Appendix G.13

SOCIAL IMPACT ASSESSMENT

Mulilo Renewable Project Developments

VERKYKERSKOP WIND ENERGY KROMHOF FACILITY

Social Impact Assessment

MAY 2025

PUBLIC

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VERKYKERSKOP WIND ENERGY KROMHOF FACILITY

Social Impact Assessment

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Acronyms

Abbreviation	Definition
BESS	Battery Energy Storage System
CBD	Central Business District
EGI	Electrical Grid Infrastructure
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESIA	Environmental and Social Impact Assessment
GBV	Gender Based Violence
GVA	Gross Value Add
HV	High Voltage
IDP	Integrated Development Plans
IFC	International Finance Corporation
LED	Local Economic Development
TMDM	Thabo Mofutsanyane District Municipality
PLM	Phumelela Local Municipality
PSDF	Phumelela Local Municipality Spatial Development Framework
MSDF	Municipal Spatial Development Framework
PS	Performance Standards
SAPS	South African Police Services
SEA	Sexual Assault
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SIA	Social Impact Assessment
STI	Sexually Transmitted Infections
WEF	Wind Energy Facility
WSP	WSP Africa Group Africa

1 INTRODUCTION

WSP Group Africa (Pty) Ltd (WSP) has been appointed to undertake an Environmental Impact Assessment (EIA) to meet the requirements under the National Environmental Management Act (Act 107 of 1998) (NEMA) for the various applications associated with the proposed Verkykerskop Wind Energy Facility (WEF) located at Groothoek in the Free State Province.

1.1 PROJECT BACKGROUND

Kromhof Wind Power (Pty) Ltd (Project SPV) has commissioned WSP Group Africa (WSP) to apply for Environmental Authorisation for the Project near Verkykerskop in the Free State Province.

1.2 PROJECT DESCRIPTION

The construction activities required are the construction of:

- A construction camp,
- Site offices,
- Material laydown area,
- Internal roads,
- Operations and Management Office Building,
- Batching plants, and
- Battery Energy Storage System (BESS) and excavations of turbine foundations.

The proposed project consists of:

- Kromhof WEF (up to 300 MW), maximum 37 turbines, 7269 ha extent.

Project specifications:

- The hub height of each turbine is 140 m.
- The rotor diameter is up to 200 m.
- The hard-standing dimensions are a maximum of 0,8 ha per turbine.

A 33kV cabling will be installed to connect the wind turbines to the onsite collector substations, laying underground where practical. The three substations are estimated to have 33kV/132kV capacity and will average 2 ha in area extent. The connection of the powerlines (132kV) will be a separate process and therefore does not form part of the current project scope. The project will establish a construction camp and laydown area of approximately 8 ha. The site office is planned to be 4 ha. The Battery Energy Storage System (BESS) will be housed in containers covering approximately 7 ha. The total storage capacity is estimated to be between 6 to 8 hours at a capacity of 200 MW.

1.3 PROJECT LOCATION

The proposed project is 15km southeast of Verkykerskop, in the Free State Province, and 40km west of Danhauser, located in Kwa-Zulu Natal Province. The Project boundary is in the Groothoek WEF area, which covers 12 farm portions. See **Figure 1-1** for the locality map. The proposed project is located on the farms in **Table 1-1.**

Table 1-1 - Kromhof WEF Farm Portions

FARM NAME	PORTION NUMBER	SG 21 CODE
Farm Leiden No. 2	0	F01500000000000200000
Farm Myn-Burg No. 3	0	F01500000000000300000
Farm Naauw Kloof No. 4	0	F01500000000000400000
Farm Krom Hof No. 530	0	F01500000000053000000
Farm Puntje No. 1240	0	F01500000000124000000
Farm Aanfield No. 253	0	F01500000000025300000
Farm Aanfield No. 253	1	F01500000000025300001
Farm Ox Hoek No. 98	0	F01500000000009800000
Farm Ox Hoek No. 98	1	F01500000000009800001
Farm Ox Hoek No. 98	2	F01500000000009800002
Farm Ox Hoek No. 98	3	F01500000000009800003
Farm Markgraaff's Rest No. 478	0	F01500000000047800000

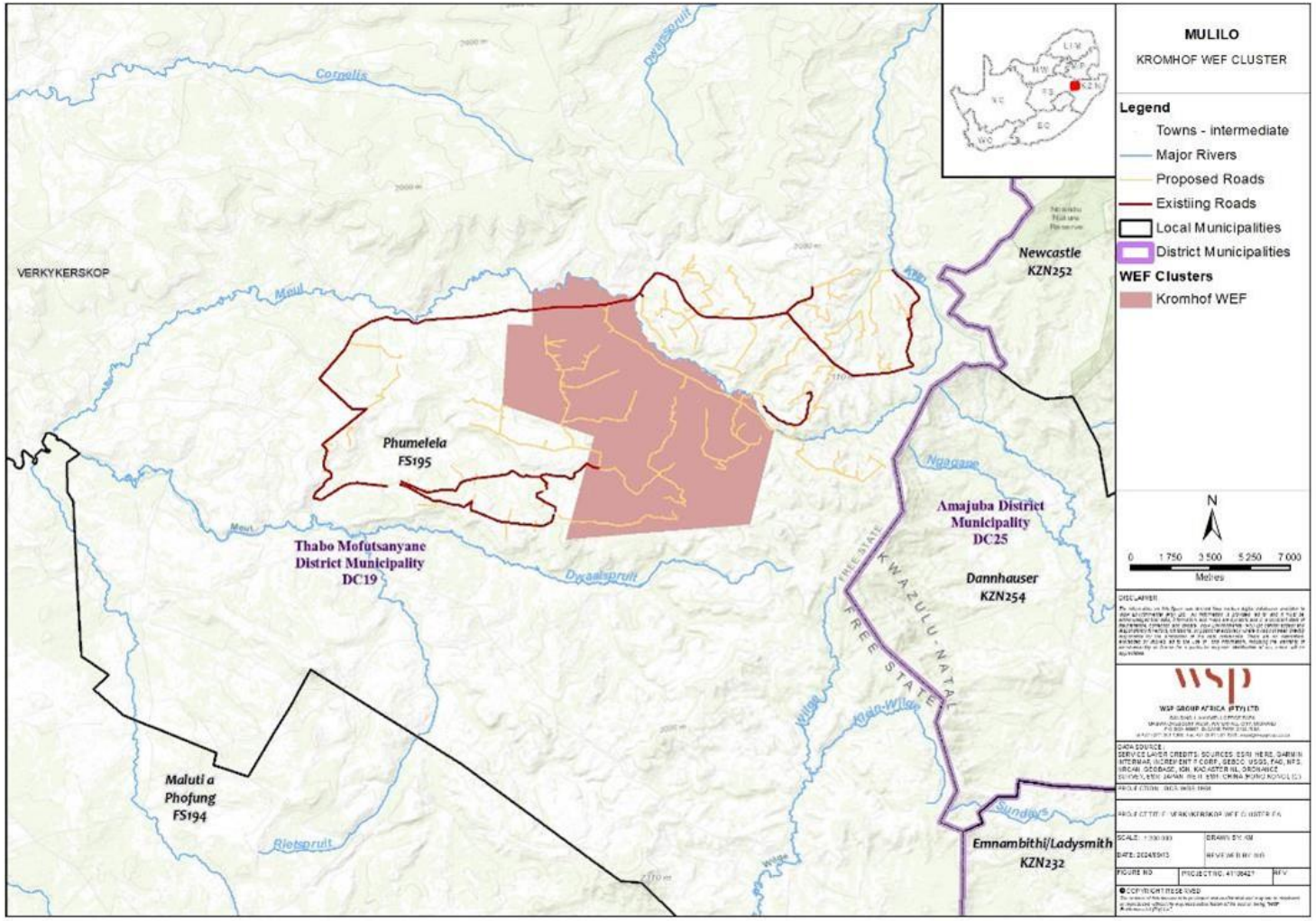

Figure 1-1 – Locality Map

2 SOCIAL IMPACT METHODOLOGY

The Social Impact Assessment (SIA) methodology will be integrated into the environmental assessment process. The SIA will combine primary qualitative data collection and secondary research. The SIA process will piggyback on the public participation events and interactions to source qualitative social information required for the impact assessment.

2.1 DATA COLLECTION

To understand the socio-economic baseline conditions of the Project-affected areas and the socio-economic implications of the proposed project on the receiving environment, WSP conducted secondary desktop data collection (desktop review) and will conduct primary data collection as part of the stakeholder consultation process.

2.1.1 SECONDARY DATA COLLECTION

WSP reviewed available documents to obtain information regarding the socio-economic conditions in the study area. The documents reviewed include the following:

- Recent Integrated Development Plans (IDPs) and Spatial Development Frameworks of the Phumelela Local Municipality and Thabo Mofutsanyane District Municipality.
- Socio-economic and demographic statistics sourced from the Census Statistics South Africa, 2022, and the Community Survey 2016.
- Documents concerning the proposed project, which included the Project description.
- Available maps and satellite imagery.

These documents were used to develop the Project's social baseline and identify potential social impacts.

2.1.2 PRIMARY DATA COLLECTION

Public participation will be a primary data collection tool. The comments and response reports from the EIA process will be essential input into the SIA. The social team will provide specific information requirements for inclusion in the public participation process. Public engagements will be used to inform the SIA further.

2.2 ASSUMPTIONS AND LIMITATIONS

WSP noted the following assumptions and limitations:

- The information provided by the applicant is up-to-date and accurately represents the Project.
- At the time of the compilation of this SIA report, the estimated number of people employed in the Project was not disclosed.
- WSP was not provided with the estimated period of each project phase, namely the construction, operational and decommissioning phases.
- The public participation process has not been concluded yet. Once this process is completed, it will inform this SIA further.
- The secondary data is assumed to reflect the local social context accurately.

2.2.1 APPLICABLE POLICIES, LEGISLATION, STANDARDS, AND GUIDELINES

The social baseline study for this project considers the relevant South African legislative requirements. **Table 2-1** summarises the appropriate guiding regulations, legislation, and best practices for the SIA.

Table 2-1 - Policy, Legislation, Guidelines or Standard

Policy, Legislation, Procedures, or Standard	Description	Relevance to Project
National Legislation		
Constitution of the Republic of South Africa, Act 108 of 1996, Chapter 2: Bill of Rights.	Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to their health or well-being.	The project needs to consider human rights in every phase of the project life cycle and not infringe on any human rights.
National Environmental Management: Protected Areas Act, 57 of 2003	The Act protects and conserves ecologically viable areas representing South Africa's biological diversity, natural landscapes, and seascapes.	The Project has undertaken an ecological impact assessment to mitigate negative impacts and conserve the ecology within the operating area.
National Environmental Management Act, 107 of 1998 (NEMA).	The Act provides the legislative framework for integrating good environmental management practices into all development activities in South Africa. The National Environmental Management Act broadly states that the participation of all interested and affected parties in environmental governance must be promoted, achieving equitable and effective participation and ensuring the involvement of vulnerable and disadvantaged persons.	The Project is applying for environmental authorisation. And will practice good environmental management as per the Environmental Management Programme. A public participation process will form part of the environmental authorisation process.
National Water Act (Act 36 of 1998).	The National Water Act ensures that projects and future interventions maintain water resources' capability to meet basic human needs. It seeks to support equitable water access and efficient, sustainable, and beneficial use. Future developments must reduce and prevent the pollution and degradation of water resources.	There are several water sources on and surrounding the proposed project. The list of water uses applicable to the proposed Project include: ▪ Taking water from a water resource; ▪ Impeding or diverting the flow of water in a watercourse; ▪ Disposing of waste in a manner which may detrimentally impact on a water resource;

Policy, Legislation, Procedures, or Standard	Description	Relevance to Project
		▪ Altering the bed, banks, course or characteristics of a watercourse.
Promotion of Administrative Justice Act, Act 3 of 2000 (PAJA).	Under the provisions of the Public Administrative Justice Act, 3 of 2000 (PAJA), an administrative action also includes a decision made by an organ of the state or by a person or body exercising a public power or performing a public function that adversely affects the rights of any person. Therefore, the public has a right to a lawful, reasonable, and procedurally fair administrative process and to be given the reasons for administrative actions.	The Project will undertake a public participation process to ensure the affected public can access information regarding the proposed Project. Should environmental authorisation be granted for Project Interested and Affected Party, they will be provided with the environmental authorisation and an opportunity to appeal it.
Protection of Personal Information Act, 4 of 2013 (POPI).	The Act promotes the protection of personal information and balances the right of privacy recognised by the Constitution with various needs and interests, like economic and social progress. POPI regulates how personal information may be processed and establishes voluntary and compulsory measures, including an Information Regulator. POPI is concerned with collecting, storing, using, and destroying personal information. Unless part of a regulatory process that requires the rightful notification of interested and affected parties or to protect the rights of third parties, personal information may be used only with stakeholders' expressed permission.	During the Public Participation Process, the participant's information will not be published unless permitted by the participant.
Local Guidelines		
Thabo Mofutsanyana Final IDP (2024/2025) 2022 – 2027 Financial year (TMIDP)	The plan serves as a strategic plan document for the municipality. It details the district municipality's short-term and long-term objectives	The Project will utilise the MIDP to identify the social profile of the municipality and align the Project activities with the applicable municipal current and planned infrastructure.

Policy, Legislation, Procedures, or Standard	Description	Relevance to Project
	and strategies aligned with the Provincial and National Development Plan.	
Phumelela Local Municipality Integrated Development Plan 2022-27 (MIDP).	The plan serves as a strategic plan document for the municipality. It details the municipality's short-term and long-term objectives and strategies aligned with the Provincial and National Development Plan.	The Project will utilise the MIDP to identify the social profile of the municipality and align the Project activities with the applicable municipal current and planned infrastructure.
Phumelela Local Municipality Spatial Development Framework (PSDF).	The PSDF is a required tool to address historically distorted, unviable, and unsustainable spatial patterns and challenges caused by apartheid planning.	The Project will utilise PSDF to align the municipality's spatial planning with its proposed activities.

3 SOCIAL BASELINE

The social baseline describes the social profile of the Project-affected area based on desktop research. The regional, district and local context describes the geographical setting of the Project. The demography of the Project-affected area and its leadership structures are provided.

3.1 REGIONAL CONTEXT

The proposed Project is in the Free State Province, located in the eastern part of the province at the boundary of Kwa-Zulu Natal Province. The whole project area covers an area of 6170 ha.

The province is divided into five district municipalities: Fezile Dabi, Mangaung, Xhariep, Lejweleputswa, and Thabo Mofuntsanyane, where the proposed Project is located. These five districts are further subdivided into 19 Local Municipalities. The proposed Project is in the Thabo Mofutsanyane District Municipality and the Phumelela Local Municipality (PLM).

3.2 DISTRICT CONTEXT

Thabo Mofutsanyane District Municipality is a Category C municipality, meaning that it is a municipality that governs an area encompassing multiple local municipalities. It is located in the eastern part of the Free State Province. It is bordered by the Dannhauser local municipality in KwaZulu-Natal Province.

The district comprises six local municipalities: Dihlabeng, Mantsopa, Nketoana, Phumelela, Setsotso, and Maluti-A-Phofung (Coorperative Governance Traditional Affairs, 2022).

3.3 LOCAL CONTEXT

PLM covers an area of 8197 km². It is one of the six local Municipalities within the Thabo Mofutsanyane District Municipality. It has a population of 52,224 people (Statistics South Africa, 2022). PLM is the least populated municipality of the six local municipalities in Thabo Mofutsanyane District Municipality.

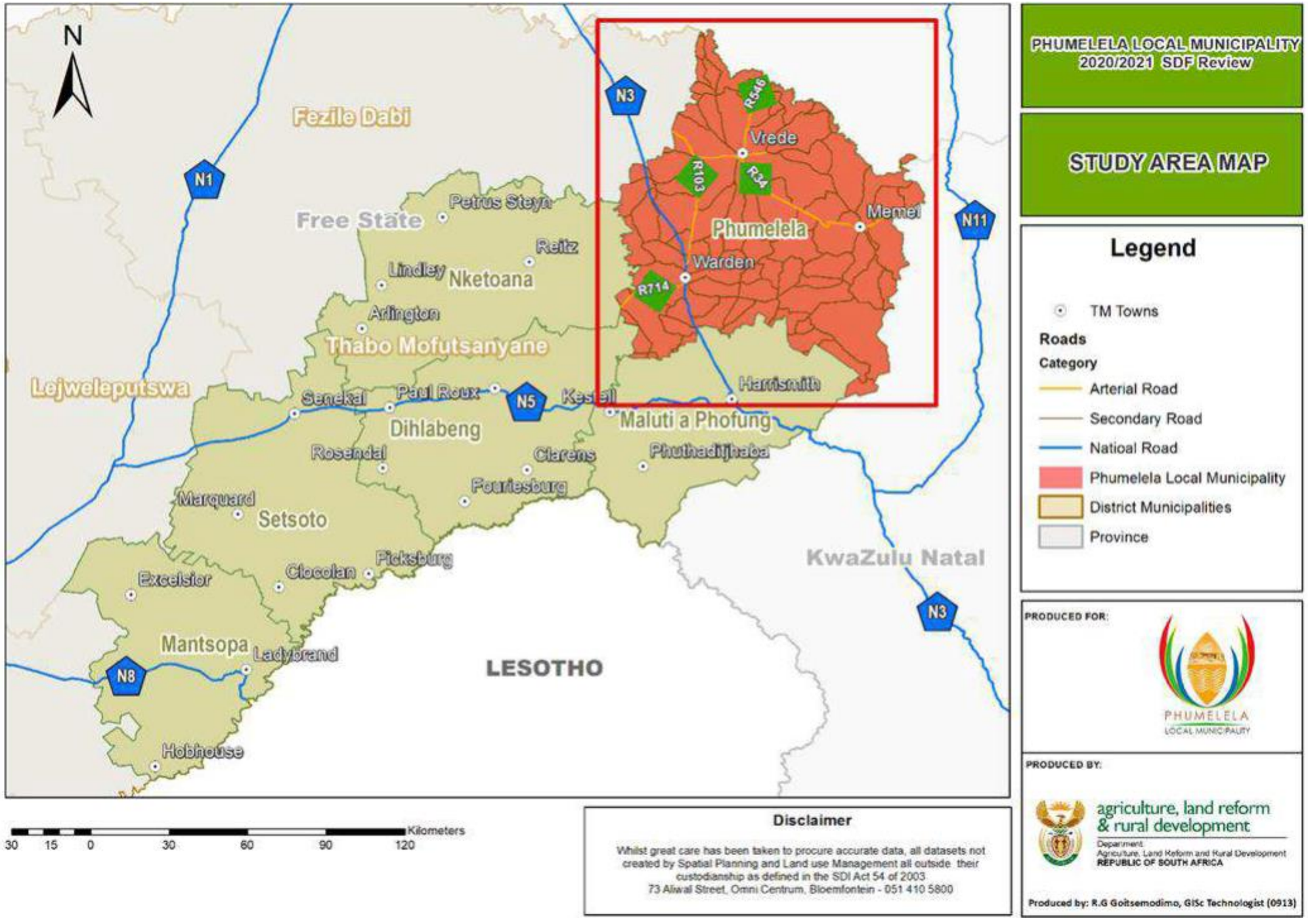

Figure 3-1 - Local Context Source: (Agriculture ,Land Reform and Rural Development, 2021)

PLM is accessible through two National Roads and four Provincial main roads, which are R34, R714, R103, R722, N11, and N3. **Figure 3-1** (Agriculture ,Land Reform and Rural Development, 2021) below depicts the local context. It comprises three towns, namely Vrede, warden and Memel, 5 km North of the Project area (Cooperative Governance Traditional Affairs, 2022).

3.4 DEMOGRAPHIC OVERVIEW

Trends in demography are fundamental driving forces for any development of an area in terms of housing, retail, engineering services, community and government services, safety, and security. The demographic profile influences the type of goods and services, their level of demand and the pressure on local services, infrastructure, and public transport. The demography informs the project of potential social context that may negatively or positively influence the project. When the Project knows the local social contexts, better-informed decision-making is enhanced. This will create a healthy social licence to operate and create a conducive environment for both the local community and the Project to co-exist.

3.4.1 POPULATION

According to the 2016 Community Survey by Statistics South Africa, the municipality had a population of 50054. However, according to the recent statistics released in 2022, the population has increased to 52,224. (Statistics South Africa, 2022). This indicates that the population is growing and may mean a higher energy demand in the area. Therefore, a WEF can be considered a viable solution to meet the energy demand.

3.4.1.1 GENDER AND AGE PROFILE

The population pyramid below is a graphic representation of the population categorised by gender and age for PLM. The horizontal axis depicts the share of people, with the male population charted on the right-hand side and the female population on the left-hand side of the vertical axis. The vertical axis is divided into 5-year age categories. The figures below show Phumelela's population pyramid/structure based on the Census Community Survey 2016. See **Figure 3-2** for the population pyramid.

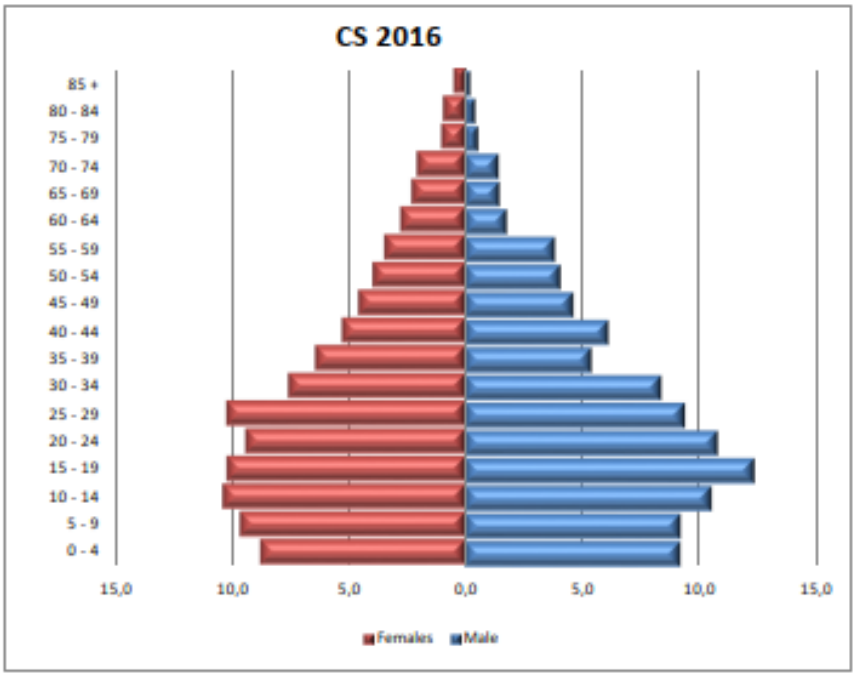

Figure 3-2 - Population Pyramid, 2016

The figure above shows that, in 2016, PLM males had the highest proportions for the age group 15-19 than females. As age increases, the population decreases. Female numbers started to decrease from age 30-34, whereas males decreased from age 20-24. In 2016, the municipality had the lowest population in the age group (0-4) for both males and females compared to the Census 2011, which had the highest population proportion for the age group 0-4 years. In 2016, the pyramid showed that fertility rates decreased as the 0-4 age group decreased, and more male children were born than female children. (Phumelela Local Municipality, 2022-2027, p. 57).

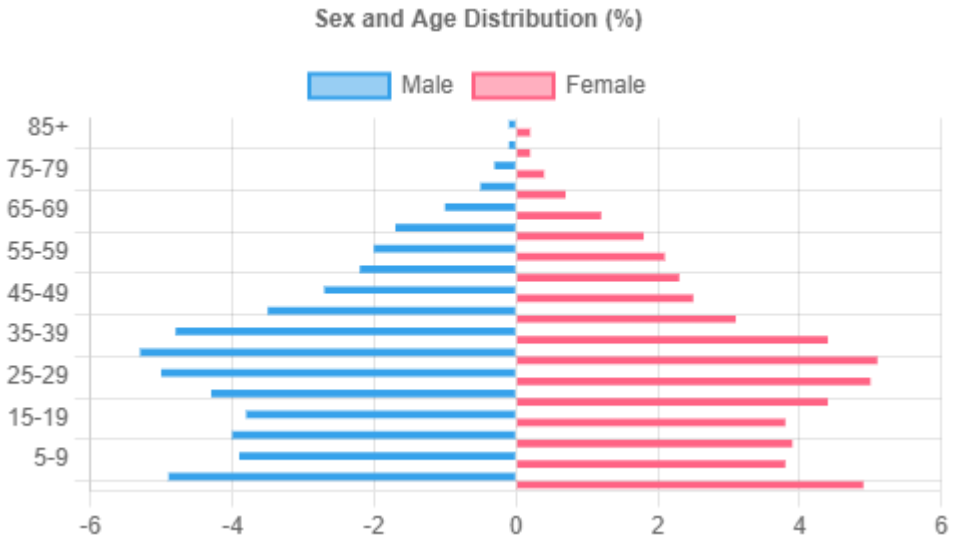

Figure 3-3 - Sex and Age Distribution, 2022

Source: (Statistics South Africa, 2022)

In 2022, the total male population was 47.8 % and females at 52.1 %. The working age (15-64) increased by approximately 4 % from 2011 to 2022. These figures may impact the project positively as the pyramid indicates available human resources that the project can employ. See **Figure 3-3** above.

3.4.2 HOUSEHOLD LIVING CONDITIONS

The project is situated on a farmland. According to (Statistics South Africa, 2022) 60% of the population within the municipality uses electricity from the main grid as an energy source (see **Figure 3-4** below).

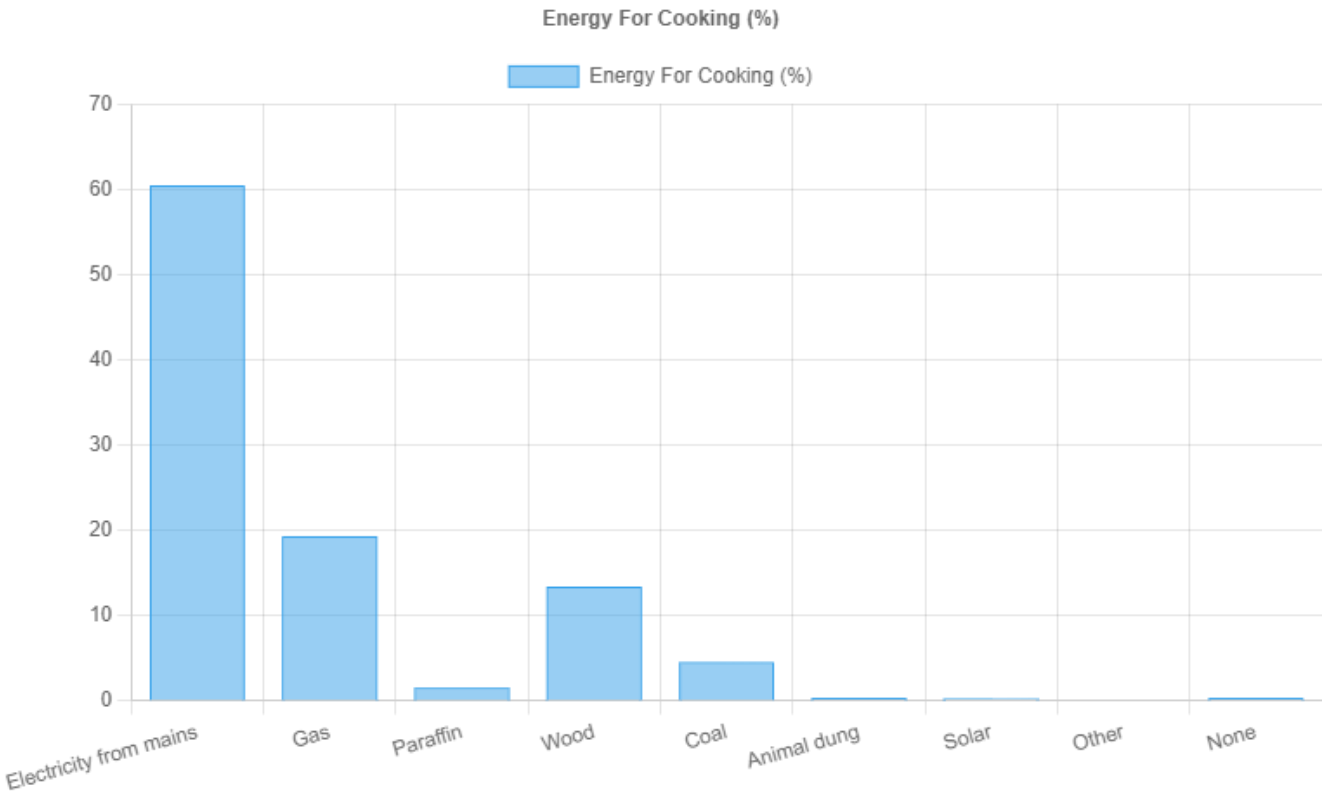

Figure 3-4 - Energy for Cooking

Source: (Statistics South Africa, 2022)

The graph above shows that out of the population, 20% rely on gas for cooking, 12% rely on wood, and less than 1% use renewable energy. By implementing the Project, the pressure on non-renewable energy use will decrease, and the usage of green energy will be promoted. This is necessary as the graph indicates more reliance on the grid for energy. The grid will be partly powered by wind renewable energy in the future.

3.4.3 EDUCATIONAL PROFILE

Education is important to a country's economic growth and industry development, providing a trained workforce and skilled professionals. The education measure represents an individual's highest level of education, using those aged five years and older. See **Figure 3-5**

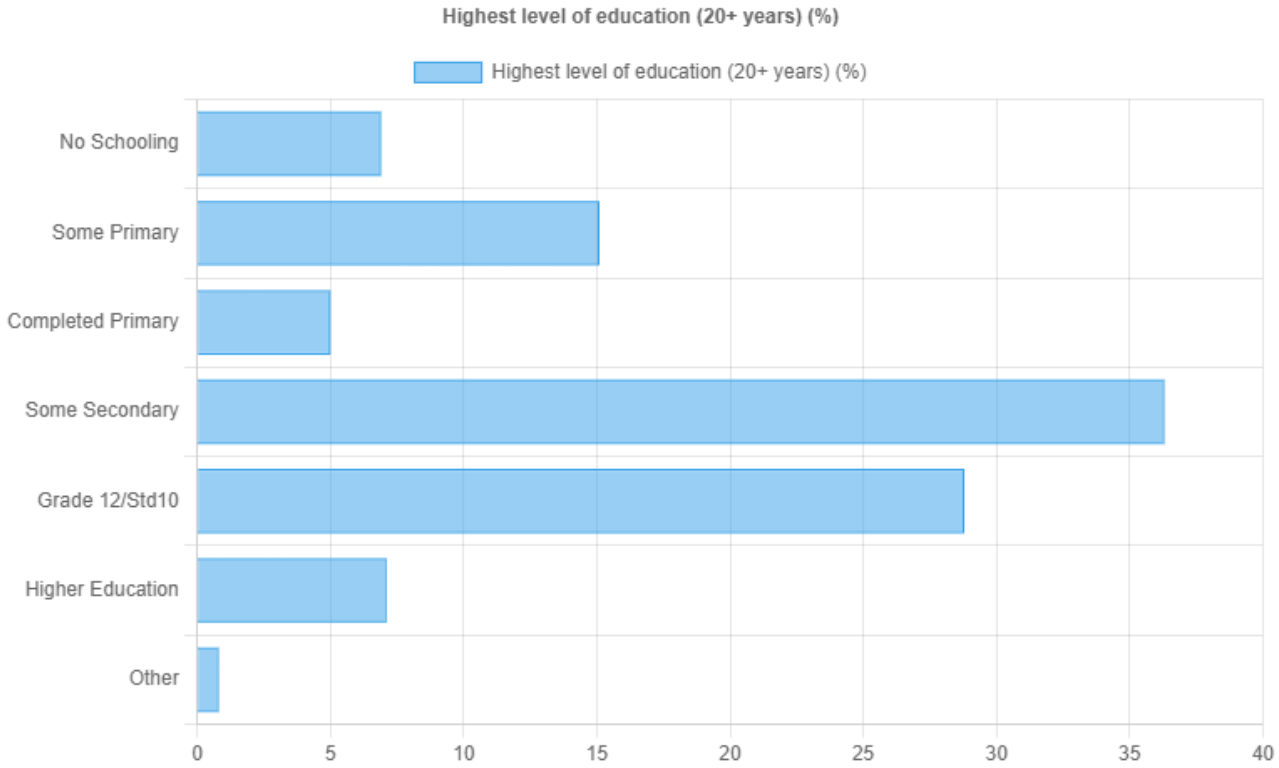

Figure 3-5 - Highest Level of Education (20 + years) (%)

Source: (Statistics South Africa, 2022)

According to (Statistics South Africa, 2022) 74.1 % of people aged 5 to 24 have attended educational institutions. Of these, only 7.1 % have obtained higher education beyond matric. This may indicate a shortage of skilled labourers for the project and a potential surplus of low- to semi-skilled labourers.

3.4.4 LABOUR PROFILE

A country's labour force consists of all working age individuals seeking employment or being employed. See **Figure 3-6** below.

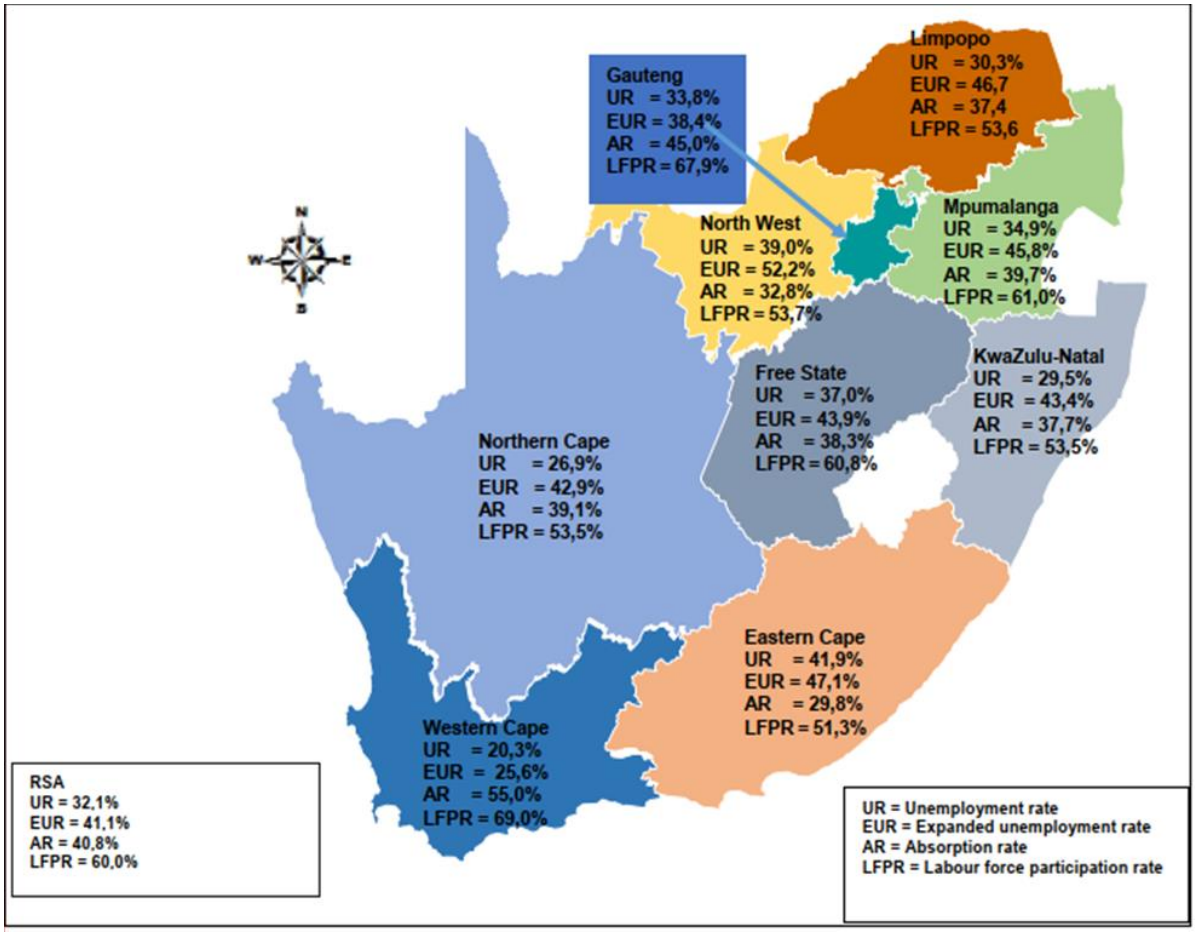

Figure 3-6 - Summary of the Labour Market Measures at a Glance, Q4:2023

Source: (Statistics South Africa, 2023)

According to (Statistics South Africa, 2011), the unemployment rate for Free State Province is 25.3 % lower than the country's overall 32.1 % unemployment rate and 37.0 % unemployment rate of the Free State Province (Stats SA, 2023).

3.4.5 COMMUNITY HEALTH

According to the Phumelela Municipality, IDP indicates a shortage of health facilities, with one hospital located at Vrede. Four clinics, three mobile clinics, and two community care centres (Phumelela Local Municipality, 2022-2027). (See **Table 3-1)**

Table 3-1 – Health Facilities

Area	Hospital	Clinic	Mobile Clinic	Community Care Centre
Vrede	1	1	0	0
Thembalihle	0	1	1	1 (Disability Centre)
Warden	0	1	1	1 (Soup Kitchen)
Ezenzeleni	0	0	0	0
Memel	0	1	1	0
Zamani	0	0	0	0

(Phumelela Local Municipality, 2022-2027)

4 IMPACT ASSESSMENT

The impact assessment identifies potential social impacts during the Project's construction, operational, and decommissioning phases, and cumulative effects are assessed. Impacts are assessed, pre-mitigation mitigation measures are provided, and impacts are reassessed post-mitigation.

4.1 ASSESSMENT METHODOLOGY

Appendix 2 of GNR 982, as amended, requires the identification of the significance of potential impacts. To this end, WSP has used an impact rating tool. The tool is based on two criteria, probability scores and descriptors (**Table 4-3)**, where the latter is based on a general consideration of the impact's intensity, extent, and duration.

The scales used for scoring probability and consequence are detailed in **Table 4-1 and Table 4-2,** respectively.

Table 4-1 – Probability Scores and Descriptors

Score	Descriptor
4	Definite: The impact will occur regardless of any prevention measures.
3	Highly Probable: It is most likely that the impact will occur.
2	Probable: There is a good possibility that the impact will occur.
1	Improbable: The possibility of the impact occurring is very low.

Table 4-2 – Consequence Score Descriptions

Score	Negative	Positive
4	Very severe: An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated.	Very beneficial: A permanent and substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit.
3	Severe: A long-term impact on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive, time-consuming or some combination of these.	Beneficial: 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, time-consuming, or a combination.
2	Moderately severe: A medium to long-term impact on the affected system(s) or party (ies) that could be mitigated.	Moderately beneficial: 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 as difficult, expensive, and time-consuming (or some combination of these) as achieving them in this way.

Score	Negative	Positive
1	Negligible: A short to medium-term impact on the affected system(s) or party(ies). Mitigation is straightforward, cheap, less time-consuming, and unnecessary.	Negligible: A short to medium-term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising beneficial effects are easier, cheaper, quicker, or combination.

Table 4-3 – Significance Screening Tool

	Consequence Scale				
Probability Scale		1	2	3	4
	1	Very Low	Very Low	Low	Medium
	2	Very Low	Low	Medium	Medium
	3	Low	Medium	Medium	High
	4	Medium	Medium	High	Very High

The nature of the impact must be characterised as to whether the impact is deemed to be positive (+ve) (i.e. beneficial) or negative (-ve) (i.e. harmful) to the receiving environment/receptor. For ease of reference, a colour reference system (**Table 4-4)** has been applied according to the nature and significance of the identified impacts.

Table 4-4 – Impact Significance and Colour Reference System

NEGATIVE IMPACTS (-VE)	POSITIVE IMPACTS (+VE)
Negligible	**Negligible**
Very Low	**Very Low**
Low	**Low**
Medium	**Medium**
High	**High**
Very High	**Very High**

5 IDENTIFICATION OF IMPACTS

Based on the collected secondary data and expert knowledge, impacts were identified and categorised according to the Project phase in which they are likely to occur, i.e., construction, operational, and decommissioning. The following are social comments and responses received during the scoping phase of the project.

Table 5-1 - Comments received during the Draft Scoping Report Review Period and associated responses

Date of Comment, Format of Comment, Name of Organisation/I&AP	Comments	Response	Report Reference
Wildlife and Environment Society of South Africa (WESSA)			
Morgan Griffiths 22 January 2025 Email	Land-use issues: WESSA recommends that WEFS are only sited at lower-quality locations such as brownfields, abandoned mining land, or existing transportation and transmission corridors. Greenfield sites should be avoided. The EIA should consider assessing the impact of this large-scale solar facility on the receiving land's diversity and abundance of native pollinator insects, birds, and bats. The EIA should also develop technologies and methodologies to better monitor and understand interactions between large-scale wind facilities and avifauna species, as well as mitigate any currently know and later identified impacts. Understanding that vegetation around and under the turbines needs to be managed for fire risk, WESSA recommends very careful management of the site vegetation, so as to prevent erosion, alien invasive plant infestation and loss of local biodiversity. The impacts of the service roads, pipelines and electricity lines need to be also carefully considered as part of the project. For instance, while the power plant infrastructure may have minimal impacts, the installation of a connecting powerline across a wetland	**EAP:** WSP acknowledges this response. A soil and Land use and Land Capability was undertaken for the project. The results are discussed in Section 6.11 of the FSR for each project site. The study highlights that the *"site falls outside of an area that is classified as a Protected Agricultural Area"*. The study is appended in G.4 of the FSR. In addition, avifaunal studies have been undertaken for the proposed project, and pre-construction monitoring of avifauna is on-going for each WEF. The results of the avifaunal assessment are discussed in Section 6.2.5 and the potential impacts have been included in Section 8.1 of the FSR and is appended to Appendix G.7. A full impact assessment will be included in the Draft EIA report. The results of the terrestrial biodiversity assessment are discussed in Section 6.2.1 and the potential impacts have been included in Section 8.1 of the FSR and appended to Appendix G.6 of the FSR . A full impact assessment will be included in the Draft EIA report. A fire risk protocol plan will be discussed and included in the EMPr during the Draft EIA phase to manage the impacts associated with vegetation.	**Section 6.11 of the DSR, Appendix G.4 of the FSR** **Section 6.2.1, 6.2.5 and Section 8.1 of the FSR;** **Appendix G.6 and G.7 of the FSR** **Section 6.1, 6.2 and 6.3 of the FSR,**

	or know (large) bird flightpath may cause severe environmental harm.	Impacts associated with the associated infrastructure (service roads, pipelines and electricity lines) have been considered in the specialist scoping reports and the results are discussed in Section 6.1, 6.2 and 6.3 of the DSR and the potential associated impacts is discussed in Section 8.1 of the FSR, The connection of the powerline will be a separate process and therefore does not form part of the current project scope, therefore, impacts on wetland crossings associated with the powerline will be assessed separately,	
	Water-use: WESSA recognises that the power plant infrastructure and facilities may periodically need to be cleaned with water. We are concerned about where this water will be sourced, and what impact that this will have; as well as to the cumulative impact of whatever cleaning chemicals are used on the receiving environment? Can rainwater be collected for use for cleaning instead? Can water and chemical use be limited by alternative, less impactful methods (such as air-hosing?)	**APPLICANT:** A wind facility does not require cleaning in the way a solar facility requires the solar panels to be cleaned. Operational water requirement on an average wind farm is approximately 80 kL/per turbine/year. Water use on site is primarily for domestic use at the Operations and Maintenance (O&M) Building as well as road maintenance and dust suppression. The applicant will consider the use of rainwater harvesting, as well as using environmentally friendly cleaning agent during operations.	
	Habitat Loss Through Disturbance and Displacement: Wind farm general have a small scale of physical footprint and man land uses such as agriculture are compatible, with only small areas of turbine foundations and infrastructure made unavailable for use. However, the construction of wind energy turbines and their associated facilities requires clearance of vegetation and displacement of lands and thus this has	**EAP:** Habitat loss was assessed in the terrestrial biodiversity report. The results of the terrestrial biodiversity is discussed in Section 6.2.1 and the potential impacts have been included in Section 8.1 of the FSR. The study is appended in Appendix G.6 of the FSR. A full impact assessment will be included in the Draft EIA report.	**Appendix D – SER;** **Appendix 6 of the FSR**

	caused habitat loss. Wind farms trigger some species to avoid places where wind farms are developed, resulting in displacement and effective loss of habitat. Changes in species abundance with the presence of wind farms can affect predator-prey dynamics and ecosystem function although, the nature and prevalence of this impact is still poorly understood.		
	WESSA recommends: Screening tools should be used to determines Key biodiversity areas and critical biodiversity areas and such areas should be avoided or minimised. The screening tools should be used at initials stages of planning and design to guarantee and safeguards that best practices in micro siting should be developed so that it can help to reduce the potential land use impacts of offshore and land-based wind projects.	**EAP:** WSP confirms that DFFE Screening Report was undertaken for each WEF and was used by each specialist for their scoping reports. The screening reports for each project is appended in Appendix E of the FSR. Furthermore, key biodiversity areas and critical biodiversity areas were screened and identified and included in the terrestrial biodiversity report. The results of the terrestrial biodiversity is discussed in Section 6.2.1 and the potential impacts have been included in Section 8.1 of the FSR. The study is appended in Appendix G.6 of the FSR. A full impact assessment will be included in the Draft EIA report.	**Appendix E of the FSR**
	Landscape Visuality: Winds farms should not be located near the nature game reserves as this may affect the visuality of the landscape scare the giant herbivores animals and affect the visuality of the nature reserves. The tourism industry located near wind farms might as well be affected as the major tour operators will direct their tourists to game reserves where there are no visual impacts caused by the winds farms. Local communities may also feel a loss of cultural values (e.g., where sacred sites are impacted), including a sense of place and belonging. Wind farms may also	**EAP:** A Visual Assessment was undertaken for the Scoping phase of the project. The results are discussed in Section 6.3.4 of the FSR for each project site. The study is appended in G.2 of the FSR. A full impact assessment will be included in the Draft EIA report. The proposed WEF cluster is not situated near any nature or game reserves.	**Section 6.3.4 of the FSR** **Appendix G.2 of FSR**

	impact the aesthetic value of an area, in turn negatively impacting the tourism potential or land value.		
	WESSA Recommends: That winds farms should not be located within 25 kilometres of any nature/game reserve, protected/wilderness area, natural heritage site or biosphere core area.	**EAP:** According to the terrestrial biodiversity scoping report "*No nationally protected areas are situated within the project area, with the closest feature listed on the National Protected Areas Register (DFFE, 2022) being the Ngandu Private Forest and Grassland Reserve and Umsonti Private Nature reserve to the East of the Project area.*" WSP acknowledges this comment and will consider and include the recommendation in the EMPr during the EIA phase of the project, where applicable.	**Section 6.2.1 of the FSR** **Appendix G.6 the FSR**
	Fire: Wind turbines can start fire as a result from lightning strike or electrical or mechanical malfunction leading to ignition, which spreads to the surrounding plastics and fibreglass nacelle. Most of the times when turbines catch fires cannot be easily extinguished due to the heights of the wind turbines. They are normally left to burn and, in the process, toxic fumes and sparks are generated and can scatter flaming debris over a wide area, starting secondary fires. A wind turbine fire can spread to the surrounding environment, sparking wildfires, and potentially spreading into nearby communities. WESSA Recommends: The operators must continuously ensure that electronic controllers and safety sub-systems that monitors different aspects of wind turbines such as generator, tower, and environment are functioning well to	**EAP:** WSP acknowledges this comment and will consider and include the recommendation in the EMPr during the EIA phase of the project, where applicable. **APPLICANT:** The developer confirms that a fire management plan will be included in the EMPr to assist in the control and spread of fire. Your comment is acknowledged with regards to the spread of turbine related fires and the health and safety, and turbine maintenance protocols will be put in places for operations.	**Appendix D of the SER**

	determines electrical and mechanical faults within wind turbine and to ensure that they are operating in a safe manner within prescribed limits. These systems can temporarily shut down the turbine due to high wind, electrical load imbalance, vibration, and other problems. The owners, facilitators, or operators of the wind farms must communicate their commitment and assurance on prevention and protection of fire suppression with landowners and other community stakeholders.		
	Noise and Vibrations The wind turbines generate sound as they turn in wind. The sound generated by wind turbines is aerodynamic, caused by the movement of turbine blades through the air. There is also mechanical sound generated by the turbine itself. Overall sound levels depend on turbine design and wind speed. The noise and vibrations of the giant turbines may negatively impact on mega-fauna, especially elephants, as previously existing studies have shown that the sound generated from wind turbines interferes with the ability of elephants to communication. Elephant hear and communicate using low frequency sound; they can hear up to 10 kilometres away. The sound generated from wind blades affects people as well as they cause nuisance and increases stress level. WESSA Recommends: That wind farms must not be located within 10 kms of elephant habitats. That technological advance, such as minimizing blade surface imperfections and using sound-absorbent materials can be used to reduce wind turbine noise.	**EAP:** A Noise Assessment was undertaken for the Scoping phase of the project. The results are discussed in Section 6.3.6 of the FSR for each project site. The study is appended in G.3 of the FSR. A full impact assessment will be included in the Draft EIA report. WSP acknowledges this comment and will consider and include the recommendation in the EMPr during the EIA phase of the project, where applicable.	**Section 6.3.6 of the FSR** **Appendix G.3 the FSR** **Appendix D of the SER**

	Local Community Beneficiation: Wind power plant construction and operation in some of the country's most begotten and poverty-stricken areas can go a long way to providing much needed employment and skills to local communities. The development can contribute to a long-term positive through committing to socio-economic upliftment and (enviro-) education programmes, environmental stewardship and conservation initiatives. We refer you to the attached IUCN comprehensive guide for project developers on mitigating biodiversity impacts associated with solar and wind energy development. WESSA trusts that these issues will be taken into consideration in the preparation of the EIA documents and in the decision-making process.	**EAP:** A Social Assessment was undertaken for the Scoping phase of the project. The results are discussed in Section 6.3.5 of the FSR for each project site. The study is appended in G.11 of the FSR. A full impact assessment will be included in the Draft EIA report WSP acknowledges this comment, and the guideline provided will be considered during the EIA phase of the project, where applicable.	**Section 6.3.5 of the FSR** **Appendix G.11 the FSR** **Appendix D of the SER**

5.1 CONSTRUCTION PHASE

The Project's construction phase is labour-intensive, and the Project environment has a high potential for social change. The construction activities required are the construction camp, site offices, material laydown area, construction of internal roads, Operations and Management Office Building, batching plants, BESS and excavations of turbine foundations. These construction activities will require a labour force. **Table 5-2** summarises the impact assessments during the construction phase.

5.1.1 JOB CREATION

The construction phase is estimated to be 36 months per 240 MW wind farm. The number of employees for the construction phase is estimated to be approximately 2000 spread across the development of the Verkykerskop WEF Cluster. Furthermore, the Project requires predominantly local South Africans to be employed during construction. Most workers will be low-skilled, with approximately 60% low-skilled and 40 % for semi-skilled and skilled workers.

There will be a localised social benefit to the communities in the area, considering the relatively high unemployment levels and few employment opportunities. Potential for local businesses is probably constrained due to the regional financial diversification. Therefore, it is likely that contractors and engineering firms based outside of the municipality will reap most of the benefits. The development phase will also be advantageous to the area's service industry. The potential prospects would be related to the site's transportation, security, cleaning, catering, and lodging for the construction employees**.**

Mitigations

- Preparation and implementation of a Stakeholder Engagement Plan (SEP) and Grievance Mechanism before and during construction.
- Where reasonable and practical, the Project should apply a 'locals first' policy, especially for semi and un-skilled jobs. The majority of skilled positions, however, are likely to be filled by individuals from outside the area due to the low skill levels in the area.
- Communities near the Project should be given special consideration regarding the benefits arising from it, as they will be most affected.
- The engineering, procurement, and construction contractor should prefer appropriate subcontractors in the surrounding communities, followed by those in the municipal area and those outside the province.
- Resources required during construction should be sourced, preferably from local businesses. Accommodation needed for contractors should favour local guesthouses and hotels.
- Wherever possible, the hiring process should promote gender equality and women's employment.
- The proponent should liaise with the municipality regarding establishing a database of local companies, specifically BBBEE companies, which qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc.) before the commencement of the tender process for construction service providers. These companies should be notified of the tender process and invited to bid for project-related work.

Significance rating

As a positive impact, the impact's significance rating increases from **Moderate** to **High** after mitigation.

5.1.2 THE INFLUX OF JOB SEEKERS

Based on a report by Statistics South Africa in 2023, the unemployment rate during the first quarter of the year stood at 32.9% (Statistics South Africa, 2023). This unemployment rate poses a significant challenge for job seekers who may feel compelled to relocate to areas experiencing development to secure employment opportunities. However, such a move can potentially negatively affect the local community. There will also be added pressure on the existing municipal infrastructure and services. This pressure includes an increase in traffic, water usage and housing demands. Additionally, the influx of people from different cultures and languages may impact the local culture and family structures, leading to a sense of displacement for locals.

The influx of labour could result in the development of informal dwellings and possibly informal settlements in the area. It is unlikely that all these people will be employed during construction, thus resulting in increased unemployment. The increased number of unemployed people may lead to increased social ills such as crime, alcohol abuse, Gender Based Violence (GBV), and growing pressure on local resources, infrastructure and social services.

Construction activities can also take much longer than initially planned at the beginning of a project. These delays can result in extended stays away from home for the labourers, generally men, which may lead to increased prostitution.

Mitigations

- A community awareness campaign will be implemented in the surrounding communities to sensitise community members to traffic safety risks and infectious disease awareness.
- As part of onboarding workers, training should be provided on preventing GBV, Sexual Assault (SEA) and Sexual Harassment (SH).
- The Project must engage with communities using a dedicated community liaison officer and have an effective stakeholder engagement plan, including a grievance mechanism for communities to access and lodge complaints.
- Local employment should be a priority for the construction contractor to lessen the number of workers away from their homes.
- Training programmes must be implemented to enable local participants to take advantage of employment opportunities.
- No recruitment should occur at the Project gate to prevent informal settlements around the Project site.
- Increased security in the Project area should be provided to regulate access to the site and prevent informal settlements.

Significance rating

As a negative impact, the impact's significance decreases from **Moderate** before mitigation to **Low** after mitigation.

5.1.3 PROCUREMENT FROM LOCAL BUSINESSES

The Project and its employees will require various goods and services to support construction activities. Goods and services will include construction supplies and contracting services like transportation, equipment rental, and skilled labour.

The Project will bolster the local economy by involving local suppliers and service providers. Involving local suppliers and service providers will stimulate economic growth by creating job opportunities, increasing demand for local products and services, and enabling the development of small and medium-sized enterprises. Additionally, the increased economic activity can lead to improved infrastructure, enhanced community services, and overall economic growth in the region.

Mitigations

- The project could partner with local suppliers through procurement programmes to develop local suppliers.
- Procurement programmes should prioritise local procurement for locally available goods and services.

Significance rating

As a positive impact, the impact's significance decreases from **Low** before mitigation to **Moderate** after mitigation.

5.1.4 LOSS OF AGRICULTURAL LAND

The project is located within agriculturally active farms. The physical construction of the infrastructure discussed in the project description will require vegetation clearance. The project proponent intends to develop a small portion of the area. A portion of the area will be within the croplands.

Mitigations

- The Project should limit construction infrastructure during planting and harvesting season.
- Disturbed areas should be rehabilitated post-construction phase.
- Preparation and implementation of a SEP before and during the construction phase.
- The Project should agree with the local farmers in the area on how they will be compensated for damages. An agreement should be entered into before the construction phase starts.
- All farm gates must be closed after passing through.
- Contractors appointed by the Project should provide daily transport for low and semi-skilled workers to and from the site.
- The Project should hold contractors liable for compensating farmers and communities in full for any losses or damage to farm infrastructure that can be linked to construction workers.
- The Project should implement a Grievance Mechanism that provides locals with an effective and efficient mechanism to address issues related to the Project.

Significance rating

As a negative impact, the impact's significance decreases from **Moderate** before mitigation to **Low** after mitigation.

5.1.5 GENERATE INCOME FOR AFFECTED LANDOWNERS

The proponent will enter into lease agreements with the affected landowners to use the land to construct the proposed wind energy facilities. The affected landowners will be paid an annual sum based on the area affected under the terms of the lease agreement. The extra revenue will mitigate the landowner/farmer's livelihood risk posed by the project. The added income is a substantial benefit to the impacted landowner.

Mitigations

- The loss of high-quality agricultural land should be avoided and minimised where possible.

Significance rating

As a positive impact, the impact's significance rating increases from **Low** to **High** after mitigation.

5.1.6 COMMUNITY HEALTH, SAFETY AND SECURITY

The project workers could damage farm fences and buildings, increase crime, theft or killing of livestock, and theft of farm produce. While the creation of jobs is positive, it may also introduce changes in lifestyle, such as multiple sexual relations, which could lead to a higher infection rate of HIV/STIs within the project area.

The goal will be to hire as many un-skilled and semi-skilled people locally as possible. These employees will be local community members, and family networks will be kept intact—this task will lower the risks of social ills.

Mitigations

- The Project should employ security personnel onsite during construction to implement security. The Project should include monthly health talks and coordinate health and safety campaigns to educate personnel and the community on general health, safety and security issues.
- The proponent and the contractor should implement an HIV/AIDS and Tuberculosis (TB) awareness programme for all construction workers at the outset of the construction phase.
- The proponent and the contractor should implement an HIV/AIDS and Tuberculosis (TB) awareness programme for all construction workers at the outset of the construction phase.
- The contractor should transport workers to and from the site daily.
- The contractor should supervise and manage the entrance and exit of the construction site to ensure no interaction with communities at the site.
- No construction workers, except security personnel, should be permitted to stay overnight on the site.

Significance rating

As a negative impact, the impact’s significance rating decreases from **Low** to **Very Low** after mitigation.

5.1.7 INTRUSION IMPACTS

5.1.7.1 Noise

During construction, noise affects people differently; the new noise will come from the WEF facilities. Road traffic, transportation of materials and equipment, and construction activity are expected to generate noise filtering to nearby receptors.

Mitigation

- Consulting with the community when planning construction activities to have the least intrusive impact, i.e. scheduling high-noise activities when they result in the least disturbance. Such as during the day. Information regarding construction activities should be provided to identified and nearby receptors likely to be affected. Such information includes:
  - Proposed working times.
  - Anticipated duration of activities.
  - Explanations of activities to take place and reasons for activities.
  - Provide the contact details of a responsible person on site should complaints arise.

Significance rating

As a negative impact, the impact's significance decreased from **Low** before mitigation to **Very Low** after mitigation.

5.1.7.2 Dust

The construction of facilities will result in traffic as construction materials and turbines are being transported to the Project site. Increased road traffic and cleared vegetation for site establishment and construction activities will increase the dust levels in the area.

Mitigations

- Implement environmentally and crop friendly dust suppression measures on unpaved road surfaces.
- Roads must be adequately maintained to prevent deterioration of road surfaces due to heavy vehicle traffic.
- Reduce and control construction dust using approved dust suppression techniques when required (i.e. whenever dust becomes apparent).

Significance rating

As a negative impact, the impact's significance decreased from **Moderate** before mitigation to **Low** after mitigation.

5.1.7.3 Visual

During construction, there may be a noticeable increase in heavy vehicles utilising the roads to the Project site that may cause, at the very least, a visual nuisance to other road users and landowners in the area. Additionally, laydown areas, construction equipment and construction camps will have a visual impact.

Mitigations

- Tree lines may be considered to shield the view of the facility.

- If possible, ensure that vegetation cover adjacent to the development footprint (if present) is not unnecessarily removed during construction.
- Plan the placement of laydown areas and temporary construction equipment camps to minimise vegetation clearing (i.e. in already disturbed areas) wherever possible.
- Restrict the activities and movement of construction workers and vehicles to the immediate construction site and existing access roads.
- Ensure that rubble, litter, and disused construction materials are appropriately stored (if not removed daily) and disposed of regularly at licensed waste facilities.

Significance rating

Construction activities may result in a high temporary visual impact that may be mitigated to Moderate after mitigation.

5.1.8 CONSTRUCTION PHASE - IMPACT SUMMARY

Table 5-2 summarises the impacts of the construction phase.

Table 5-2 – Construction Phase Impacts

Aspect	Character	Pre-Mitigation							Post-Mitigation						
		(M+	E+	R+	D)x	P=	S	Rating	(M+	E+	R+	D)x	P=	S	Rating
Job Creation	Positive	4	3	3	3	3	39	P3	5	4	3	4	4	64	P4
Significance		**P3 - Moderate**							**P4 - High**						
Population Influx	Negative	3	3	3	3	4	48	N3	2	2	2	2	2	16	N2
Significance		**N3 - Moderate**							**N2 - Low**						
Procurement From Local Businesses	Positive	2	2	2	2	2	16	P2	2	2	3	4	3	33	P3
Significance		**P2 - Low**							**P3 - Moderate**						
Loss of Agricultural Land	Negative	2	2	4	3	3	33	N3	2	1	3	3	3	27	N2
Significance		**N3 - Moderate**							**N2 - Low**						
Generate Income for Affected Landowners	Positive	2	1	3	4	3	30	P2	4	1	3	5	5	65	P4
		P2 - Low							**P4 - High**						
Community Health, Safety and Security	Negative	2	3	3	1	2	18	N2	2	2	1	2	2	14	N1
Significance		**N2 - Low**							**N1 - Very Low**						
Noise	Negative	2	2	2	2	2	16	N2	1	2	2	1	2	12	N1
Significance		**N2 - Low**							**N1 - Very Low**						
Dust	Negative	2	3	3	1	4	36	N3	2	3	2	3	2	20	N2
Significance		**N3 - Moderate**							**N2 - Low**						
Visual	Negative	4	4	4	4	4	64	N4	3	3	3	3	4	48	N3
Significance		**N4 - High**							**N3 - Moderate**						

5.2 OPERATIONAL PHASE

The project activities will be operational during this phase, whereby renewable energy will be produced, stored, and supplied to the consumers. See **Table 5-3** for the operational phase's summary of the Impact Assessment.

5.2.1 JOB CREATION

The total employment generated during the operational phase is estimated at 30 workers. Furthermore, the Project requires that local South Africans be employed during construction. Most workers will be low-skilled, with approximately 30 – 40 % semi-skilled.

Mitigations

- Where reasonable and practical, the Project should apply a 'locals first' policy, especially for semi and low-skilled jobs. The majority of skilled positions, however, are likely to be filled by individuals from outside the area due to the low skill levels in the area.
- Communities near the Project should be given special consideration regarding the benefits arising from it, as they will be most affected.
- The proponent should liaise with the municipality regarding establishing a database of local companies, specifically BBBEE companies, which qualify as potential service providers (e.g., maintenance companies, catering companies, waste collection companies, security companies, etc.) before the commencement of the tender process for construction service providers. These companies should be notified of the tender process and invited to bid for project-related work.

Significance rating

As a positive impact, the impact's significance rating increases; however, it remains **Moderate** after mitigation.

5.2.2 THE INFLUX OF JOB SEEKERS

As discussed in the construction phase, there will also likely be an influx of job seekers during the operational phase.

An increase in job seekers may increase pressure on the existing municipal infrastructure and services. An influx of job seekers includes increased road traffic, water usage and housing demands. The influx of people from different cultures and languages may impact the local culture, language, and family structures, leading to a sense of displacement for the locals. The influx of job seekers can potentially affect the local community negatively.

Mitigations

- A community awareness campaign will be implemented in the surrounding communities to sensitise community members to traffic safety risks and infectious disease awareness.
- As part of onboarding workers, training should be provided on preventing GBV, SEA and SH.
- The Project must engage with communities using a dedicated community liaison officer and have an effective SEP, including a grievance mechanism for communities to access and lodge complaints.
- Local employment should be a priority for the operations contractor to lessen the number of workers away from their homes.

- Training programmes must be implemented to enable local participants to take advantage of employment opportunities.
- No recruitment should occur at the Project gate to prevent informal settlements around the Project site.
- Increased security in the Project area should be provided to regulate access to the site and prevent informal settlements.

Significance rating

As a negative impact, the impact's significance decreases from **Moderate** before mitigation to **Low** after mitigation.

5.2.3 PROCUREMENT FROM LOCAL BUSINESSES FOR SUPPLIES AND SERVICES

The project and its employees will require procurement of goods and services for operations. It increases local economic growth when local entrepreneurs and businesses are procured for supplies and services**.**

Mitigations

- The project could partner with local suppliers through procurement programmes to develop local suppliers.
- Procurement programmes should prioritise local procurement for locally available goods and services.

Significance rating

As a positive impact, the impact's significance increases from **Low** before mitigation to **Moderate** after mitigation.

5.2.4 COMMUNITY HEALTH, SAFETY AND SECURITY

The movement of vehicles and increased human activity may damage infrastructure and increase crime, livestock theft, and farm produce theft or death. It could have a **Low negative impact** on the community's health, safety and security.

Mitigations

- The Project should employ security personnel onsite during operations to implement security.
- The Project should include monthly health talks and coordinate health and safety campaigns to educate personnel and the community on general health, safety and security issues related to the Project.
- The workers should be transported to and from the site daily.
- The contractor should efficiently supervise and manage the entrance and exit of the site to ensure no interaction with communities at the site.
- No workers, except security personnel, should be permitted to stay overnight on the site.

Significance rating

As a negative impact, the impact’s significance rating decreases however remains **Low** after mitigation.

5.2.5 ENERGY GENERATION

The facility's operation will allow the renewable energy facility to produce electricity without waste or emissions during the operational phase. South Africa's per capita greenhouse emissions are the highest in Africa (Jainb, 2017). The Project will aid in reducing the carbon footprint and emissions.

Mitigations

- The power generated from the proposed project should be used to provide for homes, farms, and businesses in the surrounding communities.
- The proposed Project should be used to encourage more renewable sources of energy.

Significance rating

As a positive impact, the impact's significance increases from **Low** before mitigation to **Moderate** after mitigation.

5.2.6 INTRUSION IMPACTS

5.2.6.1 Visual

The potentially sensitive visual receptors are located within six kilometres of the proposed facility, meaning the visual impact will be high and moderate between three and six kilometres away.

Mitigations

- For the observers within one kilometre, no mitigation of this impact is possible (i.e. the structures will be visible regardless of mitigation measures). Still, general mitigation and management measures are recommended as best practices.
- It is recommended that vegetation cover (i.e., natural or cultivated) be maintained in all areas outside the development footprint. Vegetation cover will minimise the visual impact.
- Existing roads should be utilised wherever possible. New roads should be planned to limit cut and fill requirements.
- Motion-sensing lighting should be investigated during the evening to lessen night-time light pollution.
- Maintenance of the turbines, supporting structures, and infrastructure must be undertaken while they are in use to minimise visual impacts.

Significance rating

As a negative impact, the significance decreases from **High** before mitigation to **Moderate** after mitigation.

5.2.6.2 Noise

Wind turbines generate noise between 35-45 decibels when perceived from 300 metres (US Department of Energy, n.d.). This range falls between the noise generated by a whisper (approximately 20 decibels) and normal speech (approximately 60 decibels), far below the threshold of 140 decibels (Maine).

As a negative impact, the significance remains **Moderate** before and after mitigation.

Mitigations

- The noise impact cannot be reduced. However, maintenance of the turbines, supporting structures, and infrastructure must be undertaken to keep the facility from increasing its visual impact.

5.2.7 OPERATIONAL PHASE - IMPACT SUMMARY

Table 5-3 represents a summary of the impacts of the operational phase.

Table 5-3 – Operational phase impacts

Aspect	Character	Pre-Mitigation							Post-Mitigation						
		(M+	E+	R+	D)x	P=	S	Rating	(M+	E+	R+	D)x	P=	S	Rating
Job Creation	Positive	4	3	3	4	3	42	P3	4	3	3	4	4	56	P3
Significance		P3 - Moderate							P3 - Moderate						
Population Influx	Negative	4	3	3	4	3	42	N3	2	2	3	3	2	20	N2
Significance		N3 - Moderate							N2 - Low						
Procurement From Local Businesses	Positive	2	2	2	2	2	16	P2	2	2	3	4	3	33	P3
Significance		P2 - Low							P3 - Moderate						
Community Health, Safety and Security	Negative	2	2	3	4	2	22	N2	2	2	3	3	2	20	N2
Significance		N2 - Low							N2 - Low						
Energy Generation	Positive	1	2	3	4	2	20	P2	4	3	3	4	4	56	P3
		P2 - Low							P3 - Moderate						
Visual	Negative	4	4	4	4	4	64	N4	3	3	3	2	3	33	N3
Significance		N4 - High							N3 - Moderate						
Noise	Negative	3	4	4	4	3	45	N3	3	4	4	4	3	45	N3
Significance		N3 - Moderate							N3 - Moderate						

5.3 DECOMMISSIONING PHASE

The Decommissioning Phase is a phase in the project where the projection operational activities cease to operate. Refer to **Table 5-4** for a summary of the decommissioning phase and social impact assessment.

5.3.1 LOSS OF EMPLOYMENT

During this phase, the operational workforce will lose their jobs, and it may lead to adverse social consequences in the municipality, such as:

- Increase or return the unemployment rate to previous levels within the Project area.
- Financial hardship.
- Family tensions and breakdown.
- Unemployment can result in alienation, shame and stigma.
- Crime.

It should be noted. However, wind energy facilities usually employ two maintenance employees per 30 wind turbines (Wind Enery The Facts, n.d.)or, depending on capacity, seven to eleven personnel per 100 MW (Adelman).

Mitigations

- Timely and adequate consultation with employees dependent on the Project for employment should occur.
- Assisting employees seeking alternative employment at other wind power plants or related facilities.
- Training, educating and re-skilling employees to equip them with skills that could benefit them in other industries should occur.

Significance Rating

As a negative impact, the significance decreases from **Moderate** before mitigation to **Low** after mitigation.

5.3.2 REDUCED COMMUNITY INVESTMENT

There will be reduced local spending by the project and its staff and contractors. Consequently, local business revenue may be affected, and tax payments will decrease.

Mitigations

- Engage local and regional government concerning the decommissioning phase.
- Develop alternative projects which can support the local economy.

Significance rating

As a negative impact, the impact's significance decreased from **Moderate** before mitigation to **Low** after mitigation.

5.3.3 ASSOCIATED INFRASTRUCTURE

Structures used during operation will be abandoned and might attract criminal activity or house social ills. Maintenance of these structures might decrease after the Project operation, leading to hazards to the health and welfare of the community.

Mitigations

- An end-of-life shutdown procedure must be undertaken, including a risk assessment of the activities involved.
- End-of-life, which is affected by temperature and time, cycles, etc., should be predefined, and monitoring should be in place to determine if it has been reached.
- The proponent shall develop exit strategies for all its community development initiatives.

Significance rating

As a negative impact, the impact's significance decreased from **Moderate** before mitigation to **Low** after mitigation.

5.3.4 DECOMMISSIONING PHASE - IMPACT SUMMARY

Table 5-4 presents a summary of the decommissioning impacts.

Table 5-4 – Decommissioning Impacts Summary

Receptor	Character	Pre-Mitigation							Post-Mitigation						
		(M+	E+	R+	D)x	P=	S		(M+	E+	R+	D)x	P=	S	
Loss of Employment	negative	4	4	3	4	3	**45**	**N3**	2	1	2	4	3	**27**	**N2**
	Significance	**N3 - Moderate**							**N2 - Low**						
Reduced Community Investment	negative	3	4	3	3	3	**39**	**N3**	2	1	2	4	3	**27**	**N2**
	Significance	**N3 - Moderate**							**N2 - Low**						
Associated Infrastructure	negative	3	3	3	3	4	**48**	**N3**	2	2	1	3	2	**16**	**N2**
	Significance	**N3 - Moderate**							**N2 - Low**						

5.4 CUMULATIVE IMPACTS

Cumulative impacts on existing and planned facilities may occur during the construction and operation of the proposed Verkykerskop WEF Cluster. While one project may not significantly impact sensitive resources or receptors, the collective impact of the projects may increase the severity of the potential impacts.

Therefore, several projects within the surrounding area which have submitted applications for environmental authorisation (some of which have been approved) have been considered. The projects considered are from the latest REEA database from the DFFE (2023 Quarter 4). It is important to note that the existence of an approved EA does not directly equate to the actual development of the Project.

The proposed Verkykerskop WEF Cluster is not located within one of the promulgated Renewable Energy Development Zones. The projects located within a 50km radius of the site that should be considered in the cumulative impact assessment are included in **Table 5-5** and illustrated in **Figure 5-1**.

Table 5-5 – Projects within 50km of the Verkykerskop WEF Cluster

PROJECT NAME	APPLICANT	STATUS	REFERENCE NUMBER	DISTANCE AWAY (KM)
Newcastle Gas Engine Power Plant (Ngepp), Newcastle, Kwazulu-Natal Province.	Newcastle Energy (Pty) Ltd	Refused	14/12/16/3/3/2/2074	36
Proposed Upgrade of Karbochem boilers and electricity project in Newcastle	Distributed Energy Generation (Pty) Ltd	In process	14/12/16/3/3/1/1164	37
Proposed Upgrade of Karbochem boilers and Electricity Project in Newcastle - Amendment	Distributed Energy Generation (Pty) Ltd	Approved	14/12/16/3/3/1/1164/AM1	37
Proposed Newcastle solar energy facility near Newcastle, KwaZulu-Natal Province	Building Energy (Pty) Ltd	Refused	14/12/16/3/3/1/1225	38
Proposed Newcastle WEF 2 and associated grid infrastructure near Newcastle, KwaZulu-Natal Province	Mulilo Newcastle Wind Power 2 (Pty) Ltd	Refused	14-12-16-3-3-2-2213	32
Proposed Newcastle WEF and associated grid infrastructure near Newcastle, KwaZulu-Natal Province	Mulilo Newcastle Wind Power (Pty) Ltd	Approved	14-12-16-3-3-2-2457	35
Proposed Newcastle WEF 2 and associated grid infrastructure near Newcastle, KwaZulu-Natal Province	Mulilo Newcastle Wind Power (Pty) Ltd	Approved	14-12-16-3-3-2-2457	32

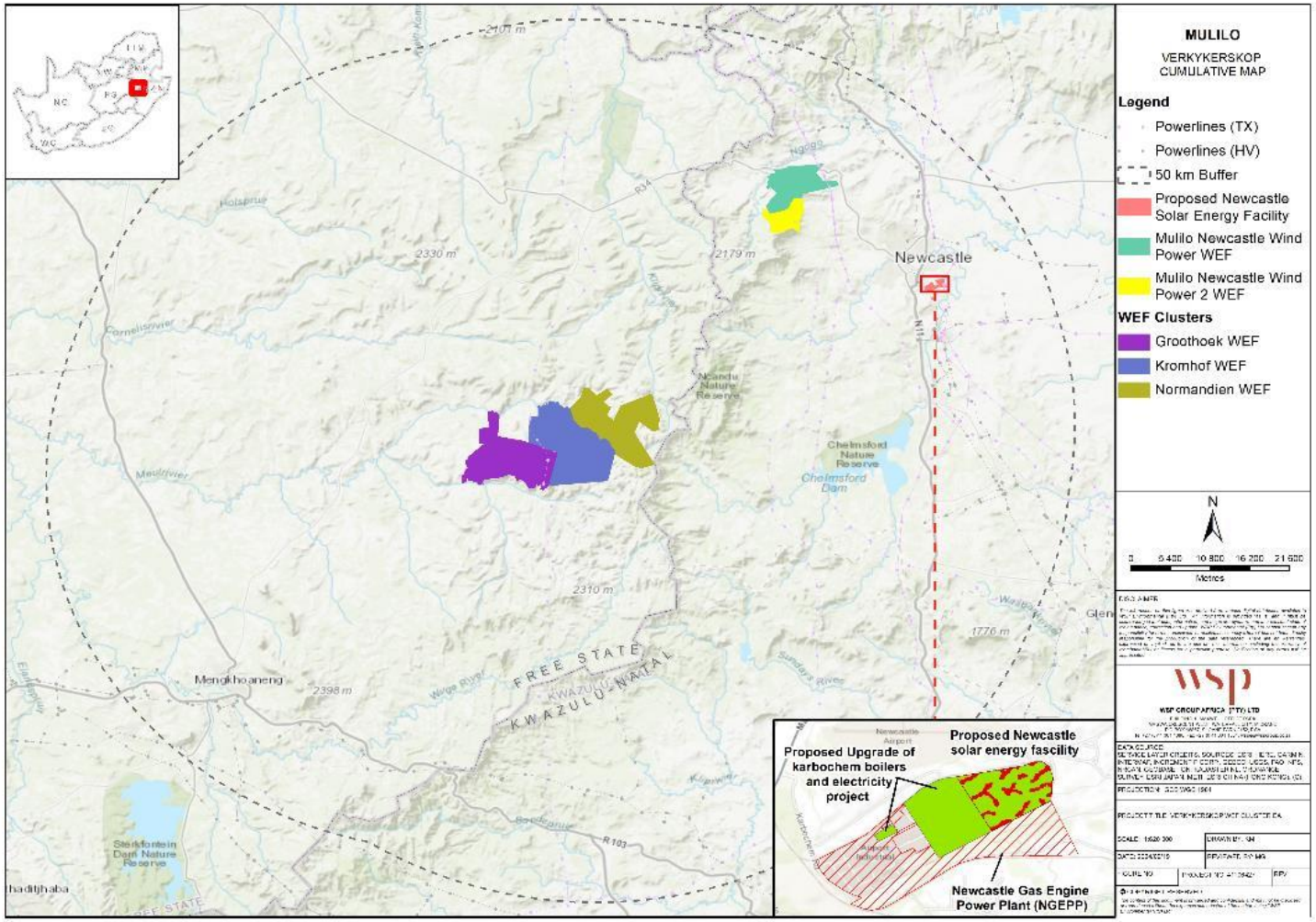

Figure 5-1 - Projects within 50km of Verkykerskop WEF Cluster

5.4.1 SENSE OF PLACE

The potential cumulative impacts on the area's sense of place will be linked mainly to potential visual impacts. These issues relate to wind energy facilities and their associated infrastructure. The relevant issues identified include:

- The combined visibility relates to whether two or more wind farms will be visible from one location.
- Sequential visibility is the effect of seeing two or more wind farms along a single journey.
- The visual compatibility of different energy facilities in the same vicinity.
- Perceived or actual change in land use across a character type or region.
- Loss of a characteristic element (e.g. viewing type or feature) across a character type caused by developments across that character type.

Cumulative impacts need to be considered from dynamic and static viewpoints. For example, the experience of driving along a tourist road is regarded as a dynamic sequence of views and visual impacts, not just as the cumulative impact of several developments on one location. The viewer may only see one renewable energy facility and the associated infrastructure at a time. Still, each successive view of renewable energy facilities can be argued to have a cumulative visual impact (Environmental Protection and Heritage Council, 2010).

Approximately four approved renewable energy projects are located within a 50 km range of the Project site. The approved projects are illustrated in **Figure 5-1**.

There is, therefore, the possibility of combined and sequential impacts. However, given the site's location, the potential impact of the proposed energy-generating facilities and associated infrastructure on the area's sense of place is likely to be limited.

Mitigations

- The recommendations in the Visual Impact Assessment should be implemented.

Significance Rating

The significance of this impact is rated from **Moderate** to **Low** with mitigation.

5.4.2 LOCAL SERVICES AND ACCOMMODATION

The development of multiple renewable energy projects has the potential to put a strain on local services and accommodations, particularly during the construction phase. The goal will be to source as many un-skilled and semi-skilled employees from the local municipality as possible during the construction and operational phases of the Project. Sourcing skills locally will relieve the strain on local services and accommodations, as well as the nearby town of Danhauser. However, considering the construction phase's brief duration, the potential impact is expected to be limited.

The potential impact should also be considered in light of the possible beneficial cumulative effects on the local economy linked with the planned facilities and accompanying renewable energy projects in the local municipality. Such benefits will generate opportunities for investment in the municipality, such as upgrading and expanding existing services and building new residences.

Mitigations

- The proponent should liaise with the local municipality to address potential impacts on local services.

Significance Rating

The significance of this impact is rated from **Low** to **Very Low** with mitigation.

5.4.3 LOCAL ECONOMY

In addition to the potential negative impacts, establishing renewable energy facilities and associated infrastructure will create several socio-economic opportunities for the PLM. The positive cumulative economic opportunities include the creation of employment, skills development and training opportunities, and downstream business opportunities.

The potential cumulative benefits for the local and regional economy are associated with the construction and operational phases of renewable energy projects and related infrastructure, extending over 20-25 years. However, steps must be taken to maximise employment opportunities for local community members and support skills development and training programmes.

Mitigations

- The proponent should liaise with the PLM to identify potential local economy and business opportunities.

Significance Rating

This impact's significance is positive and rated **Moderate** before and after mitigation.

5.4.4 CUMULATIVE PHASE - IMPACT SUMMARY

The cumulative impacts are identified as a sense of place resulting from the visual change of scenic views because of several solar PV and wind energy facilities within the viewer's sight. Due to limited resources, local services and accommodation could negatively affect the local municipality service delivery. Socio-economic opportunities may rise due to increased renewable energy facilities within the municipality. **Table 5-6** indicates a summary of the cumulative impacts.

Table 5-6 – Summary of cumulative impacts

Receptor	Character	Pre-Mitigation							Post-Mitigation						
		(M+	E+	R+	D)x	P=	S		(M+	E+	R+	D)x	P=	S	
Sense of Place	negative	2	3	3	4	3	**36**	**N3**	2	2	3	4	2	**22**	**N2**
	Significance	**N3 - Moderate**							**N2 - Low**						
Local Services and Accommodation	negative	3	3	1	3	2	**20**	**N2**	2	2	1	2	2	**14**	**N1**
	Significance	**N2 - Low**							**N1 – Very Low**						
Local Economy	positive	2	2	1	2	2	**14**	**P1**	4	3	1	4	5	**60**	**P3**
	Significance	**P1 – Very Low**							**P3 - Moderate**						

6 TERMS OF REFERENCE FOR SOCIAL IMPACT ASSESSMENT EIA PHASE

The assessment will consider the social issues and aspects based on secondary and primary research. The results and recommendations of the various specialist studies will be used to identify potential impacts on sensitive social receptors. The alternatives will be assessed, probable social consequences will be forecast, and measures to avoid or mitigate adverse impacts and enhance any positive effects related to the project will be provided. The mitigation measures will be included in the Environmental Management Programme (EMPr), which will be developed for the project.

7 CONCLUSION

The proposed development aligns with legislative and policy frameworks. The Project will create employment, training, and business opportunities during the construction and operation. As detailed above, the potential negative impacts of the construction and operation phases can be mitigated.

The proposed development will also represent an investment in clean, renewable energy infrastructure for the country, which will offset the negative environmental and socio-economic impacts of coal-based fossil fuel energy generation. Renewable energy also addresses climate change and assists the country in meeting its climate change reduction goals.

Construction, operation, and decommissioning phase impacts have been rated as medium negative and medium positive, respectively. As shown in **Table 7-1** below, if mitigation measures are implemented, it is anticipated that the consequence and probability of the negative impacts will be reduced. Given the above, it is strongly recommended that the mitigation measures described in this report be incorporated into the proposed Project's Environmental and Social Management Plan. Additionally, measures must be put in place to monitor and assess the implementation of these mitigation measures and take corrective action where necessary.

Table 7-1 – Summary of all phases Impacts

Impact	Pre-mitigation	Post-mitigation
Construction Phase		
Job Creation	P3 - Moderate	P4 - High
Population Influx	N3 - Moderate	N2 - Low
Procurement from Local Businesses	P2 - Low	P3 - Moderate
Loss of Agricultural Land	N3 - Moderate	N2 - Low
Generate Income for Affected Landowners	P2 - Low	P4 - High
Community Health, Safety and Security	N2 - Low	N1 - Very Low
Noise	N2 - Low	N1 - Very Low
Dust	N3 - Moderate	N2 - Low
Visual	N4 - High	N3 - Moderate
Operation Phase		
Job Creation	P3 - Moderate	P3 - Moderate
Population Influx	N3 - Moderate	N2 - Low

Impact	Pre-mitigation	Post-mitigation
Procurement From Local Businesses	**P2 - Low**	**P3 - Moderate**
Community Health, Safety and Security	**N2 - Low**	**N2 - Low**
Energy Generation	**P2 - Low**	**P3 - Moderate**
Visual	**N4 - High**	**N3 - Moderate**
Noise	**N3 - Moderate**	**N3 - Moderate**
Decommissioning Phase		
Loss of Employment	**N3 - Moderate**	**N2 - Low**
Reduced Community Investment	**N3 - Moderate**	**N2 - Low**
Associated Infrastructure	**N3 - Moderate**	**N2 - Low**

8 DECLARATION OF INDEPENDENCE BY SPECIALIST

I, Tumelo Mathulwe–

- Act as the independent specialist for the undertaking of a specialist section for the Verkykerskop Environmental Authorisation Applications;
- Do not have and will not have any financial interest in the undertaking of the activity other than remuneration for work performed;
- Do not have nor will have a vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity; and
- Undertake to disclose to the competent authority any 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.

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