

SIVEST

**DEVELOPMENT OF THE PROPOSED HEUWELTJIES WIND
ENERGY FARM (WEF) WESTERN CAPE PROVINCE, SOUTH
AFRICA**

DESKTOP SOCIAL IMPACT ASSESSMENT

Specialist Study Report

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EXECUTIVE SUMMARY

INTRODUCTION

ACER (Africa) Environmental Consultants (ACER) was appointed by SiVEST to undertake a desktop Social Impact Assessment (SIA) for the development of the proposed Heuveltjies Wind Energy Farm (WEF) situated within the Western Cape Province, South Africa. This facility is part of the national effort to increase the supply of electricity which is currently insufficient.

SiVEST is conducting an Environmental Impact Assessment (EIA) for a 240-megawatt (MW) wind farm near Beaufort West in the Western Cape Province and requires a desktop Social Impact Assessment to obtain an environmental authorisation from the competent authority, in this case the Department of Forestry, Fisheries and the Environment (DFFE). This document details the social baseline conditions, potential social impacts, and mitigations as part of a pre-requisite for the environmental authorisation.

Project purpose

South Africa's economic growth is hampered by current and future electricity demands. This growth is essential for job creation, which reduces poverty, unemployment, and inequality. The WEF aims to increase electricity generation to meet demand.

Scope of this specialist report

The following scope of works was applied to this study as according to the DFFE protocol on SIAs (2022):

- ❑ Desktop description of the current social and socio-economic environments within the study area, outlining important characteristics and components thereof, which may be influenced by the proposed project, or which may influence the proposed project during construction and operation.
- ❑ Desktop identification of the potential issues and impacts (positive and negative, local and regional) of the proposed project on the social and socio-economic environments and vice versa during construction operation and decommissioning phases.
- ❑ Identify mitigation measures for enhancing benefits and avoiding or mitigating negative impacts and risks.

LEGAL ASPECTS

Applicable legislation

The following legislation and associated regulations are relevant to this social and socio-economic impact assessment:

- ❑ Constitution of the Republic of South Africa Act, 1996 (Act No. 108 of 1996) as amended.
- ❑ Municipal Systems Act, 32 of 2000.
- ❑ Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013).
- ❑ National Environmental Management Act, 1998 (NEMA) (Act No. 107 of 1998) as amended
- ❑ National and local planning documentation such as, the National Development Plan (NDP), national policy on service delivery, local and district Integrated Development Plans (IDP) and Spatial Development Frameworks (SDFs).
- ❑ DFFE protocol on SIA compilation, series 22 of the Integrated Environmental Management Information Series.
- ❑ Appendix 6 of the EIA Regulations of 2014 (as amended) (GNR 326)

PROJECT DESCRIPTION**Project background**

The proposed Heuveltjies WEF is located on a 1672-hectare buildable area of the 4017.6-hectare project site. The buildable area to be developed is based on Mainstream's preliminary suitability assessment, and it may be further refined to exclude sensitive areas determined by EIA studies. The project area will be located on the following two (2) farm portions / properties:

- ❑ Remainder of the Farm Witpoortje No 16
- ❑ Portion 8 of The Farm Klipgat No 114

Project components

It is anticipated that the proposed Heuveltjies WEF will comprise of a maximum of sixty (60) wind turbines with a maximum total energy generation capacity of up to approximately 240MW. The electricity generated by the proposed WEF development will be fed into the national grid via a 132kV overhead power line (assessed separately as part of a Basic Assessment). The proposed Heuveltjies WEF will include the following components:

- ❑ Up to sixty (60) wind turbines of approximately 240MW, depending on the outcome of specialist studies conducted during the EIA process.
- ❑ Each wind turbine will be 120m to 200m tall and 200m in diameter.
- ❑ Permanent compacted areas/platforms of 90m x 50m per turbine throughout construction and on-going maintenance during the anticipated project's lifetime.
- ❑ Each wind turbine will have a 15m-by-15m-diameter base. Foundations will be 3m deep.
- ❑ Electrical transformers (690V/11-33kV) connected to each wind turbine to step up the voltage from 11kV to 33kV.
- ❑ Associated infrastructure of approximately 25ha which includes.
- ❑ One (1) new 11kV - 33/132kV on-site substation consisting of an IPP portion (11-33kV portion of this environmental authorisation application form) and an Eskom portion (132kV portion of the shared 11-33kV/132kV portion), including associated equipment and infrastructure, occupying approximately 25ha in total (250 000m²). After the IPP completes the Eskom switchyard, the Eskom portion will be delivered out to Eskom. DFFE will receive the Transfer of Rights as needed.
- ❑ A Battery Energy Storage System (BESS) located next to the IPP portion / yard of the 11-33/132kV substation.
- ❑ Construction laydown/staging space of up to 3ha on substation site. All employees will be housed in the local town, so no construction camps are needed.
- ❑ O&M structures, comprising offices, a guard house, operational control centre, O&M area/warehouse/workshop, and ablution facilities, will be located on the substation site.
- ❑ Medium-voltage (11-33kV) subterranean cabling and/or overhead power lines will connect the wind turbines to the proposed on-site substation.
- ❑ 8 m road servitude and 20m overhead powerline servitude.
- ❑ Each wind turbine will have a 5m-wide internal road. When possible, existing site roads will be utilised; new roads will be built if needed. The planned application site is accessible via a route off N12.
- ❑ A 140m-tall wind measurement lattice tower has been installed at the wind farm application site to collect wind data.
- ❑ Fencing might be upgraded (if required) from 1.5m in height to be up to approximately 2m in height.
- ❑ If the application site's boreholes are inadequate, water will be trucked in.

Alternatives

The following alternatives are considered which take into account environmentally sensitive areas and no-go zones for each of the projects:

- ❑ Substation site alternatives
The EAP and environmental specialists will compare two substation site alternatives. The size of each of the proposed on-site substation is 25 hectares.
- ❑ No go alternative
There is no separate assessment for this alternative only that all the impacts identified in section 7 will not materialise.

METHODOLOGY

Quantitative data analysis techniques were applied (using secondary data sources) to successfully undertake the identification of potential social impacts. Secondary data sources were used primarily to conduct the baseline socio-economic study of the area.

Potential project impacts were framed in terms of social change processes. Social baseline conditions and findings were applied to identify social change and its resulting potential impacts. No ratings are given for the potential consequences. Mitigations were described but not quantified.

ASSUMPTIONS LIMITATIONS AND KNOWLEDGE GAPS

The SIA assumes that information provided by SiVEST is accurate and that it is suitable for the purposes of this study.

In addition, there were some limitations to the SIA which include unavailability of immediate site-specific data and only reflects data presented at ward level, and therefore data may differ slightly from the immediate site-specific data.

DESCRIPTION OF THE RECEIVING ENVIRONMENT

The receiving environment is described in terms of:

- ❑ Population.
- ❑ Education.
- ❑ Economic sectors.
- ❑ Employment.
- ❑ Access to basic services.

In summary, the local and site-specific study area characterised by indicators applicable to the municipality show similar levels of development as the Central Karoo District Municipality but lower development indicators than for the provincial average which may be a result of the areas being rural and remote. There are limited business or industrial opportunities here and therefore lower income earning potential. This limits the amount of disposable income needed to grow the local economy which can result in lower levels of development.

SOCIAL CHANGE PROCESSES

These are addressed in terms of:

- ❑ Demographic processes.
 - In-migration.
- ❑ Economic processes.
 - Waged labour.
 - Increase in economic activities.
- ❑ Geographical and/or environmental processes
 - Change in land use patterns
- ❑ Socio-cultural processes.
 - Changes in the composition of the population.

POTENTIAL SOCIAL IMPACTS

Social and socio-economic impacts are identified, and possible mitigation and management measures are discussed. The following social and socio-economic impacts have been identified in Table 1 below and could potentially occur during the construction operational and decommissioning phases of the project:

Table 1 Summary of potential socio-economic impacts per project phase

Nature of social change	Type of impact	Impact name
Preconstruction/Construction phase		
Demographic change	Negative	Increased spread of disease
		Increased criminal activity
		Increased pressure on existing infrastructure and services
		Conflict/competition between newcomers and resident population
Geographic/environmental change		Increased fire hazard
		Reduced safety in and around the project area
		Impacts on site specific social sensitivities (noise, visual sense of place)
Economic change	Positive	Increased employment opportunities
		Increased opportunities for local SMEs
	Negative	Potential loss of revenue to tourism and ecotourism operations
		Unintended damages to private property
Operational phase		
Economic change	Positive	Increased socio-economic development associated with more available electricity
	Negative	Reduced property values
		Unintended damages to private property
Geographic /environmental change	Negative	Impacts on site specific social sensitivities (noise, visual sense of place)
Decommissioning phase		
Demographic change	Negative	Increased criminal activity
		Increased fire hazard
	Positive	Improved visual landscape
Economic change	Positive	Increased employment opportunities
		Increased opportunities for local SMEs

CONCLUSIONS AND RECOMMENDATIONS

It is accepted that an efficient and effective electricity supply is critical to sustain economic growth and development. Indeed, to a large extent, future investment in the country is determined by the availability and security of electricity supplies. The construction of the WEF is part of the national effort to increase the capacity of electricity generation.

Several social impacts were identified, assessed and possible mitigations measures discussed for the proposed project. At the conclusion of the assessment, it can be confirmed that there are no fatal flaws from a social and socio-economic perspective. In terms of potential social and socio-economic impacts the following recommendations are made:

Criminal activity. The possibility of crime escalating in the study area is a concern. Mainstream should liaise as much as possible with local SAPS and or and community policing forums regarding criminal behaviour. Mainstream must develop access protocols with farmers. Mainstream should also consider adequate security at their construction sites. Contractors should receive induction training on the codes of conduct to which they must adhere. Construction teams should wear uniforms or carry ID cards.

Impacts on surrounding landowners. Mainstream should implement mitigation measures to reduce potential impacts on surrounding landowners and residents' sense of place. This is to be addressed as per Cultural Landscape Assessment Report.

Employment. In the study area and LMs, unemployment is not as severe as in the DM and province, but it is still significant. Mainstream should mandate that contractors use as much local labour as possible, with a target of 100 percent for unskilled jobs if practically possible.

SMEs. As is the case with employment, the proposed project has the potential to generate opportunities for locally based SMEs. It is recommended that, in conjunction with the local and district municipalities, a database be developed with details of services provided by local companies. As far as feasibly possible, Eskom should be required to make use of local service providers able to provide the required goods and/or services.

Improvement to socio-economic conditions from improved electricity access. Ensuring electricity connections to households and businesses in need should be the primary objective of the project and an outcome that has the potential to yield the greatest socio-economic benefit. To maximise this benefit, it is recommended that Mainstream continuously engage with the relevant governmental departments to ensure this objective is met. To maximise this benefit, consider the National Planning Commissions (NPC)'s Strategic Infrastructure Plans (SIPS) 9 and 10 objectives.

DECLARATION OF INDEPENDENCE

I, **Lloyd McFarlane**, in my capacity as a specialist consultant, hereby declare that I:

- ☐ Act as an independent specialist consultant with Acer (Africa) Environmental Management Consultants for this project.
- ☐ Do not have any personal or financial interest in the project except for financial compensation for specialist investigations completed in a professional capacity as specified by the Amendment to Environmental Impact Assessment Regulations, 2017.
- ☐ Will not be affected by the outcome of the environmental process, of which this report forms part of.
- ☐ Do not have any influence over the decisions made by the governing authorities.
- ☐ Do not object to or endorse the proposed development, but aim to present facts and our best scientific and professional opinion with regard to the impacts of the development.
- ☐ Undertake to disclose to the relevant authorities any information that has or may have the potential to influence its decision or the objectivity of any report, plan, or document required in terms of the Amendment to Environmental Impact Assessment Regulations, 2017.

Report authored by **Mr. Lloyd McFarlane**



Social Specialist

Report reviewed by Mrs. **Naadira Nadasen**



Environmental Assessment Practitioner (EAP)

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ABBREVIATIONS AND ACRONYMS

ACER	ACER (Africa) Environmental Consultants
BA	Basic Assessment
BESS	Battery Energy Storage System
COVID-19	Coronavirus Disease 2019
DFFE	Department of Forestry, Fisheries and Environment
DM	District Municipality
DOL	Department of Labour
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
Eskom	Eskom Holdings SOC Limited
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HMV	Heavy Motor Vehicles
IDP	Integrated Development Plan
IPP	Independent Power Producer
LM	Local Municipality
MW	Megawatt
NDP	National Development Plan
NEMA	National Environmental Management Act
NPC	national planning Commission
O&M	Operation and Maintenance
PPE	Personal Protective Equipment
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SDF	Spatial Development Framework
SIA	Social Impact Assessment
SIPS	Strategic Infrastructure Projects
SME	Small and Medium Enterprises
SPLUMA	Spatial Planning and Land Use Management Act
StatsSA	Statistics South Africa
STD	Sexually Transmitted Disease
WEF	Wind Energy Facility

1 INTRODUCTION

ACER (Africa) Environmental Consultants (ACER) was appointed by SiVEST to undertake a desktop Social Impact Assessment (SIA) for the development of the proposed Heuveltjies Wind Energy Farm (WEF) situated within the Western Cape Province, South Africa. This facility is part of the national effort to increase the supply of electricity which is currently insufficient.

SiVEST is conducting a Environmental Impact Assessment (EIA) for a 240 MW wind farm near Beaufort West in the Western Cape Province and requires a desktop SIA to obtain an environmental authorisation from the competent authority, in this case the Department of Forestry, Fisheries and the Environment (DFFE). This document details the social baseline conditions, potential social impacts, and mitigations as part of a pre-requisite for the environmental authorisation.

1.1 Project Purpose

South Africa's economic growth is severely impeded by the need to meet current and future electricity demands. This growth is essential for job creation, which is necessary for addressing the complex issues of poverty, unemployment, and inequality. The purpose of the WEF is to contribute to the development of new electricity generation capacity in order to ensure the availability of sufficient energy.

1.2 Background

This study concerns the development of the Heuveltjies WEF located in the Prince Albert Local Municipality (LM) which is one of three LMs within the Central Karoo District Municipality (DM) of the Western Cape province. The geography of the area can be summarised as sparsely populated with a low rainfall climate; this makes the area well suited to renewable energy projects which can potentially cover large areas.

Heuveltjies WEF

Mainstream proposes to build a Wind Energy Facility (WEF), Battery Energy Storage System (BESS), and associated infrastructure near the town of Beaufort West in South Africa's Western Cape Province, in response to the need to find solutions to current electricity shortages and rising energy demand, as well as the need to find more sustainable and environmentally friendly energy resources. The proposed development, known as the Heuveltjies WEF, will have a maximum export capacity / contracted capacity of up to 240 megawatts (MW) ac. The proposed development's overall goal is to generate electricity using renewable energy technologies that capture wind energy and feed it into the national grid, which will be procured through the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), other government-run procurement programmes, or potential private offtake entities.

The on-site substation will be a step-up substation with an Independent Power Producer (IPP) portion (11-33kv portion/yard of the shared 11-33kv/132kv onsite substation) and an Eskom portion (132kv portion/yard of the shared 11-33kv/132kv onsite substation - this portion will be ceded to Eskom once the onsite substation is built and the necessary rights transferred. Hence, The IPP portion has been included in the EIA process and the Eskom portion is included in a separate BA process. This will facilitate an ease of transfer over to Eskom once the onsite substation is constructed.

Two (2) grid corridors have been identified for the 132kv overhead line and the 132kv portion/yard of the shared 11-33kv/132kv onsite substation; these applications will be prepared and evaluated through separate BA application processes.

1.3 Scope of work

This study determines potential social sensitivities and impacts likely to occur as a result of the proposed projects. The scope of work provided is detailed below and is determined by the DFFE, Series 22 of the Environmental Management Information Series, detailing protocol used in SIAs:

- ❑ Desktop description of the current social and socio-economic environments within the study area, outlining important characteristics and components thereof, which may be influenced by the proposed project, or which may influence the proposed project during construction and operation.
- ❑ Desktop identification of the potential issues and impacts (positive and negative, local and regional) of the proposed project on the social and socio-economic environments and vice versa during construction operation and decommissioning phases.
- ❑ Identify mitigation measures for enhancing benefits and avoiding or mitigating negative impacts and risks.

1.4 Structure of the report

The remainder of this report is structured as follows:

- ❑ **Section 2** provides the legal framework that has bearing on the project.
- ❑ **Section 3** provides details of the proposed Project.
- ❑ **Section 4** details the methodology implemented for this assessment and includes details on the study areas, data collection activities, completion of the baseline profile, and identification potential impacts.
- ❑ **Section 5** outlines some of the assumption's limitations and knowledge gaps during the assessment.
- ❑ **Section 6** provides a baseline description of the study area, and includes the socio-economic context of the regional, local and site-specific study areas.
- ❑ **Section 7** is dedicated to the identification and mitigation of potential social impacts that may arise as a result of the project.
- ❑ **Section 8** presents the main conclusions of the SIA and contains recommendations relevant to the implementation of the proposed project.

2 LEGAL ASPECTS

2.1 Applicable legislation

The following legislation and associated regulations are relevant to this social and socio-economic impact assessment:

- ❑ Constitution of the Republic of South Africa Act, 1996 (Act No. 108 of 1996) as amended.
- ❑ Municipal Systems Act, 32 of 2000.
- ❑ Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013).
- ❑ DFFE protocol on SIA compilation, series 22 of the Integrated Environmental Management Information Series (DFFE, 2006).
- ❑ National Environmental Management Act, 1998 (NEMA) (Act No. 107 of 1998) as amended.
- ❑ Environmental Impact Assessment Regulations (2014) 21 to 25 concerning basic assessments.
- ❑ Appendix 6 of the EIA Regulations of 2014 (as amended) (GNR 326)

2.2 Constitution of the Republic of South Africa Act, 1996 (Act No. 108 of 1996) as amended

The Constitution is the supreme law of South Africa, against which all other laws are measured. It sets out a number of fundamental environmental rights, important ones of which are described hereunder.

The Environmental Clause

Section 24 of the Constitution outlines the basic framework for all environmental policy and legislation. It states:

“Everyone has the right –

- a) to an environment that is not harmful to their health or well-being; and*
- b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –*
 - i) prevent pollution and ecological degradation;*
 - ii) promote conservation; and*
 - iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.*

Access to Information

Section 32 of the Constitution provides that everyone has the right of access to any information held by the State or another juristic person, and that is required for the exercise or protection of any rights.

Fair Administrative Action

Section 33 of the Constitution provides the right to lawful, reasonable and procedurally fair administrative action.

Enforcement of Rights and Administrative Review

Section 38 of the Constitution guarantees the right to approach a court of law and to seek legal relief in the case where any of the rights that are entrenched in the Bill of Rights are infringed or threatened.

2.3 Municipal Systems Act, 32 of 2000

The Municipal Systems Act provides for the principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities, and to ensure universal access to essential services that are affordable to all. In accordance with this Act, all municipalities are required to develop and implement a five-year Integrated Development Plan (IDP) and a Spatial Development Framework (SDF) for their areas of jurisdiction.

Section 35 of the Act confirms the statutory status of the Municipal IDP and SDF. The Act also states that apart from serving as principal strategic planning instruments to guide and inform municipal decisions on land use, the SDF and IDP binds a municipality in the exercise of its executive authority. However, where there is an inconsistency between a municipality's policy and national or provincial legislation, national legislation (e.g. NEMA) should prevail.

2.4 Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)

The Spatial Planning and Land Use Management Act (SPLUMA) aims to reform the existing legislative planning framework and formulate a coherent planning framework. The Act enables government to formulate policies, plans and strategies for land use and land development that addresses the spatial, economic and environmental challenges. The Act also assigns municipalities with the sole responsibility of dealing with land use application and the appeal relating thereto. Municipalities will have five years from the commencement of the Act to adopt and approve a single land use scheme for its municipal area.

2.5 National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended

The National Environmental Management Act (NEMA) as amended, promotes citizens' right to an environment that is not harmful to their health and well-being. This right is closely linked to the Constitution where Clause 32 of the Bill of Rights stipulates that current and future generations have a right to a healthy environment. NEMA defines the environment as the natural environment as well as the physical, chemical, aesthetic and cultural properties that influences a person's health and well-being.

NEMA provides the legislative framework for Integrated Environmental Management in South Africa. Section 24 provides that all activities that may significantly affect the environment and require authorisation by law, must be assessed prior to approval. Section 2 of NEMA provides a set of principles that apply to the actions of all organs of state that may significantly affect the environment. These principles include the following:

- ☐ The sustainability principle.
- ☐ The life-cycle, cradle-to-grave principle.
- ☐ The 'polluter pays' principle.
- ☐ The precautionary principle.
- ☐ The duty of care principle.
- ☐ Fair and transparent public consultation.

2.6 Environmental Impact Assessment Regulations

Appendix 6 of the EIA regulations outlined by the NEMA 2014 were used to guide the specialist throughout the impact assessment process.

3 DESCRIPTION OF THE PROJECT

This project considers the potential social impacts resulting from the construction of the Heuweltjies WEF. Details of this project are provided below.

3.1 Project location

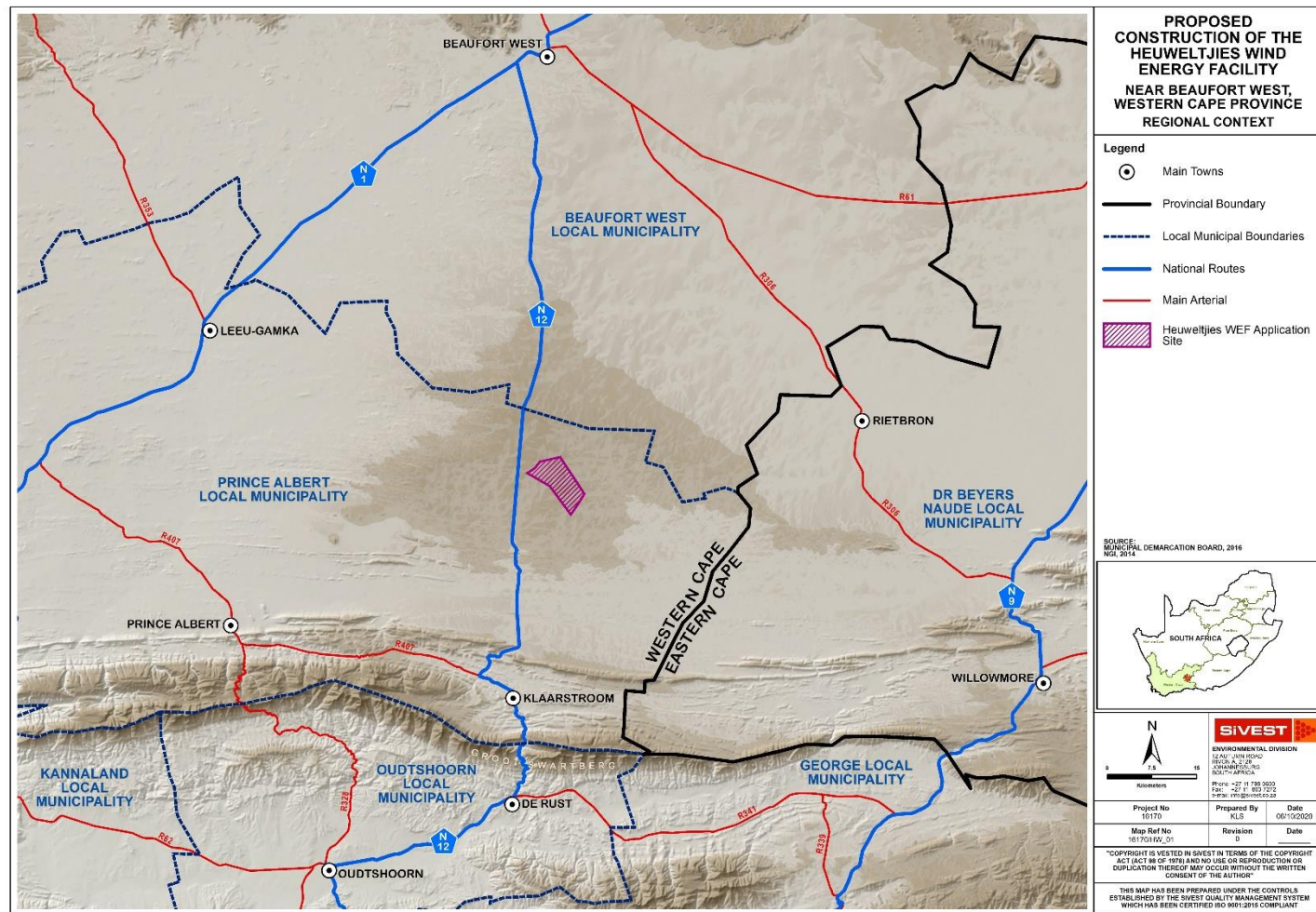
Heuweltjies WEF

As shown in Figure 1 on page 7 the proposed WEF and associated infrastructure is located approximately 70km south of Beaufort West in the Western Cape Province and is within the Prince Albert Local Municipality, Central Karoo District.

The application site for the proposed WEF development incorporates the following two (2) farm portions / properties:

- ☐ Remainder of the Farm Witpoortje No 16
- ☐ Portion 8 of The Farm Klipgat No 114

The project site is approximately 4017.6 hectares (ha) in extent. A smaller development area (approx. 1672 ha) has been identified within the project site where the WEF is planned to be located. This development area is based on a preliminary suitability assessment undertaken by Mainstream and this area is likely to be further refined to exclude sensitive areas determined through various specialist studies being conducted as part of the EIA process.



3.2 Project components

Heuveltjies WEF

It is anticipated that the proposed Heuveltjies WEF will comprise of maximum sixty (60) wind turbines with a maximum total energy generation capacity of up to approximately 240MWac. The typical layout of a WEF is shown in Figure 2 on page 11. The electricity generated by the proposed WEF development will be fed into the national grid via a 132kV overhead power line. The 132kV overhead powerlines and associated switchyard will form part of a separate environmental authorisation application, however. In summary, the proposed Heuveltjies WEF will include the following components:

- ❑ Up to sixty (60) wind turbines with a maximum export capacity of approximately 240MWac. The final number of turbines and layout of the WEF will, however, be dependent on the outcome of the Specialist Studies conducted during the EIA process.
- ❑ Each wind turbine will have a hub height of between 120m and 200m and rotor diameter of up to approximately 200m.
- ❑ Permanent compacted hardstanding areas / platforms (also known as crane pads) of approximately 90m x 50m (total footprint of approx. 4 500m²) per turbine during construction and for on-going maintenance purposes for the lifetime of the proposed development.
- ❑ Each wind turbine will consist of a foundation of up to approximately 15m x 15m in diameter. In addition, the foundations will be up to approximately 3m in depth.
- ❑ Electrical transformers (690V/11-33kV) adjacent to each wind turbine (typical footprint of up to approximately 2m x 2m) to step up the voltage between 11kV and 33kV.
- ❑ Associated infrastructure of approximately 25ha which includes.
- ❑ One (1) new 11kV – 11-33/132kV on-site substation consisting of independent Power Producer (IPP) portion (11-33kV portion to form part of this environmental authorisation application form) and an Eskom portion (132kV portion of the shared 11-33kV/132kV portion) including associated equipment and infrastructure, occupying a total area of approximately 25ha (i.e. 250 000m²). The Eskom portion, which will be applied for under a separate environmental authorisation application, will be ceded over to Eskom once the IPP has constructed the Eskom switchyard. The necessary Transfer of Rights will be lodged with DFFE when required at a later stage.
- ❑ A Battery Energy Storage System (BESS) will be located next to the IPP portion / yard of the shared onsite 11-33/132kV substation and will be included as part of the 25ha. The storage capacity and type of technology would be determined at a later stage during the development phase, but most likely will comprise an array of containers, outdoor cabinets and/or storage tanks.
- ❑ One (1) construction laydown / staging area of up to approximately 3ha to be located on the site identified for the substation. It should be noted that no construction camps will be required in order to house workers overnight as all workers will be accommodated in the nearby town.
- ❑ Operation and Maintenance (O&M) buildings, including offices, a guard house, operational control centre, O&M area / warehouse / workshop and ablution facilities to be located on the site identified for the substation. This will be included in the 11-33kV portion/yard of the on-site substation area 25 ha of the IPP portion of the onsite substation.
- ❑ The wind turbines will be connected to the proposed on-site substation via medium voltage (11-33kV) underground cabling and / or overhead power lines.
- ❑ Road servitude of 8m and a 20m underground cable or overhead line servitude.
- ❑ Internal roads with a width of up to approximately 5m wide will provide access to each wind turbine. Existing site roads will be used wherever possible, although new site roads

will be constructed where necessary. Turns will have a radius of up to 50m for abnormal loads (especially turbine blades) to access the various wind turbine positions. It should be noted that the proposed application site will be accessed via a road off the N12 National Route.

- ❑ A wind measuring lattice (approximately 140m in height) mast has already been strategically placed within the wind farm application site in order to collect data on wind conditions.
- ❑ No new fencing is envisaged at this stage. Current fencing is standard farm fence approximately 1-1.5m in height. Fencing might be upgraded (if required) to be up to approximately 2m in height.
- ❑ Water will either be sourced from existing boreholes located within the application site or it will be trucked in, should the boreholes located within the application site be limited.

An example of a WEF is depicted below (Figure 2).



Figure 2 Typical WEF

3.3 Project alternatives

Various alternatives for the on-site substation locations and also for both the construction and laydown areas have been identified and will be assessed as part of this application. When selecting layout alternatives, environmentally sensitive areas and no-go zones will be taken into account. In addition, all alternatives will be comparatively assessed by the respective specialists and assessed against the 'no-go' alternative (i.e. status quo).

Similarly, the wind turbines may need alternative locations to avoid any sensitive areas. Once input has been received from the various environmental specialists, the final proposed layout will be taken forward in the impact phase of the EIA Process. The above-mentioned proposed site alternatives for both sites are shown in Figure 3.

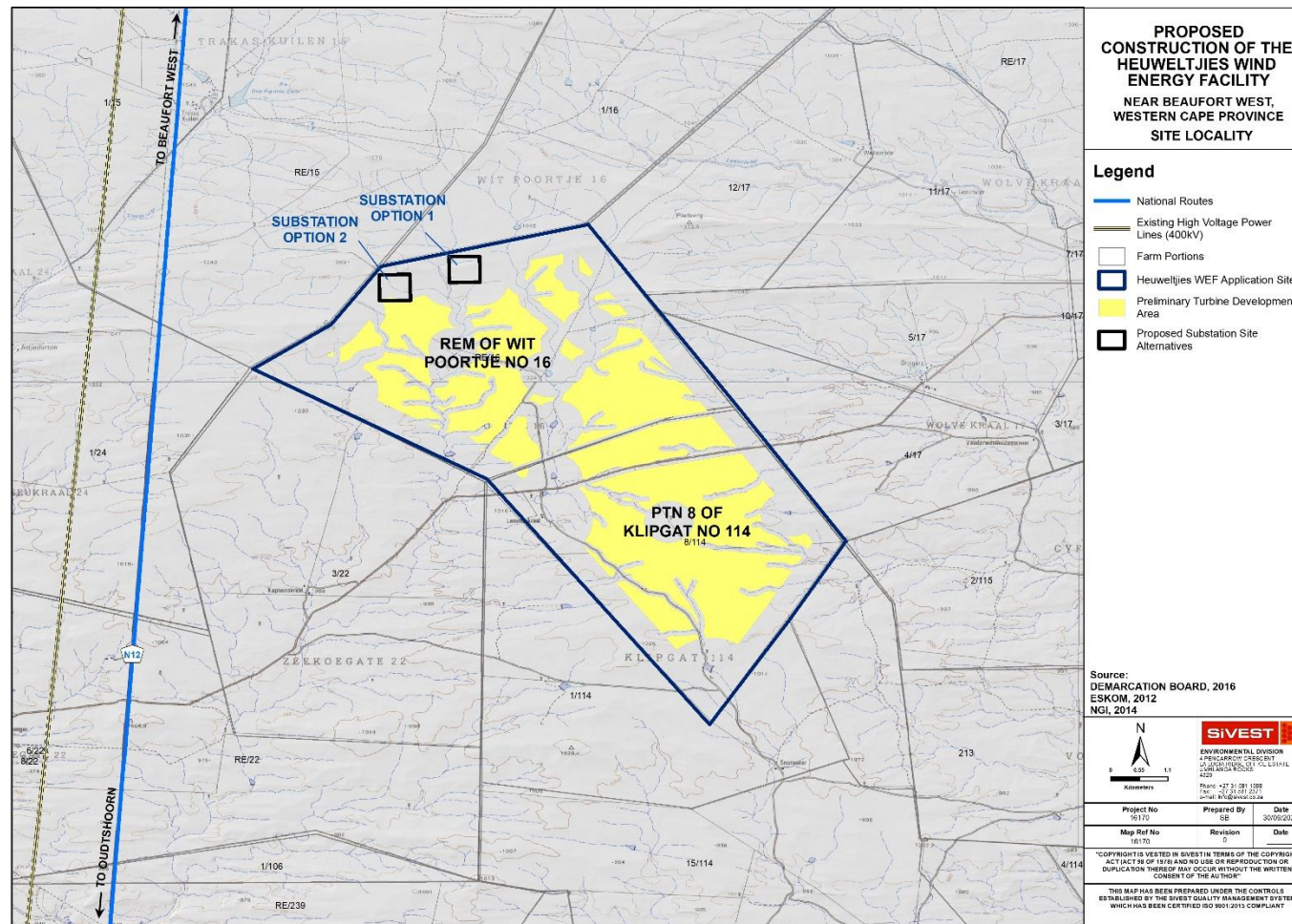


Figure 3 **Location of proposed Heuweltjies WEF**

4 METHODOLOGY

Identifying and assessing social impacts requires a combination of qualitative and quantitative data. This takes into account the effects from both a subjective and objective standpoint. Because a site visit was not included in the scope of work for this study, only quantitative data analysis techniques (using secondary data sources) were used to assess the potential social impacts of the projects. Secondary sources of quantitative data used in compiling the study area's baseline socioeconomic conditions included:

- ❑ The Central Karoo, Prince Albert, and Beaufort West's Municipal Integrated Development Plans (IDPs).
- ❑ Statistics South Africa 2011 National Census Data.
- ❑ Data from the 2016 Community Survey - Statistics South Africa

The project's potential impacts were framed in relation to the potential social change processes that may result from project activities. The social baseline conditions and findings were applied to an indicative list of processes described by Van Schooten et al. to identify impacts (2003). Furthermore, previous project experiences of a similar nature and within a similar socioeconomic environment aided in identifying potential social change processes and associated social impacts. The potential consequences are described, but no ratings are assigned. Similarly, mitigations to these potential impacts were described but not evaluated quantitatively.

5 ASSUMPTIONS, LIMITATIONS AND GAPS IN KNOWLEDGE

5.1 Assumptions

- ☐ All information provided by SiVEST is accurate.
- ☐ The information provided herein will be adequate for effective decision-making in the EIA process.

5.2 Limitations

- ☐ Statistical data can be obtained only at a ward level, it does not necessarily represent the socio-economic conditions occurring within the project footprint.
- ☐ As site visit was not conducted therefore there are no qualitative reference points framing the potential impacts identified.

5.3 Gaps in knowledge

- ☐ The engineering designs are yet to be finalised and, as such, some alterations are foreseen.
- ☐ The exact number of jobs and the breakdown of skilled, semi-skilled and unskilled opportunities to be created by the proposed project is unavailable.

6 DESCRIPTION OF THE SOCIAL AND SOCIO-ECONOMIC ENVIRONMENT

This section provides insight into the social and socio-economic conditions currently prevailing in the area where the WEF will be constructed. Through this, the proposed projects are placed in context, enabling the identification of social sensitivities and potential impacts (positive and negative) that the project may have on the socio-economic environment as well as the impacts which the socio-economic environment may have on the project. The Heuweltjies WEF will be situated in the Ward 2 of the Prince Albert LM as shown in Figure 4.

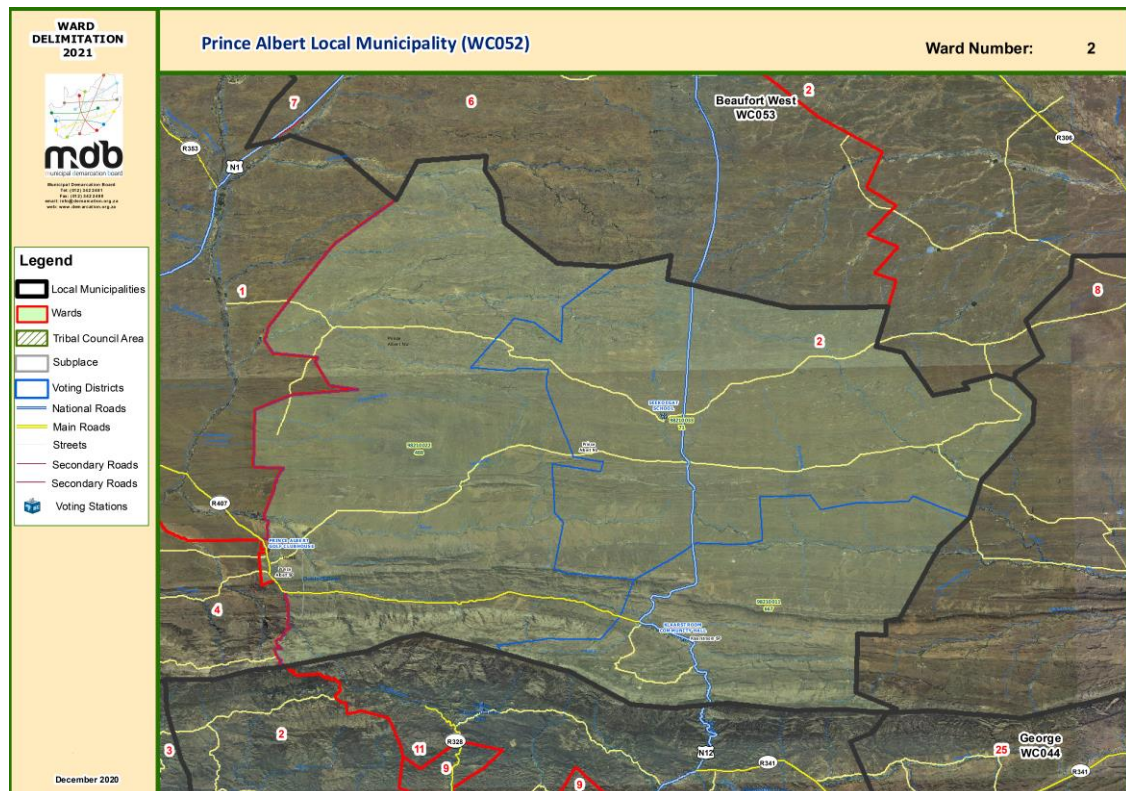


Figure 4 Ward delineation for the Prince Albert LM

(Municipal Demarcation Board, 2020)

The land under consideration in this study is located in the Prince Albert LM, which is part of the Central Karoo District Municipality (DM). The section that follows examines the socioeconomic conditions that exist within this LM on a local scale as well as the Central Karoo DM on a regional scale. The Beaufort West LM is also referenced to provide further context to the study. Certain ward-level data is also included, highlighting social conditions near proposed WEF sites.

Use of land on some privately owned farms are primarily used for livestock such as sheep; however, there are instances of small-scale agriculture on these farms, despite the fact that low rainfall and poor soil fertility are significant constraints to further agricultural activities. The area provides outdoor recreational activities such as hiking and camping, and a number of farms serve as lodging to support these tourism activities.

6.1 Demographics

6.1.1 Population

The Central Karoo DM comprises three LMs. The Prince Albert and Beaufort West LMs are two of these. A demographic summary of the municipal areas is provided below (Table 2). They cover an area of approximately 8,157 km² and 21,931 km² respectively. The populations of these LMs are 14,271 in the Prince Albert LM and 51,080 in the Beaufort West LM. This equates to population densities of 1.7 in the Prince Albert LM, and 2.3 people per km² in the Beaufort West LM. The projected population growth rate for the DM is 1.36% per annum between 2019 and 2024. (Statistics South Africa, 2011).

Table 2 Demographic Summary

Demographic Summary	Municipal demarcation					
	Ward 2	Ward 6	Prince Albert LM	Beaufort West LM	Central Karoo DM	Western Cape
Population	2,714	6,349	14,271	51,080	74,247	6,279,731
No. of Households	893	1,588	4,182	14,935	21,980	1,933,878
Average Household size (people/House hold)	3.04	4.00	3.41	3.42	3.38	3.25
Surface area Km ²	4,188	2,293	8,157	21,931	39,073	131,522
population density (people/ KM2)	0.6	2.8	1.7	2.3	1.9	47.7

(Statistics South Africa, 2011)

Young people (less than 40 years of age) make up a high proportion of the populations in the study areas. Approximately 70% of the population is less than 40 years of age (refer to Table 3). Although in Ward 2 of the Prince Albert LM only 60% are younger than 40. In Ward 6 of the Beaufort West LM this is higher, at 70% (StatsSA, 2011). This indicates a population that has high birth rates and a shorter life expectancy. The data show a demographic composition synonymous with a 'developing population'.

Table 3 Population by age

Age	Municipal demarcation					
	Ward 2 (%)	Ward 6 (%)	Prince Albert LM (%)	Beaufort West LM (%)	Central Karoo (%)	Western Cape (%)
0-9	16	24	16	18	17	18
10-19	16	22	19	20	20	16
20-29	16	14	22	18	19	18
30-39	12	11	12	15	14	16
40-49	15	14	14	12	12	13
50-59	11	8	8	8	8	9
60-69	8	4	5	6	6	6
70-79	4	2	4	3	3	3
80+	2	1	1	1	1	1

(Statistics South Africa, 2011)

6.2 Economic profile

6.2.1 Employment

The unemployment rate in LMs is at 10% in Prince Albert and 12% in Beaufort West. For the Central Karoo DM this is 12% (Beaufort West Municipality, 2021) (Prince Albert Municipality, 2021) (Statistics South Africa, 2011). When compared to the national picture, an unemployment rate of 12% appears good. Yet, many people of working age aren't economically active or discouraged work seekers.

The state of unemployment in these areas are not clear from the statistics. It is more useful to understand what the actual employment rate is. In the Beaufort West LM the employment rate is only at 35%. For the Prince Albert LM this is 42%. These are lower than the Western Cape's employment rate which is at 50%. The data show that a high number of the potential workforce is not economically active. Many of these people are thus, dependent on a small base of employed people (Beaufort West Municipality, 2021) (Prince Albert Municipality, 2021). The unemployment levels within the study areas are lower than the municipal and provincial average at 16% (StatsSA, 2011). The data also shows less people that are not economically active or discouraged work seekers (StatsSA, 2011). As summary of employment data is given below (Table 4).

These data does not take into account that youth unemployment has recently increased. This is a result of the measures taken to mitigate against the spread of COVID-19 during the years of 2020 and 2021. The subsequent economic downturns have resulted in widespread job losses. This has occurred at both local and international scales. A lower employment rate and higher dependency ratio is, therefore, a probable scenario.

Table 4 Employment

Employment	Municipal demarcation					
	Ward 2 (%)	Ward 6 (%)	Prince Albert LM (%)	Beaufort West LM (%)	Central Karoo (%)	Western Cape (%)
Not economically active	34	28	42	44	42	33
Employed	53	49	42	35	39	50
Unemployed	5	11	10	12	12	14
Discouraged	8	12	6	8	7	3

(Statistics South Africa, 2011)

The agriculture, forestry and fishing sector contributed the most jobs in the Prince Albert LM in 2016 (1 399 or 37.0 per cent). Followed by the community, social and personal services (623 or 16.5 per cent). Third most was the catering and accommodation sector (603 or 16 per cent), followed by general government (567 or 15.0 per cent). The fifth largest contribution was from the construction sector (239 or 6.3 per cent). Combined, these top five sectors contributed 3 431 or 90.8 per cent of the 3 778 jobs in 2016. Many of these jobs tend to be low skilled with only 16.35 of jobs in the LM described as skilled (Statistics South Africa, 2016).

Employment in Beaufort West was in 2017 mostly concentrated within the retail trade and accommodation (24.4%; 2 990). second and third was agriculture, forestry and fishing (19.7%;

2 405) and the general government (18.3%; 2 240) sectors. These three sectors contribute 62.4 per cent to total employment in the municipal area (Statistics South Africa, 2011).

6.2.2 Household income

Most households within the Prince Albert LM (75%) as well as the Beaufort West LM (68%) LMs earn between R1 and R 75,000 per annum. These households are living under conditions of poverty. Data for the study area in Ward 6 show a lower percentage of middle income and upper income households than the LM. The data for Ward 2 show higher percentages of middle income and upper income households than for the LM. The data show that out of the two study areas, Ward 2 is in a better financial state than Ward 6. Although, for both areas, there are more households who earn less than R 75,000 (77%) than the Western Cape. Which may indicate that most of the employment is low paying and farm based. Both the Prince Albert and Beaufort West's IDPs state that many of the jobs are in agriculture (Statistics South Africa, 2011). A summary of the households' income is included below (Table 5).

Table 5 Household income within the DM, LM and study area

Level of Income	Municipal demarcation					
	Ward 2 (%)	Ward 6 (%)	Prince Albert LM (%)	Beaufort West LM (%)	Central Karoo (%)	Western Cape (%)
No Income	9	11	11	12	9	8
Low Income (R 1-R75 K)	69	84	75	67	70	61
Middle Income (75 K - R 300 K)	17	4	13	19	17	25
Upper Income (R 300 K +)	5	1	1	2	4	6

(Statistics South Africa, 2011)

6.3 Education

In the Prince Albert and Beaufort West LMs, 5% of the population over the age of 20 received no formal education. In the Beaufort West LM, 32% had completed grade 12 while in the Prince Albert LM this was 24%. Both LMs had very few people who completed a tertiary level of education. The Central Karoo DM shows similar levels of education. When compared to the Western Cape province, the levels of education at the study areas are lower. For example, 10% of the province's population has studied beyond high school (Statistics South Africa, 2016).

At a site-specific level, Ward 2 of the Prince Albert LM has better levels of education than for the DM and province. Here, 13% of people have a tertiary qualification. There is a large difference in education levels for each of the study sites. Ward 6 has levels of education that are a great deal lower than in Ward 2 (Statistics South Africa, 2011).

Table 6 Highest level of education

Education	Ward 2 (%)	Ward 6 (%)	Prince Albert LM (%)	Beaufort West LM (%)	Central Karoo (%)	Western Cape (%)
None	7	16	5	5	6	2
Some primary	16	21	20	12	14	8
Primary	8	10	8	6	7	5
Some secondary	23	35	38	39	39	36
Grade 12	25	17	24	32	30	35
Undergrad	9	1	0	2	1	5
Post-grad	4	0	1	1	1	5
N/A	7	1	2	2	2	3

(Statistics South Africa, 2011)

6.4 Access to services (water, sanitation and electricity)

Water and sanitation

The results of the 2016 community survey show good access to piped water. This includes water that is available within 200m of the household's yard. There was a slight decrease between 2011 and 2016 from 99% to 98% of households with access to piped water. This is still higher than the Central Karoo DM (95%) and Western Cape (92%) (City of Polokwane, 2021). The ward level data indicate that 46% of households obtain their water from a regional or local service provider. Many households in Ward 2 obtain water from a borehole which is common for rural areas. For Ward 6, 86% of households have access to reticulated water and this increases to 96% for the Beaufort West LM.

Regarding sanitation, 96% of households in the Prince Albert LM have access to flush or chemical toilets and for the Beaufort West LM this is 98%. In the DM this figure is 98% and 96% at provincial level (City of Polokwane, 2021)). In Ward 2, 71% of the population has access to flush or chemical toilets (Statistics South Africa, 2011).

Electricity

The results of the 2016 community survey show that 94% of households in the DM have access to electricity. Approximately 96% of households in the LMs have access to electricity. This is an increase of 10% between 2011 and 2016 (Statistics South Africa, 2016).

Refuse removal

A total of 96% of households had access to refuse removal services in the LMs. which was lower than in the DM (98%) (Statistics South Africa, 2016). In Ward 2, only 44% of households have formal refuse removal and in Ward 6, this is 88% (Statistics South Africa, 2011).

6.5 Summary

The area is distinguished by extremely low population densities and with a high proportion of the population made up of people younger than 35 years. From an economic perspective there are limited employment opportunities with most being farm based and low paid. The low population densities do not necessitate extensive infrastructure to meet the needs of the people. Nonetheless, access to services such as refuse collection, formal housing, and electricity is noticeably lower in the study areas than in the larger LM and DM, with most urban areas having

access to these. Further away from the towns, there are less services available. This is typical for a rural area where many Homesteads on farms or small holdings will supply their own.

7 SOCIAL CHANGE PROCESSES

A SIA is a process of research, planning and the management of social change or consequences (positive and negative, intended and unintended) arising from policies, plans, developments and projects. The core focus of an SIA is on the important impacts of projects and developments beyond the impacts on natural resources. Examples of social impacts include (Vanclay, 2003):

- ❑ People's way of life – that is, how they live, work, play and interact with one another on a day-to-day basis.
- ❑ Their culture – that is, their shared beliefs, customs, values and language or dialect.
- ❑ Their community – its cohesion, stability, character, services and facilities.
- ❑ Their political systems – the extent to which people are able to participate in decisions that affect their lives, the level of democratization that is taking place, and the resources provided for this purpose.
- ❑ Their health and well-being – health is a state of complete physical, mental, social and spiritual well-being and not merely the absence of disease or infirmity.

From the listed examples above, it is clear that the SIA must look not only at social issues but also at the environmental impacts and their interactions. For example, if the planned project impacts the availability of water and land for local food production it also leads to social impacts, such as increases in food prices, the need to travel longer distances to buy and/or grow food.

“Social change processes are set in motion by project activities or policies. Depending on the characteristics of the local social setting and mitigation processes that are put in place, social change processes can lead to social impacts” (Vanclay, 2003).

This section of the report aims to provide insight into social processes that are likely to change because of the proposed WEFs. The social processes likely to change as a result of the proposed projects are based on an indicative list of social processes (Van Schooten et al., 2003); There are several change processes that can be expected to occur because of the projects. The way each project is rolled out will influence the significance of the social change process. Importantly, social processes are not impacts, rather, impacts arise from changes to social processes (these are described in Section 8).

Social change processes will occur during four stages of the project:

- ❑ Planning and pre-construction.
- ❑ Construction.
- ❑ Operations.
- ❑ Decommissioning.

The following social processes may change as a result of the proposed project:

- ❑ Demographic processes – these relate to the movement and composition of people in the region affected by the proposed project. Any changes to the existing processes brought about by the movement of people, for example, construction workers or job seekers moving into the study area may result in social impacts.
- ❑ Economic processes – these are processes that affect the economic activity in a given area. Employment rates may rise slightly from primary project activities and any secondary economic activities that may arise because of the project.

- ❑ Geographical and/or environmental processes – these are processes that relate to the environment where people reside, etc. (Van Schooten et al., 2003). The WEF may cause slight changes in the environment which can potentially result in social impacts.
- ❑ Socio-cultural processes – these are processes that affect the culture of a society, including aspects of the way people live together (Van Schooten et al., 2003). Changes in the composition of the population as a result of construction workers and/or contractors may result in changes in the way that local communities function. These changes can result in an increase in social pathologies such as, crime, alcoholism, sexual promiscuity, etc. Similarly, potential increases in nuisances, such as dust or noise, can have social impacts.

The project stages for the WEFs in which social processes may change, are provided in Table 7.

Table 7 Project stages in which social processes may change due to the proposed WEFs

Process	Pre-Construction and Construction	Operation	Decommissioning
Demographic Processes	✓	X	✓
Economic Processes	✓	✓	✓
Geographic/environmental Processes	✓	✓	✓
Socio-cultural Processes	✓	x	✓

Some of the social changes that can be expected as a result of the project include:

- ❑ Slight increase in local population due to need to fill positions if the skills required are not available locally.
- ❑ Slight rise in employment rate from direct and indirect economic impacts from the project
- ❑ Slight change in land use from the construction and laydown areas.
- ❑ Slight change to the natural environment which may lead to social impacts dependant on how individuals perceive the changes to their surrounding environment.

8 POTENTIAL SOCIAL IMPACTS

The potential socio-economic impacts likely to occur from the project are listed below (Table 8)

Table 8 Summary of potential impacts and mitigation measures

Impact name	Type of Impact	Impact Description	Mitigation
Preconstruction/Construction phase			
Demographic change impacts			
Increased spread of disease	Negative	The spread of disease can be increased by additional individuals, e.g. contractors' staff, in the study area. As a result of a lack of previous exposure, newcomers to the area may carry respiratory disease strains to which the local population is unable to respond. There is also the possibility of increased spread of sexually transmitted diseases such as HIV/AIDS and others	People with flu or COVID 19 should stay home. Before the project begins, all construction workers should take an HIV/AIDS awareness course. Information on general hygiene, HIV/AIDS, and STDs should be readily available.
Increased criminal activity	Negative	During construction, there will be contractors and job seekers in the area. Contractors and employees will have to cross private property to get to the site, which could attract criminals. Contractors are not the security risk but it is unemployed job seekers who will have easier access to the site. This is, however, a low probability because there are very few land owners in the area.	All Mainstream employees and subcontractors should be easily identifiable. Mainstream and/or its contractors must work with farmers to establish access protocols for private land. Before entering affected land, landowners should be consulted. Construction sites should have security. Access to farms where construction is taking place should be controlled.
Increased pressure on existing infrastructure and services	Negative	For either of the two projects, no construction camps will be used. The contractors will be housed in a variety of town guesthouses. As previously stated in section 6, the populations in the study areas are small. Contractors who stay in town may put additional strain on existing infrastructure and services. The impact on water resources may be the most important, as drought is a major issue in the area. More frequent use may also have an impact on access roads, sanitation, and waste removal.	Educate construction workers on the importance of conserving water resources. Ensure regular communication with the local municipalities to ensure pressure is not being exerted on local infrastructure.
Tension/competition between newcomers and local residents/communities	Negative	Some of the contractor's (mostly semi- and highly skilled) employees may be from outside the DM. Locals' perception that outsiders take jobs from unemployed locals causes tension. High unemployment in the study area increases this impact's likelihood (see Section 6.4.1).	When possible, the recruitment process should favour local job seekers. Clearly communicate the intention to hire locals first to discourage job-seekers from other areas. Involve local community structures (e.g. ward councillors and/or ward committees) to help communicate and identify local labour resources.
Impacts arising from geographical or environmental changes			

Increased fire hazard	Negative	An increase in human presence during construction may increase the risk of veld fires. These dangers could be caused by open fires used for cooking and warmth, cigarettes, the burning of fire breaks, and the use of flammable liquids. Uncontrolled fires in project areas could cause neighbouring landowners to lose infrastructure, grazing land, crops, or livestock.	No open fires allowed. Construction sites and vehicles should have firefighting equipment.
Reduced safety in and around the project areas	Negative	Non-project workers, such as farm labourers, could wander onto the construction site and stockpiles without PPE and knowledge of the dangers. Due to increased traffic volumes and the presence of heavy motor vehicles (HNVs), the transportation of construction materials and machinery on roads used by private motorists poses a safety risk. however, this is unlikely due to the sparse population.	The contractor should brief farmers' workers on project safety risks. If possible, fence off stockpiles. Enforce strict speed limits. All on-site and material-transporting vehicles should be roadworthy. High-danger areas should have road and warning signs.
Site specific social sensitivities	Negative	Property owners and land users on neighbouring properties may experience direct or indirect impacts differently. Construction causes noise and visual changes, for example. These activities could affect "Sense of place," the identity and character of a landscape felt by locals and visitors (e.g. farmer, tourists, and community members). This attribute is derived from the natural environment, a mix of natural and cultural landscape features, and the people who live there.	Establish communication protocols to manage Mainstream, landowners, and contractors during construction. Appropriate mitigation measures are implemented to mitigate biophysical, visual, and cultural heritage impacts, per the EIA for the proposed project. Ensure a clean site during construction and operation to reduce the project's impact on the area's character.
Impacts arising from economic change			

Increased employment opportunities	Positive	During construction, the project will create direct and indirect jobs. When this report was written, it wasn't known how many jobs the proposed development would create. Although limited, new employment opportunities may be significant in study areas with small populations. These are temporary, unskilled jobs (which will be available for members of local communities). The proposed project may also create indirect informal sector jobs, such as food stalls for construction workers. Due to high unemployment, any formal employment, even for a short time, will likely be beneficial.	<p>Mainstream and its contractors should be required to hire locals during construction. When possible, promote labour-intensive construction.</p> <p>Mainstream should consult the local DOL and neighbouring businesses to see if they will share their skills registers/databases with the Project, especially if any employees have been laid off.</p> <p>Recruitment during the construction phase should be coordinated through the local DoL or institutions recommended by local authorities (if applicable). Recruitment procedures must be fair and transparent and follow Mainstream's labour and procurement policies.</p> <p>A monitoring system should ensure contractors follow local employment policy.</p> <p>Local contract/temporary workers should be given reference letters after construction is complete. On-the-job training should be certified.</p>
Increased opportunities for local SMEs	Positive	Local SMEs providing transport, security, accommodation, catering, etc. may have more opportunities. Such opportunities will lead to secondary multiplier effects like more employment and disposable income.	If subcontractors are appointed, the project should give preference to subcontractors/SMEs in the surrounding communities (Ward 1 & 6), then in the DM, and then outside the province. Construction contractors should monitor their procurement practises and prefer local suppliers. When non-local service providers are awarded contracts, contractors must show they tried to find a local provider.
Potential loss of revenue to tourism and ecotourism operations	Negative	The construction of the project will most likely degrade the scenery that has made the area popular among hikers, birders, and other outdoor enthusiasts. Tourism revenue generated by these visitors in the form of lodging and food may be reduced as a result of changes to the local flora and fauna and/or the visual landscape.	Visual and aesthetic impacts are subjective and considered most significant when the development is different from others or its surroundings. Large electrical infrastructure elements are visually intrusive. However, mitigating measures should be used. A separate flora & fauna and visual Assessment studies will determine mitigation that should be considered.

Unintended damages to private property	Negative	Due to vibrations and ground instability, construction equipment like heavy-duty vehicles can damage nearby properties. Abnormally heavy vehicles can damage farm roads, fences, and gates. Littering during construction could damage farmland and harm domestic and game animals.	<p>Close communication with farm managers.</p> <p>Establish protocols and/or communication channels to access farms and reduce damage.</p> <p>Photograph all affected private property areas.</p> <p>Repair any unintended damage to private property, including fences, immediately.</p> <p>When working between construction areas, leave farm gates as found. Once construction stops each day, the landowner should confirm this where practically possible.</p> <p>If security is compromised by unintended damage to control measures, appropriate security should be provided until repairs are made.</p> <p>If project activities cause damages to private property, the landowner should be notified and compensated where applicable.</p>
Potential impacts during operation			
Impacts arising from economic change			
Increased socio-economic development associated with more available electricity	Positive	the WEF when completed provides part of the solutions for the current electricity shortages and the increasing demand for energy, as well as the need to find more sustainable and environmentally friendly energy resources. The additional clean energy can contribute to sustainable socio-economic development in South Africa.	<p>Engage government planning departments to prioritise households with electricity backlogs.</p> <p>Continuous communication with municipal and district spatial planning departments.</p>
Reduced property values	Negative	The proposed WEF may lower farm property values directly and indirectly. This may be due to the WEF's appearance and infrastructure within the natural environment. It also hinders the owner's ability to market the land for hiking, bird watching, and other activities.	<p>In the event of property prices being significantly reduced as a result of project activities, affected landowners should be consulted with regard to the value of reasonable compensation.</p> <p>Mainstream must ensure that the value of compensation is agreed by all parties.</p>
Unintended damages to private property	Negative	Littering may occur during maintenance, which could damage farmland or harm domestic and game animals. Farm gates may be left open, allowing animals to escape. Stray animals are valuable assets, and rounding them up is inconvenient and may stress the animals.	<p>Mitigation to be applied as described in the construction phase.</p>
Impacts arising from geographic/environmental change			

Site specific social sensitivities	Negative	Similarly, to the impact described earlier, property owners and land users on surrounding properties may experience direct or indirect impacts differently on their specific properties during the operational phase as well, Therefore, the following impacts on surrounding landowners need to be taken into account	Mitigation to be applied as described in the construction phase.
Potential social impacts during decommissioning			
Impacts arising from demographic change			
Increased criminal activity	Negative	Similarly to the construction phase, numerous people will be moving through the project area during decommissioning activities. Contractors and related staff will need to cross private property to get to the site, which could provide an opportunity for criminals.	Mitigation to be applied as described in the construction phase.
Increased fire hazard	Negative	An increased human presence during decommissioning potentially adds to the risk of accidental veld fires resulting from decommissioning activities which could result from exposed fires for cooking and warmth, cigarettes, burning of fire breaks, and the use of flammable liquids.	Mitigation to be applied as described in the construction phase.
Improved visual landscape	Positive	Earlier, reference was made to the WEF negatively impacting the sense of place of that area because of its impact to the visual landscape. After decommissioning, it is expected that this visual impact will be substantially less or completely reversed if the landscape is returned to its original condition.	Mitigation to be applied as described in the construction phase.
Increased employment opportunities	Positive	It is anticipated that this impact will manifest similarly as is described for the construction phase.	Impact enhancement to be applied as described in the construction phase.
Increased opportunities for local SMEs	Positive	It is anticipated that this impact will manifest similarly as is described for the construction phase.	Impact enhancement to be applied as described in the construction phase.

9 CONCLUDING REMARKS

It is widely acknowledged that a reliable and efficient electricity supply is critical to sustaining economic growth and development. Indeed, future investment in the country is heavily influenced by the availability and security of electricity supplies. Steps to meet rising consumer demand and strengthen generation capacity are critical.

Several social impacts are identified and potential mitigation measures for the project are discussed. The assessment concludes with the confirmation that there are unlikely to be fatal flaws from a social and socioeconomic standpoint. The following recommendations are made in terms of social and socioeconomic impacts:

Criminal behaviour. There is a possibility of crime increasing in the study areas. Mainstream must work with farmers to develop protocols for gaining access to private land. Mainstream should liaise as much as possible with local SAPS and or and community policing forums regarding criminal behaviour. Mainstream should consider employing security at the construction sites. The consequences of potentially careless contractor behaviour must be acknowledged, and contractors should receive induction training in terms of the relevant codes of conduct to which they must adhere. Construction teams should be clearly identified by wearing uniforms or displaying identification cards in a visible location on their body.

Effects on neighbouring landowners. Mainstream should implement the recommended mitigation measures to address potential impacts on surrounding landowners while also reducing impacts that negatively affect residents' perceived sense of place. This is to be addressed as per Cultural Landscape Assessment Report.

Employment. Although unemployment in the study area and Prince Albert LM is not as severe as in the DM and province, there are still many unemployed people. As a result, Mainstream should require contractors to source as much local labour as possible (with a 100% target for local employment to fill unskilled positions if practically possible).

SMEs. The proposed project, like employment, has the potential to create opportunities for locally based SMEs. It is recommended that a database with details of services provided by local businesses be developed in collaboration with the local and district municipalities. Mainstream should be required, to the greatest extent possible, to use local service providers capable of providing the required goods and/or services.

Improved access to electricity improves socioeconomic conditions. The primary goal of the project, and the outcome that has the greatest potential for socioeconomic benefit, should be to provide electricity connections to needy households and businesses. To maximise this benefit, it is recommended that the national planning commission's SIPS 9 and 10 objectives be considered.

10 REFERENCES

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