelwork, buildings, fencing, etc.); whereas higher skilled professionals entail Project Managers, Engineers, Environmental Control Officers and so forth.

Indications are that about 3 to 5% of the project value will be spent on salaries and wages⁷ and at this stage at least 20% of the South African workforce has to be residents of local communities.

Labour force data reflected in Section 6.2 indicates that the project sending area will be able to supply in the demand for lower and possibly semi-skilled workers, but that skilled employees will most likely be deployed from other areas. The local labour force in general has low education levels and limited skills and manufacturing’s contribution to employment is marginal (ranging between 1.5 and 2.7%). Databases with available workers and SMME’s exists (albeit limited in the Ubuntu LM), and the municipalities indicated that, since skill levels are low, capacity building / training is a priority. It is also worth mentioning that the procedures to advertise and obtain local labour differs between the municipalities and early discussions with the stakeholders to determine the way forward in this regard is advisable.⁸

In addition to direct employment, the construction phase will have a positive spin-off effect on the economy (local, regional and national) through procurement of goods and services, with indirect and induced employment creation as result.

Definite short term positive impacts will manifest locally and nationally. However, the opportunities are limited, resulting in an overall significance rating of ‘low’.

| Impact 1: Temporary employment | |
|--------------------------------|------------------|
| Before mitigation | After mitigation |
| FEW BENEFITS | FEW BENEFITS |

Mitigation measures:

- Maximise local employment and local content (the Project’s direct sending area) through the Preferential Procurement Plan and Contractor Social Management Plan (CSMP) for all contractors that are used.
- Involve the Ubuntu LM and PKSDM from the early processes (from financial close already if possible). Determine their existing processes with regards to a labour desk and streamline employment processes between the various stakeholders.
- Appoint a Community Employer Relations Officer / CLO. Communicate with communities through this one channel to ensure transparency, limit unrealistic expectations and to avoid conflict.

7.1.2 Local procurement

Cause and comment:

Twenty-five percent (25%) of the DMRE’s scorecard is based on local content (how much is manufactured in SA; amount of goods and services procured through South African companies that have a BBBEE Generic

⁷ Information obtained from client, November 2022.

⁸ Consultation for SEIA: June – September 2022.

scorecard or who are Qualifying SMME's and Women Owned Vendors). In order to meet or better targets set by the DMRE, the Developer is aiming for approximately 40% of total capital expenditure to be local.⁹

It is anticipated that most of the large-scale technical components will be sourced from larger industrial areas in other parts of the province / country. Rock crushing and cement casting could potentially happen close to site to meet local procurement figures. General construction material and goods, building material and general infrastructure elements will be sourced locally, wherever possible and available.

Even though the Preferential Procurement Policy will only be formulated closer to the time, positive impacts on local and national economies are 'definite' since 25% of the DMRE scorecard is based on local content. The overall positive significance is rated as 'low'.

| Impact 2: Local Procurement | |
|------------------------------------|-------------------------|
| Before mitigation | After mitigation |
| FEW BENEFITS | FEW BENEFITS |

Mitigation measures:

- Maximise local content of procurement in consultation with the local authorities.

7.1.3 Induced local economic impacts

Cause and comment:

Expenditure during construction and the increase in household earnings due to temporary employment result in various induced economic impacts and spin-offs for the local and regional economies, such as:

- Business opportunities for the service and manufacturing industries (locally and nationally), e.g. transport, Personal Protective Equipment, maintenance work, general consumables, civil works;
- Wages that are spent locally and a general improvement of income levels with higher spending benefits and spin-offs for local businesses, retail, sales, leisure and hospitality, real estate, etc.;
- Local accommodation facilities that house the workers sourced from outside the direct Project sending area and spin-offs for the tourism industry.

Since at least 20% of the South African workforce has to be residents from local communities, a large portion of these induced impacts will manifest locally. Definite positive impacts of 'low significance' will manifest.

| Impact 3: Induced local economic impacts | |
|---|-------------------------|
| Before mitigation | After mitigation |
| FEW BENEFITS | FEW BENEFITS |

⁹ Information obtained from client, November 2022.

Mitigation measures:

- Maximise the Project's local content as far as possible.

7.1.4 Training / Skills Development / Capacity Building**Cause and comment:**

An important outcome of training and skills development 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. During the construction phase the following training initiatives would usually take place:

- On-site training so that workers can safely perform their duties; and
- Training by contractors to maintain their own BBEEE level, such as health and safety legislation training, first aid, fire-fighting, construction skills, basic electrical training, quality management, legal compliance or business skills.

These types of training are usually at the discretion of the individual contractor or sub-contractor, but is encouraged.

Consultation with the affected local and district municipalities however identified a great need for training and capacity building as most of the workers and SMME's on their databases are poorly educated with limited skills. These constraints result in gaps between the Developers' requirements and the local communities' / SMME's abilities to provide the required services. It would thus be to the advantage of the Project if on-the-job training is implemented, especially for unskilled workers.

In addition to capacity building of the local labour force, capacity and knowledge constraints within local government also exists. Officials are faced with challenges and responsibilities during the planning, construction and employment processes and do not always have the required skills, experience and capacities to fulfill these duties. These duties and responsibilities relate to:

- Collaboration with the IPP 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;
- Monitoring and managing the influx jobseekers from outside the Project's target area, and so forth.

The Ubuntu LM indicated that the South African Local Government Association (SALGA) plays an active role to assist them in the negotiations processes, but that the Developer/s commitment to improve municipal skills and capacities would be welcomed. There is thus a need for the Developer to involve local government structures effectively to transfer skills, so that they become better equipped to assist and participate in future projects.

Pre-mitigation positive impacts of 'slight' severity will manifest, resulting in 'few benefits' for the region. Post-mitigation the significance could increase to a 'moderate positive'.

| Impact 4: Training / Skills development | |
|---|------------------|
| Before mitigation | After mitigation |
| FEW BENEFITS | SOME BENEFITS |

Mitigation measures:

Where feasible, the Developer should:

- Require larger contractors to work with small SMMEs to train and transfer skills and include this in their respective CSMP's.
- Implement on-the-job training for lower-skilled workers.
- Capacitate the local government structures by involving them as early as possible in the Project; remain transparent throughout the processes.
- Make the skill requirements available to the LED Units in advance and do a skills analysis of the available workforce.

7.1.5 Employment Equity

Cause and comment:

Employment Equity forms part of the scorecard according to which the DMRE will rank projects submitted for bidding. Statistics obtained from the IP4 overview (DMRE, December 2021) indicate that during the construction phases, Black South African citizens, Youths and rural local communities have primarily been the beneficiaries of RE projects, as they respectively represent 81%, 44% and 48% of total job opportunities created by IPP's to date. However, woman and the disabled could still be significantly empowered as they represent a mere 10% and 0.4% of total jobs created.

A minimum threshold of 30%, with a target of 50%, has been set for Black citizens in construction at the early stages of operations. An 18% minimum threshold and 30% target have been set for skilled Black citizens. In both these categories the thresholds have significantly been exceeded with the real share of Black people and Black skilled people ranging between 71 and 85% for the construction and operational phases (DMRE, December 2021).

Although minimum thresholds are prescribed for Black people, no guidelines / thresholds currently exist to address employment equity for women, Youth and the disabled. However, the DMRE encourages the Project to procure with suppliers that have a BBBEE Generic scorecard or who are Qualified Small Enterprises, Exempt Micro Enterprises and Women Owned Vendors and the Developer has expressed their commitment to satisfy and/or better REIP4 tender requirements.

Pre-mitigation positive impacts of employment equity will hold benefits of 'low overall significance' if only the DMRE's minimum requirements are implemented. With mitigation, the intensity of the impact will increase and the overall significance can be increased to hold 'moderate benefits'.

| Impact 5: Employment Equity | |
|-----------------------------|------------------|
| Before mitigation | After mitigation |
| FEW BENEFITS | SOME BENEFITS |

Mitigation measures:

- Include targets for the inclusion of Youth, women and the disabled in the Employment Equity Plan and obtain the local and district municipalities' inputs in this regard.

7.1.6 Impacts associated with an Influx of Jobseekers / Temporary Construction Workers**Cause and comment:**

Negative impacts that could manifest for local communities and the local and district municipalities due to an influx of jobseekers / temporary construction workers include:

- Conflict between locals and 'outsiders' if the outside labour force receives preference;
- Conflict due to cultural differences;
- Increase in the size and number of informal settlements and additional pressure on local government for housing and related services;
- Increase in the unemployment rate if jobseekers and/or workers do not return to their places of residence post construction;
- Unwanted pregnancies, an increase in HIV/AIDS and other sexually transmitted diseases (STDs) and additional pressure on health care services;
- An increase in single parent households and a subsequent reliance on social grants;
- An increase in drug and alcohol abuse and other social issues should unemployment levels increase.

Poor conduct of construction workers and inadequate management of the construction site could result in health and safety risks for landowners that include:

- Unauthorized access / trespassing resulting in theft, stock poaching, safety and security issues as well as potential damage to the veld and natural grazing;
- Fire hazards at the construction site and the possibility of fires spreading and damaging surrounding farmland and infrastructure;
- Pollution problems, flies, rodents and pests and possible contamination of water resources (insufficient sanitation facilities, littering and refuse) and so forth.

In terms of security, landowners and community members could easily consider this construction project as the catalyst should local crime levels and stock theft increase and affect their quality of life. Landowners

in and around the study area describe their environment as extremely safe and peaceful with minimal / low levels of crime.¹⁰ This concurs with SAPS crime statistics as reflected in Section 6.4.2.

Even though this Project's labour component is not significant, impacts that relate to an influx of construction workers would increase if contractors and sub-contractors refrain from using the labour desk and prefer to bring in their own workforce. The Developer's commitment to maximize local labour, design the recruitment process in conjunction with the municipalities and implement relevant security measures for the duration of construction is thus essential.

Due to the limited number of construction workers, negative impacts associated with an influx of jobseekers / temporary construction workers are rated with a 'low negative significance'. Implementation of all management and mitigation measures are however essential.

| Impact 6: Impacts associated with an influx of jobseekers / temporary construction workers | |
|---|-------------------------|
| Before mitigation | After mitigation |
| LOW NEGATIVE | LOW NEGATIVE |

Mitigation measures:

Employment / Temporary construction workers:

- Clearly identify the beneficiary communities / labour sending area and compile the employment strategy in collaboration with the affected municipalities' LED Units.
- Contractually oblige contractors and sub-contractors to only source labour through the labour desk / job registration database and make this known to the target communities.
- Work through limited communication channels (e.g. Ward Councillors and the Employer Relations Officer / CLO).
- Be vigilant not to raise unrealistic expectations amongst the local communities and workers with regards to employment, skills requirements, local procurement and so forth. Ensure transparency through the Ward Councillor, CLO and the EMC / Forum.
- No recruitment of temporary workers at the access to the construction site.
- As part of the CSMP's, contractors to provide a transport and housing plan: (i) no workers are allowed to be housed on site or in informal housing / settlements; (ii) allow workers that do not live nearby time to return to their families at regular intervals or over weekends.
- No workers to remain on site after shifts.
- It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues.

¹⁰ Consultation and questionnaires completed by landowners.

Security, safety and environmental health:

- 24-hour security, demarcate and fence the construction site (if possible), material stores to be secured, access control and no trespassing of workers outside designated construction areas.
- Keep the local SAPS, other emergency services, Ward Councillors, landowners and other relevant stakeholders informed about the construction progress and time-lines.
- Develop a Fire / Emergency Management Plan in conjunction with affected and neighbouring landowners.
- Dispose of the various types of waste generated in the appropriate manner at licensed waste landfill sites at regular intervals. Comply with the waste management plan compiled for the construction phase.
- 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.
- If water for construction is obtained from a natural water resource, comply with the Water Use Licence conditions for the duration of the construction period.
- Ensure implementation of the provisions of the Occupational Health and Safety Act No. 85 of 1993 and adhere to the Emergency and Safety plan procedures for the duration of the construction phase.

Awareness / community engagement:

- Keep open communication channels with the landowners and address any potential issues as a matter of priority.
- Make contact details of the main contractor and procedures to lodge complaints available to landowners and the local communities through the Ward Councillors and EMC / Forum.
- Make a complaints register / log book available at the entrance to the construction site and act immediately should issues arise.
- 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 general construction activities.
- Where required, draw up a land use management plan with individual landowners to protect livestock and farmland, which addresses restricted access areas, procedures when farm gates are opened and closed and so forth.
- Rehabilitate the veld to its original state post construction.

7.1.7 Intrusion impacts**Cause and comment:**

Intrusion impacts during construction refer to temporary nuisance issues experienced with regard to an increase in traffic, noise, dust / fume emission and visual / aesthetic / light impacts as a result of movement of construction vehicles on site and along access roads, earthworks and general construction activities. Although short-term in nature, the severity of the impact would increase if sensitive receptors and agricultural land uses occur in close proximity to the construction areas.

Apart for grazing, no irrigation or cropping occur close to the construction site. One local access road, with limited road users, runs in close proximity west of the construction area. There are no residences and other sensitive receptors located near the site.

Intrusion impacts could however indirectly impact agricultural land uses, thereby having a negative effect on incomes of landowners, such as:

- Negligent construction workers that do not close / lock farm gates resulting in animals that go missing and/or mix with animals in different breeding groups / cycles, potentially introducing diseases into herds;
- Livestock that is killed on access roads if drivers do not adhere to speed limits and traffic rules;
- Dust that impacts the quality of wool and/or dust that settle on grazing land and have an impact on livestock carrying capacity; and
- Construction activities that hamper the farmers' access to their own farms.

The increase in traffic could result in the degradation of road surfaces and speeding / negligent drivers could cause accidents and fatalities, subsequently placing pressure on local emergency, disaster management and health care services (fire, ambulance, police services, etc.).

Traffic, noise (if any) and dust can generally be mitigated effectively and visual impacts are regarded as insignificant. For purposes of the SEIA, the overall significance of intrusion impacts (pre- and post-mitigation) is rated with a 'low negative significance'.

| Impact 7: Intrusion impacts | |
|-----------------------------|------------------|
| Before mitigation | After mitigation |
| LOW NEGATIVE | LOW NEGATIVE |

Mitigation measures:

- Comply with the generic EMPr for overhead transmission lines with regards to noise and dust.
- Implement all mitigation measures as proposed in Section 7.1.6 (*Impacts associated with an influx of jobseekers / temporary construction workers*).
- Discuss construction timelines with landowners so that grazing of livestock can take place away from the construction area.
- Display a contact number on the construction vehicles where motorists can report reckless driving.
- Erect signboards indicating accesses to the construction site.
- Maintain access roads during the length of the construction period. Once construction is finalised, ensure that damaged road surfaces are repaired.

7.2 Operational Phase Impacts

Once the Soutrivier South WEF and its associated OHL are operational, the OHL will be ceded to Eskom. It is therefore assumed that the lifespan of the Soutrivier South OHL is 20 to 25 years and will be decommissioned at the same time as its associated WEF.

The following section discusses the relevant long-term impacts¹¹ associated with the facility and provides mitigation measures where required. The SEIA significance impact assessment rating table is included in Section 10.2.2 (*Full impact assessment – SEIA: Operational phase*).

7.2.1 Contribution to Nation Power Supply

Cause and comment:

The Project will only realize if the proposed Soutrivier South WEF is constructed. The OHL will enable the WEF to feed the up to 270MW electricity it generates into the grid, thereby enhancing the reliability and stability of supply that would contribute to economic development in the country as a whole.

The South African economy is in dire need of a larger and more stable electricity supply. The knock-on effects of this will be considerable as the economy will be better able to grow. Positive long-term impacts of ‘moderate significance’ will manifest nationally.

| Impact 1: Contribution to national power supply | |
|---|------------------|
| Before mitigation | After mitigation |
| SOME BENEFITS | SOME BENEFITS |

7.2.2 Impacts on sense of place

Cause and comment:

Sense of place is the community / landowners’ perception of their living environment and how they make meaning of their experiences in that environment. Sense of place may vary amongst people and may change over the course of time and is a very personal experience.

The Project is located in an area with low crime levels and has an overall feeling of solitude and stillness. The social impact associated with the long-term impact on the sense of place for this OHL project would thus relate to a potential change in the landscape character, intrusion impacts and any potential changes to the safety and social surroundings of community members.

Due to the limited number of sensitive receptors, the short length of the powerline and the intermittent maintenance that will be done, the impact on sense of place is rated as ‘low negative’.

| Impact 2: Sense of place | |
|--------------------------|------------------|
| Before mitigation | After mitigation |
| LOW NEGATIVE | LOW NEGATIVE |

¹¹ Eskom will be the grantee of the Soutrivier South OHL and thus the assessment of the employment, economic and land use management aspects of the OHL’s operational phase are not relevant to this SEIA.

Mitigation measures:

- Maintain the service track for the duration of operations.

7.2.3 Impacts considered and not assessed*7.2.3.1 Employment and induced economic impacts*

For ongoing maintenance of the powerline and servitude, limited new employment (if any) will manifest, as Eskom will most likely make use of their existing maintenance teams. Opportunities for downstream supporting industries and local procurement are possible during these maintenance procedures. Impacts on employment, local procurement and induced economic impacts during the operational phase are however deemed to be insignificant.

7.2.3.2 Land use impacts

No high potential agricultural land will be impacted and grazing will resume once the land under the powerline route has been rehabilitated to its original state. The access track will impact grazing so minimally that grazing can be considered to be the same as pre-construction.

7.2.3.3 Impacts on land values

Impacts of powerlines on property values are difficult to measure as it is dependent on a variety of factors, such as the receiving environment (location and setting), market conditions and perceptions of affected parties towards the infrastructure. However, for purposes of this Project, it can be expected that the short distance of the proposed powerline, limited sensitive receptors and low impact on sense of place, will not result in any negative impacts on land values.

In addition, compensation paid to landowners for the long-term lease of land for the WEF turbines and ancillary infrastructure will, in all likelihood, increase property values for the duration of operations, thereby counteracting any possible negative impacts on land values due to the powerline, should it occur.

7.3 Decommissioning Phase

Decommissioning of the Soutrivier South OHL will entail the dismantling of infrastructure, which will be recycled or disposed of in the appropriate ways. The affected land will be rehabilitated to its pre-project state. Social and socio-economic impacts are expected to be similar to those that took place during the construction phase and can generally be mitigated effectively. Negative impacts include:

- Impacts associated with an influx of workers, including health, safety and security risks for landowners and communities;
- Traffic and intrusion impacts, and general impacts on the sense of place;
- Land use impacts; and
- Impacts on road infrastructure / living and movement patterns of landowners.

Short-term positive impacts would occur for the local and regional economies as a result of temporary employment, procurement, SMME opportunities, and an increase in household incomes, economic spin-offs and induced economic impacts related thereto.

No rating will be provided for socio-economic impacts associated with decommissioning, as it is not possible to accurately rate these impacts at this early stage of the process due to a changing social environment. It is therefore recommended that a detailed SEIA be undertaken at the time of decommissioning to determine the actual overall significance of impacts

7.4 Alternatives

No site or design alternatives for the Soutrivier South OHL are assessed, as slight changes to the locality and types of pylons will not impact the SEIA ratings significantly.

However, the OHL is assessed against the 'No-Go' alternative. The 'No-Go' alternative is the option of not constructing the Project and the status quo would prevail. The benefits of the Project, which is coupled with the proposed Soutrivier South WEF, would thus not manifest and no positive contribution of renewable energy towards the national energy crisis would be made. Recipients of the negative impacts associated with the Project (such as sense of place, traffic, visual impacts, intrusion impacts etc.) would most likely view this as a positive aspect.

However, from a social and socio-economic point of view job creation, local procurement, indirect spin-offs for local businesses and any induced impacts associated with manufacturing and service delivery and the subsequent improvement of the quality of lives of benefitting households, directly and indirectly, would not materialize. Potential negative and positive impacts associated with the Project would not be incurred and the ratings would be neutral.

7.5 Cumulative Impacts

The projects considered for the assessment of cumulative impacts include the OHL's that form part of the Victoria West WEF Cluster, i.e.:

- Taaibos North OHL;
- Taaibos South OHL;
- Soutrivier North OHL;
- Soutrivier Central OHL;
- Soutrivier South OHL;
- Taaibos to Soutrivier Collector OHL; and
- Soutrivier to Gamma Collector OHL.

7.5.1 *Employment, Economic Contribution and Induced Impacts*

Cause and comment:

As a result of construction, maintenance and repairs, the construction and operational phases (limited) of the various OHL projects will result in positive cumulative economic impacts nationally and locally in terms of:

- Temporary and indirect employment creation;

- Creation of new business opportunities locally and nationally, as well as further downstream opportunities through indirect and induced impacts especially with regards to the manufacturing and service industries; and
- Improvement of livelihoods that result in increasing spending power, with spin-off effects on local and regional businesses such as retail, leisure, real estate and so forth.

A definite positive impact with 'moderate significance' will manifest nationally.

| Impact 1: Employment, economic contribution and induced impacts | |
|--|-------------------------|
| Before mitigation | After mitigation |
| SOME BENEFITS | SOME BENEFITS |

7.5.2 Impacts for the local and district Municipalities

Cause and comment:

In addition to positive economic impacts, the local and district municipalities would experience positive cumulative impacts associated with:

- Skills development, training and capacity building for citizens and SMME's directly and indirectly involved in employment during construction, which would result in a population that is better skilled, increased employability of the local labour force and a general increase in employment levels; and
- Capacity building of municipal staff when they are exposed and involved in the employment, permitting, communication / liaison / negotiations, training and support programmes and monitoring processes of the various projects.

It is probable that positive impacts with 'moderate benefits' will manifest for the local and district municipalities.

| Impact 2: Impacts for the local and district municipalities | |
|--|-------------------------|
| Before mitigation | After mitigation |
| SOME BENEFITS | SOME BENEFITS |

7.5.3 Impacts associated with an influx of jobseekers / temporary construction workers

Cause and comment:

Long-term negative social issues that remain once an 'outside' construction workforce leave the area is evident in other areas of the Northern Cape (such as Pofadder)¹². Municipal stakeholders interviewed for SEIA purposes highlighted an increase in a number of social issues that manifested and remained after large construction projects were completed in the district.¹³ These issues pertain to unwanted pregnancies,

¹² SEIA Specialist's experience at previously executed RE projects.

¹³ Ubuntu LM and PKSDM (26 & 27 July 2022).

increases in illegitimate children and child-headed households, subsequent pressure on social grants and charity services and increases in school drop-out rates. Small towns, such Petrusville, Richmond and Hanover, where citizens were already vulnerable due to prevalent unemployment and existing poverty levels, primarily fell victim to this trend.

Additional issues that could manifest include conflict (as a result of cultural differences between locals and ‘outsiders’), unusual population growth rates coupled with an increase in the unemployed, social issues (increase in HIV/AIDS, unwanted pregnancies and absent fathers) culminating in pressure on local government services such as health care, infrastructure and housing provision.

Impacts associated with an influx of jobseekers / temporary construction workers of ‘moderate negative significance’ have the potential to manifest, but can be mitigated.

| Impact 3: Impacts associated with an influx of jobseekers / temporary construction workers | |
|--|------------------|
| Before mitigation | After mitigation |
| MODERATE NEGATIVE | LOW NEGATIVE |

Mitigation measures:

- Hold contractors accountable through their CSMP’s to employ a local labour force through the labour desk.
- Contractors to provide a transport and housing plan.

7.5.4 Intrusion Impacts

Cause and comment:

Since noise, air/dust pollution and shadow flicker are usually mitigated satisfactorily for wind farm projects and are usually negligible for powerline developments, the assumption is drawn that mitigation will also be done sufficiently for the various OHL projects in the study area.

The cumulative visual impacts of the powerlines can, however, not be mitigated easily and it is thus probable that that negative cumulative visual impacts associated with the OHL projects will be medium. The assessment of visual impacts does not however form part of the SEIA’s scope.

For purposes of the SEIA, intrusion impacts are rated with a ‘low negative significance’.

| Impact 4: Intrusion impacts | |
|-----------------------------|------------------|
| Before mitigation | After mitigation |
| LOW NEGATIVE | LOW NEGATIVE |

Mitigation measures:

- Wherever possible, place grid infrastructure parallel with existing Eskom powerlines.
- Avoid placement of infrastructure at sensitive localities and in close proximity to sensitive receptors.

7.5.5 Impacts on Sense of Place

Cause and comment:

The cumulative impact on sense of place would be associated with changes in the landscape character as a result of visual impacts of the various OHL developments, as well as negative intrusion impacts that changes the community's perception of their living environment. Landowners could also easily attribute an increase in stock theft and crime levels to these collective developments due to the inflow of people and poor land use management practices (gates that are left open and endanger livestock, an increase in pollution, degradation of the environment), which could further result in negative effects on the current peaceful, serene and safe environment they experience.

Cumulative negative impacts on sense of place are rated with a 'moderate negative significance'.

| Impact 5: Impacts on the sense of place | |
|---|-------------------|
| Before mitigation | After mitigation |
| MODERATE NEGATIVE | MODERATE NEGATIVE |

Mitigation measures:

- Implement all the mitigation and management measures proposed in the previous sections of the SEIA and that are contained in the EMPr.

8 CONCLUSION AND SOCIO-ECONOMIC RECOMMENDATIONS

8.1 Summary of findings

WKN Windcurrent SA (Pty) Ltd is planning to develop five Wind Energy Facilities (WEF's) with associated infrastructure and their respective Overhead Transmission Lines (OHL's) located between Victoria West and Loxton in the Northern Cape Province. These facilities are referred to as the "Victoria West WEF Cluster". One of the OHL's associated with this Cluster, i.e. the Soutrivier South OHL is the subject of this report (The Project). The Soutrivier South OHL will however only be constructed if the Soutrivier South WEF comes to fruition. The OHL will be built by the successful renewable energy project developer of the Soutrivier South WEF and would need to conform to the applicable Renewable Energy Independent Power Producer Procurement Programme's (REI4P's) minimum thresholds for the WEF development. The Project can therefore not be seen in isolation. Once operational, the Soutrivier South OHL will be ceded to Eskom.

INDEX *Social Consulting Services* was appointed to do the Socio-economic Impact Assessment (SEIA) that forms part of the Basic Assessment (BA) to be submitted to the National Department of Forestry, Fisheries and Environment (DFFE) in terms of Environmental Impact Assessment Regulations (2014 as amended) under Section 24 of the National Environmental Management Act (No. 107 Of 1998) (NEMA).

The Soutrivier South WEF is located approximately 40 km south-west of Victoria West and 40 km south-east of Loxton in the Pixley ka Seme District and Ubuntu local Municipality (LM) in the Northern Cape Province. Typical small, sparsely populated Karoo towns are scattered throughout the study area, whereas

the larger towns serve the purpose of agricultural service centres with higher population densities. The study area in general experiences high levels of unemployment, poverty and social grant dependence and low levels of education. The local economy is largely based on agriculture, mainly goat, sheep and game farming. The manufacturing sector contributes only marginally to employment. Increasing the access to basic services and health, education and social services remain a challenge. Economic empowerment is limited by inadequate available employment opportunities and a lack in entrepreneurship and skills. For this reason, the municipalities in the study area are increasing their focus on skills development.

For the 8-month construction period, various positive and negative social and socio-economic impacts have been identified and are summarized below:

| Construction impacts | Before mitigation | After mitigation |
|--|-------------------|------------------|
| Temporary employment | FEW BENEFITS | FEW BENEFITS |
| Local procurement | FEW BENEFITS | FEW BENEFITS |
| Induced local economic impacts | FEW BENEFITS | FEW BENEFITS |
| Training / skills development / capacity building | FEW BENEFITS | SOME BENEFITS |
| Employment equity | FEW BENEFITS | SOME BENEFITS |
| Impacts associated with an influx of jobseekers / temporary construction workers | LOW NEGATIVE | LOW NEGATIVE |
| Intrusion impacts | LOW NEGATIVE | LOW NEGATIVE |

Limited (approximately 50) direct construction-related employment opportunities will realize. In addition, indirect employment and direct and induced economic impacts will manifest locally and nationally. These impacts will contribute to an increase in the livelihoods of directly and indirectly participating households for the duration of construction. Although limited, training and skills development has the potential to alleviate poverty levels over the medium to long-term, as the people involved in the Project will acquire skills. The Project also has the potential to increase the skills and capacity of the municipal structures if they are actively involved from the onset of the Project. Strong emphasis is therefore placed on measures to include the Local Economic Development (LED) Units in the processes to enhance participation and transparency.

Negative impacts are short-term in nature and can generally be mitigated effectively. The implementation of an effective employment process in collaboration with the municipal LED Units is essential to address impacts associated with an influx of jobseekers / temporary construction workers and to avoid or minimize residual short to medium term consequences for the municipalities and landowners.

Operational phase impacts over the 25-year lifespan of the Project and their significance ratings are reflected in the following table:

| Operational impacts | Before mitigation | After mitigation |
|---|-------------------|------------------|
| Contribution to the national power supply | SOME BENEFITS | SOME BENEFITS |
| Impacts on sense of place | LOW NEGATIVE | LOW NEGATIVE |

The OHL will enable the Soutrivier South WEF to feed the up to 270MW electricity it generates into the grid, thereby enhancing the reliability and stability of supply that would contribute to economic development in the country as a whole. The South African economy is in dire need of a larger and more stable electricity supply. The knock-on effects of this will be considerable as the economy will be better able to grow. Positive long-term impacts of 'moderate significance' will thus manifest nationally.

Due to the limited number of sensitive receptors, the short length of the powerline and the intermittent maintenance that will be done, the impact on sense of place is rated as 'low negative'.

Should the Soutrivier South WEF be decommissioned after its 25 years' lifespan, the Soutrivier South OHL will likely also be decommissioned. Social and socio-economic impacts are expected to be similar to those that took place during the construction phase. It is not possible to accurately rate and assess decommissioning impacts at this early stage of the process due to a changing social environment and it is therefore recommended that a detailed SEIA be undertaken at the time of decommissioning to determine the actual impacts. No rating is thus provided for impacts associated with decommissioning.

8.2 Conclusion and Impact Statement

From a social and socio-economic perspective negative impacts that could manifest for this Project are either of low or moderate significance and can be mitigated to acceptable levels. No issues of high significance have been identified. Based on the findings of this SEIA it is the opinion of the Specialist that the construction and operation of the Soutrivier South OHL may proceed, provided that the mitigation, management measures and requirements as set out in this report be incorporated in the EMPr and implemented wherever applicable.

9 REFERENCES

9.1 Documents

- 1) Department of Mineral Resources and Energy. 31 December 2021. Independent Power Producers Procurement Programme, an Overview.
- 2) De Jager, M (Enviro-acoustics Research cc). October 2022. Environmental Noise Impact Assessment for the proposed Soutrivier South Wind Energy Facility and Associated Infrastructure south-east of Loxton, Northern Cape Province.
- 3) Terblanche, M. March 2020. Socio-economic impact assessment for the proposed construction of the Albany Wind Energy Facility, Makana Local Municipality.
- 4) Northern Cape Provincial Government / Northern Cape socio-economic review and outlook 2021.
- 5) Nuleaf Planning and Environmental (Pty) Ltd. October 2022. Visual Impact Assessment for the proposed Soutrivier South Wind Energy Facility, Northern Cape.
- 6) Pixley ka Seme District: Final Integrated Development Plan 2022 - 2027.
- 7) The South African Renewable Energy EIA Application Database. (REEA_OR_2022_Q1)
- 8) Ubuntu Local Municipality. Local Economic Development Plan 2011.
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- 10) Zutari (Pty) Ltd. April 2021. Socio-economic impact assessment report for the Nuweveld North Wind Farm near Beaufort West, Western Cape Province.

9.2 Websites

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- 2) www.farmprogress.com
- 3) www.forensic-appraisal.com/power-lines
- 4) southafrica.co.za
- 5) municipalities.co.za
- 6) victoriawest.co.za
- 7) meltonwold.co.za
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- 10) www.thevaluator.co.za
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9.3 Articles

- 1) Nelsen L. Center for Rural Affairs. July 2018. Are Property values affected by wind farms? Obtained from www.cfra.org/blog/are-property-values-affected-wind-farms.

- 2) Farmprogress.com. How wind energy projects impact farmland values. February 2018. Obtained from www.farmprogress.com/land-management/how-wind-energy-projects-impact-farmland-values.
- 3) Peardon P (Real Estate Consultant and Registered Valuer). September 2013. Preliminary Report: The Impact of Wind Turbine Developments on Surrounding Rural Land Values in the Southern Tablelands, N.S.W. Obtained from docs.wind-watch.org/Reardon_Impact-of-Wind-Farm-Development-on-Land-Values.

9.4 Consultation

- 1) Ms. N Mkontwana: Acting Municipal Manager: Ubuntu Local Municipality
- 2) Clr. Soutie Weldon Kock: Ward 3 Councillor: Ubuntu Local Municipality
- 3) Mr. Siphon Nkili: IDP / Compliance Officer: Ubuntu Local Municipality
- 4) Mr. H Greeff: Snr. Manager: Infrastructure, Planning, Development & Housing: Pixley ka Seme District Municipality
- 5) Mr. A Sibeko: LED Manager: Pixley ka Seme District Municipality
- 6) Mr. Stefan van der Westhuyzen: Venter & Vennote Attorneys (De Aar).

9.5 Questionnaire responses

- 1) Altona Trust
- 2) Dawid Christo le Roux
- 3) Vaalbult Trust
- 4) Vaalbult Vrugtekwekers Bk
- 5) Bonnievale Trust
- 6) Spes Bona Trust
- 7) Boetmar Trust
- 8) Bonnza Boerdery (Pty) Ltd
- 9) Taaiboschfontein Farm Holdings (Pty) Ltd

10 ANNEXURES

10.1 Assessment Criteria

Criterion 1: Nature

Negative or positive impact on the environment.

Criterion 2: Type

Direct, indirect and/or cumulative effect of impact on the environment.

Criteria 3, 4, & 5: Temporal, Spatial, and Likelihood Scales

These four factors need to be considered when assessing the significance of impacts, namely:

- Relationship of the impact to temporal scales - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.
- Relationship of the impact to spatial scales - the spatial scale defines the physical extent of the impact.
- The likelihood of the impact occurring - the likelihood of impacts taking place as a result of project actions differs between potential impacts. There is no doubt that some impacts could occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance. In this case likelihood equates to some extent with risk. If the impact is definite, then there is a high risk that it will occur. However, likelihood and risk are not to be confused, and for certain impacts (e.g. risk of a vehicle accident) a risk assessment will be required (see Section 4).

The table below provides definitions for Criteria 3,4 & 5,

| Duration (Temporal Scale) | | Score |
|----------------------------------|--|--------------|
| <i>Short term</i> | <i>Less than 5 years</i> | 1 |
| <i>Medium term</i> | <i>Between 5-20 years</i> | 2 |
| <i>Long term</i> | <i>Between 20 and 40 years (a generation) and from a human perspective also permanent</i> | 3 |
| <i>Permanent</i> | <i>Over 40 years and resulting in a permanent and lasting change that will always be there</i> | 4 |
| Extent (Spatial Scale) | | |
| <i>Localised</i> | <i>At localised scale and a few hectares in extent</i> | 1 |
| <i>Study Area</i> | <i>The proposed site and its immediate environs</i> | 2 |
| <i>Regional</i> | <i>District and Provincial level</i> | 3 |
| <i>National</i> | <i>Country</i> | 3 |
| <i>International</i> | <i>Internationally</i> | 4 |
| Probability (Likelihood) | | |
| <i>Unlikely</i> | <i>The likelihood of these impacts occurring is slight</i> | 1 |
| <i>May Occur</i> | <i>The likelihood of these impacts occurring is possible</i> | 2 |
| <i>Probable</i> | <i>The likelihood of these impacts occurring is probable</i> | 3 |
| <i>Definite</i> | <i>The likelihood is that this impact will definitely occur</i> | 4 |

Criteria 6: Severity Scales

- The severity of the impact - the severity/beneficial scale is used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on a particular affected system (for ecological impacts) or a particular affected party. The severity of impacts can be evaluated with and without mitigation in order to demonstrate how serious the impact is when nothing is done about it, and how effective the mitigation might be. The word 'mitigation' means not just 'compensation', but includes concepts of containment and remedy. For beneficial impacts, optimization means anything that can enhance the benefits. However, mitigation or optimization must be practical, technically feasible and economically viable (**Error! Reference source not found.**).

| Impact Severity | | Score |
|--|---|--------------|
| <i>(The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or affected party)</i> | | |
| Very severe | Very beneficial | 4 |
| An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land. | A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality. | |
| Severe | Beneficial | 3 |
| Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation. | A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy. | |
| Moderately severe | Moderately beneficial | 2 |
| Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example constructing the 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 | 1 |
| 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. | |

* In certain cases it may not be possible to determine the severity of an impact thus it may be determined: Don't know/Can't know

Applying the criteria to ASSESS environmental significance before mitigation

The scores for the three criteria in **Error! Reference source not found.** are added to obtain a composite score. They must then be considered against the severity rating to determine the overall significance of an activity. This is because the severity of the impact is far more important than the other three criteria. The overall significance is then obtained by reading off the matrix presented in **Error! Reference source not found.** The overall significance is either negative or positive (Criterion 1) and direct, indirect or cumulative (Criterion 2).

Matrix used to determine the overall significance of the impact based on the likelihood and effect of the impact

| SEVERITY | COMPOSITE DURATION, EXTENT & PROBABILITY SCORE | | | | | | | | | | |
|-------------|--|---|---|---|---|---|---|----|----|----|--|
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Slight | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Mod severe | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Severe | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Very severe | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |

The **environmental significance** scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

It is clear that an impact that has a *slight severity* could be of MODERATE significance because it is permanent (4), has a regional affect (3) and is definite. This elevates it from a LOW to a MODERATE rating. Conversely, a *moderately severe* impact could be rated as LOW since it is short term (1), localised (1) and only probable (3). An impact rated as *severe* could be of VERY HIGH significance because it is permanent (4), of national importance (3) and is definite (4). For example, the impact on a frog species of conservation concern (SCC) might only be rated as *severe* as a result of the project actions, but because the loss is permanent and of national importance (it's a SCC) and is definite, we rate the significance as VERY HIGH and not HIGH. If the impact was long term and not permanent then it would be rated as HIGH.

The Significance Rating Scale is defined in the table below.

| OVERALL SIGNIFICANCE <i>(The combination of all the above criteria as an overall significance)</i> | |
|---|-----------------|
| VERY HIGH NEGATIVE | VERY BENEFICIAL |
| 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. <i>Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.</i> <i>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.</i> | |
| HIGH NEGATIVE | BENEFICIAL |
| 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. <i>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.</i> <i>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.</i> | |

| | |
|--|----------------------|
| OVERALL SIGNIFICANCE <i>(The combination of all the above criteria as an overall significance)</i> | |
| MODERATE NEGATIVE | SOME BENEFITS |
| <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. <i>Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.</i></p> | |
| LOW NEGATIVE | FEW BENEFITS |
| <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. <i>Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.</i> <i>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.</i></p> | |
| NO SIGNIFICANCE | |
| <p>There are no primary or secondary effects at all that are important to scientists or the public. <i>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.</i></p> | |
| DON'T KNOW | |
| <p>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. <i>Example: The effect of a particular development on people's psychological perspective of the environment.</i></p> | |

Significance Post Mitigation¹⁴

Once mitigation measure are proposed, the following criteria are then used to determine the overall post mitigation significance of the impact:

- **Reversibility:** The degree to which an environment can be returned to its original/partially original state.
- **Irreplaceable loss:** The degree of loss which an impact may cause.
- **Mitigation potential:** The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four categories used are listed and explained in **Error! Reference source not found.** below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

| | |
|---------------------------|---|
| Reversibility | |
| <i>Reversible</i> | <i>The activity will lead to an impact that can be reversed provided appropriate mitigation measures are implemented.</i> |
| <i>Irreversible</i> | <i>The activity will lead to an impact that is permanent regardless of the implementation of mitigation measures.</i> |
| Irreplaceable loss | |

¹⁴ Note that the application of reversibility and irreplaceability must be applied for South Africa impact assessments, as it is a regulatory requirement. For projects in other geographies it is optional.

| | |
|-------------------------------------|---|
| <i>Resource will not be lost</i> | <i>The resource will not be lost/destroyed provided mitigation measures are implemented.</i> |
| <i>Resource will be partly lost</i> | <i>The resource will be partially destroyed even though mitigation measures are implemented.</i> |
| <i>Resource will be lost</i> | <i>The resource will be lost despite the implementation of mitigation measures.</i> |
| Mitigation potential | |
| <i>Easily achievable</i> | <i>The impact can be easily, effectively and cost effectively mitigated/reversed.</i> |
| <i>Achievable</i> | <i>The impact can be effectively mitigated/reversed without much difficulty or cost.</i> |
| <i>Difficult</i> | <i>The impact could be mitigated/reversed but there will be some difficulty in ensuring effectiveness and/or implementation, and significant costs.</i> |
| <i>Very Difficult</i> | <i>The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly.</i> |

These criteria are applied using the logic represented in the flow chart below in **Error! Reference source not found..** Appendix 1 provides further guidelines and examples.

Degree of Confidence

If you wish, you may also mention the confidence you have in your impact ratings, but this is not a legislative requirement. It does, however, assist in determining the level of certainty of our impact predictions.

| | |
|--|--|
| Degree of Confidence | |
| <i>(The confidence with which one has predicted the significance of an impact)</i> | |
| Certain | I am more than 90% sure of the facts that underpin my assessment, my data is current and the information I have is comprehensive enough for me to be <i>certain</i> of my impact rating. |
| Confident | I am more than 70% sure of the facts that underpin my assessment, my data is current and the information I have, although not comprehensive, is enough for me to be <i>confident</i> in my impact rating. |
| Undecided | I am between 40% and 70% sure of the facts that underpin my assessment, but my data is scant and the information I have is outdated, not very site specific and/or has other limitations so I am <i>undecided</i> if my impact rating is correct. I have therefore adopted a precautionary approach when rating this impact. |
| Unconvinced | I am less than 40% sure of the facts that underpin my assessment, my data is scant and the information I have is very outdated. I lack site specific information and details on the nature of the impact, as its effect is not well researched. I am therefore <i>unconvinced</i> that my impact rating is correct. I have therefore adopted a precautionary approach when rating this impact. |

10.2 Full Impact Assessment – SEIA

10.2.1 Construction Phase: Soutrivier South OHL

| | Nature | Duration | Extent | Severity | Probability | Overall Significance before mitigation | Reversibility | Irreplaceable Loss | Mitigation Potential | Overall Significance after mitigation |
|---|----------|------------|----------|---------------------|-------------|--|---------------|---------------------------|----------------------|---------------------------------------|
| Impact 1: Temporary employment | | | | | | | | | | |
| Soutrivier South OHL | Positive | Short term | National | Slightly Beneficial | Definite | FEW BENEFITS | Reversible | Resource will not be lost | Difficult | FEW BENEFITS |
| Impact 2: Local procurement | | | | | | | | | | |
| Soutrivier South OHL | Positive | Short term | National | Slightly Beneficial | Definite | FEW BENEFITS | Reversible | Resource will not be lost | Difficult | FEW BENEFITS |
| Impact 3: Induced local economic impacts | | | | | | | | | | |
| Soutrivier South OHL | Positive | Short term | National | Slightly Beneficial | Definite | FEW BENEFITS | Reversible | Resource will not be lost | Very difficult | FEW BENEFITS |
| Impact 4: Training / Skills Development | | | | | | | | | | |
| Soutrivier South OHL | Positive | Short term | Regional | Slightly Beneficial | May Occur | FEW BENEFITS | Reversible | Resource will not be lost | Achievable | SOME BENEFITS |
| Impact 5: Employment Equity | | | | | | | | | | |
| Soutrivier South OHL | Positive | Short term | Regional | Slightly Beneficial | Definite | FEW BENEFITS | Reversible | Resource will not be lost | Achievable | SOME BENEFITS |
| Impact 6: Impacts associated with an influx of jobseekers / temporary construction workers | | | | | | | | | | |

| | | | | | | | | | | |
|------------------------------------|----------|------------|------------|-----------------|----------|--------------|------------|------------------------------|------------|--------------|
| Soutrivier South OHL | Negative | Short term | Regional | Slightly Severe | Probable | LOW NEGATIVE | Reversible | Resource will be partly lost | Achievable | LOW NEGATIVE |
| Impact 7: Intrusion impacts | | | | | | | | | | |
| Soutrivier South OHL | Negative | Short term | Study area | Slightly Severe | Definite | LOW NEGATIVE | Reversible | Resource will not be lost | Achievable | LOW NEGATIVE |

10.2.2 Operation Phase: Soutrivier South OHL

| | Nature | Duration | Extent | Severity | Probability | Overall Significance before mitigation | Reversibility | Irreplaceable Loss | Mitigation Potential | Overall Significance after mitigation |
|--|----------|-----------|------------|-----------------------|-------------|--|---------------|---------------------------|----------------------|---------------------------------------|
| Impact 1: Contribution to national power supply | | | | | | | | | | |
| Soutrivier South OHL | Positive | Long term | National | Moderately Beneficial | Definite | SOME BENEFITS | Reversible | Resource will not be lost | Very Difficult | SOME BENEFITS |
| Impact 2: Impacts on sense of place | | | | | | | | | | |
| Soutrivier South OHL | Negative | Long term | Study Area | Slightly Severe | Probable | LOW NEGATIVE | Reversible | Resource will not be lost | Very Difficult | LOW NEGATIVE |

10.3 Blurb of SEIA Specialist

Marchelle Terblanche, a Social and Socio-economic Development Consultant, manages the INDEX *Social Consulting Services* division of the company Integrated Rural and Urban Development Expertise (Pty) Ltd t/a INDEX. She has 27 years' experience in her field that include consulting services for a large number of engineering and environmental organizations, Renewable Energy companies, Town Planners and private landowners.

Marchelle completed her studies in BA (Development Studies) at UJ (previously RAU) in 1993 and did a Project Management course in 1998 with X-Pert Managing by Project Academy. After two years of fulltime employment as a Development Consultant and Social Facilitator, which commenced in 1994, she travelled and worked in Europe for a year. Upon her return to South Africa in 1997 she joined INDEX as an Associate managing the Community and Social Development division working on various projects in all nine provinces.

Her specific fields of interest are Socio-economic Impact Assessments, socio-economic surveys, feasibility studies and public participation processes. She has furthered her skills base in the last 11 years to include the lodging of more than 60 subdivision, rezoning, land use change and long-term lease applications in terms of the Subdivision of Agricultural Land Act (Act No. 70 of 1970) (SALA) with the Department of Agriculture, Land Reform & Rural Development; as well as numerous Water Use Licence Applications (WULA's) in accordance with the National Water Act (Act No. 36 of 1998) with the Department of Water Affairs.

Relevant SEIA projects which have been successfully executed include:

- SEIA for the proposed Impofu Electrical Grid Extension for the proposed Impofu Wind Farms, Nelson Mandela Bay Municipality, Eastern Cape Province. Red Cap Energy (Pty) Ltd / CEN IEM Unit.
- SEIA for the proposed Impofu Battery Storage Facilities, Kouga and Kou-Kamma Local Municipality, Eastern Cape Province. Red Cap Energy (Pty) Ltd / CEN IEM Unit.
- SEIA for the proposed Albany Wind Energy Facility in Makana Local Municipality, Eastern Cape Province. EDF Renewables (Pty) Ltd / CES Environmental.
- SIA for the proposed Dassiesridge Wind Energy Facility near Uitenhage, Eastern Cape Province. Innowind (Pty) Ltd / EOH Coastal and Environmental Services (Pty) Ltd.
- SIA for the proposed Aggeneys 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 Umsobomvu Wind Energy Facility near Noupoot, Northern Cape Province. Innowind (Pty) Ltd / EOH Coastal and Environmental Services.
- 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 Kgalalatsane Solar PV 1 and 2 facilities near Brits, Northwest Province. Savannah Environmental (Pty) Ltd.