Soyuz 2 Wind Energy Facility, Northern Cape Province

Social Impact Assessment Report

CES

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

PROPOSED SOYUZ 2 WIND ENERGY FACILITY
Britstown, Northern Cape Province

SOCIAL IMPACT ASSESSMENT REPORT

Prepared for:

SOYUZ 2 (Pty) Ltd.

Prepared by:

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CAPE TOWN
3 Caledonian Road, Elta House,
Mowbray, 7700
021 045 0900
Also in Makhanda (Grahamstown), Gqeberha, East London, Johannesburg and Maputo (Mozambique)
www.cesnet.co.za

February 2023

REVISIONS TRACKING TABLE

CES Report Revision and Tracking Schedule

Document Title:	Proposed Soyuz 2 Wind Energy Facility, Britstown, Northern Cape Province: Social Impact Assessment Report		
Client Name & Address:	Atlantic Energy Partners 101 Block A, West Quay Building, 7 West Quay Road, Waterfront, Cape Town, 8000		
Status:	Final Report		
Issue Date:	24 February 2023		
Lead Authors:	Hilda Bezuidenhout Peter Bally		
Reviewer:	T Avis		
Study Leader / Registered Environmental Assessment Practitioner – Approval:	R Thomson		
Report Version	***Circulated to***	***No. of hard copies***	***No. electronic copies***
	Date		

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES
Info@cesnet.co.za
www.cesnet.co.za

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

BA	Basic Assessment
COP	Conference of Parties
CSI	Corporate Social Investment
DFFE	Department of Forestry, Fisheries and the Environment (National)
DM	District Municipality
DoE	Department of Energy
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESIA	Environmental and Social Impact Assessment
GDP (PPP)	Gross domestic product based on purchasing power parity
GHGs	Greenhouse gases
GN	Guidance Note
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IEP	Integrated Energy Plan
IFC	International Finance Corporation
IPP	Independent Power Producer
IRP	Integrated Resource Plan
LED	Local Economic Development
LM	Local Municipality
MW	Megawatt
NDP	National Development Plan
NEMA	National Environmental Management Act, Act 107 of 1998
NERSA	National Energy Regulator of South Africa
NGO	Non-Governmental Organisation
PACs	Project Affected Communities
PP	Public Participation
PS	Performance Standard
RE	Renewable energy
REIPPPP	Renewable Energy Independent Power Producers Procurement Programme
SADC	Southern African Development Community
SAWEA	South African Wind Energy Association
SDF	Spatial Development Framework
SIA	Social Impact Assessment
SIPs	Strategic Integrated Projects
UNFCCC	United Nations Framework Convention on Climate Change
WEF	Wind Energy Facility

EXECUTIVE SUMMARY

Introduction

This Social Impact Assessment (SIA) is one of the specialist studies prepared for the Scoping/EIA process for the proposed Soyuz 2 Wind Energy Facility (WEF) in the Emthanjeni Local Municipality and the Pixley ka Seme District Municipality, Northern Cape Province.

The objective of this Social Impact Assessment Report is to provide background to and identify possible beneficial (positive) and detrimental (negative) social and economic impacts of the proposed WEF.

The scope of work for the social impact assessment is as follows:

1. Review of the relevant legal and policy context (national and international).
2. Description of the proposed project.
3. Description of the existing baseline socio-economic characteristics of the study area in relation to the regional context.
4. Identification and assessment of potential social impacts resulting from the project (construction, operation and decommissioning, using CES' impact rating methodology).
5. Opinion on the acceptability of alternatives and recommendation of a preferred alternative.
6. Identification and description of potential cumulative social impacts resulting from the six wind farms and any other wind farm or other relevant developments in the study area.
7. Recommendation of mitigation measures to minimise or avoid negative impacts and/or optimise positive impacts/benefits associated with the project.
8. Development of a Social Management Plan including the following [in order to comply with the International Finance Corporation (IFC) Performance Standards]:
    a. Stakeholder Engagement Plan;
    b. OHS and Emergency Plan;
    c. External communication and Grievance Management Process Plan; and
    d. Monitoring and review programme.

Project Description

The applicant Soyuz 2 (Pty) Ltd is proposing the development of a commercial Wind Energy Facility (WEF) and associated infrastructure on a site located approximately 23 km southeast of Britstown within the Emthanjeni Local Municipality and the Pixley ka Seme District Municipality in the Northern Cape Province.

Five additional WEFs are concurrently being considered on the surrounding properties and are assessed by way of separate impact assessment processes contained in the 2014 Environmental Impact Assessment Regulations (GN No. R982, as amended) for listed activities contained in Listing Notices 1, 2 and 3 (GN R983, R984 and R985, as amended). These projects are known as Soyuz 1 WEF, Soyuz 3 WEF, Soyuz 4 WEF, Soyuz 5 WEF and Soyuz 6 WEF.

A preferred project site with an extent of approximately 125 000 ha has been identified as a technically suitable area for the development of the six WEF projects. It is proposed that each WEF will comprise of up to 75 turbines with a contracted capacity of up to 480 MW. It is anticipated that each WEF will have an actual (permanent) footprint of up to 150 ha.

The Soyuz 2 WEF project site covers approximately 38 000 ha and comprises the following farm portions:

- Portion 3 of Farm Twyfelhoek No. 127
- Portion 4 of Farm Twyfelhoek No. 127
- Remaining Extent (Portion 0) of Farm Lemoenkloof No. 141.
- Portion 1 of Farm Lemoenkloof No. 141
- Portion 0 of Farm Twyfelhoek No. 127.
- Portion 5 (a portion of portion 1) of Farm Twyfelhoek No. 127
- Portion 9 (a portion of portion 1) of Farm Twyfelhoek No. 127
- Remaining Extent of Portion 1 of Farm Twyfelhoek No. 127
- Portion 0 of Farm No. 146
- Portion 3 of Farm No. 144.
- Portion 0 of Farm Dreunfontein No. 126
- Remaining Extent Portion 1 of Farm Dreunfontein No. 126
- Portion 2 of Farm No. 123
- Remaining Extent of Farm Eerste Geluk No. 121

The Soyuz 2 WEF project site is proposed to accommodate the following infrastructure, which will enable the wind farm to supply a contracted capacity of up to 480 MW:

- Up to 75 wind turbines with a maximum hub height of up to 160 m and a rotor diameter of up to 200 m;
- A transformer at the base of each turbine;
- Concrete turbine foundations of up to 1024 m^2 each;
- Permanent Crane hardstand / blade and tower laydown area / crane boom erection area with a combined maximum footprint 5000 m^2 at each WTG;
- Temporary concrete batch plants to be located at the construction camp area and the satellite laydown areas;
- Battery Energy Storage System (with a footprint of up to 5 ha);
- Internal up to 132 kV overhead lines between substations. A 300m wide corridor (150m on either side of the proposed route) has been considered to allow for any technical and environmental sensitivity constraints identified during micro-siting prior to layout finalisation. Permanent service roads will be required for the construction and maintenance of the overhead lines. In areas where these overhead lines do not follow an existing or proposed

road, additional roads of up to 3m in width will be required. Temporary construction areas beneath each overhead line tower position will also be required;

- Medium voltage (33 kV) cables/powerlines running from wind turbines to the facility substations. The routing will follow existing/proposed access roads and will be buried where possible. If the use of overhead lines is required, the Avifaunal Specialist will be consulted timeously to ensure that a raptor friendly pole design are used, and that appropriate mitigation is implemented pro-actively.
- Up to six permanent met masts;
- Three substations and operation and maintenance facilities (up to 4 ha each) as well as a laydown area (8 000 m2) at each substation for the electrical contractor. Operation and maintenance facilities include a gate house, security building, control centre, offices, warehouses and workshops.
- Three temporary main construction camp areas (up to 12.25 ha each);
- Twelve temporary satellite laydown areas (5 000 m^2 each).
- Access roads to the site and between project components inclusive of stormwater infrastructure. A 200 m road corridor is being applied for to allow for slight realignments pending technical and environmental sensitivity constraints identified during micro-siting prior to layout finalisation. The final road will have maximum width of 12 m (within the 200 m corridor).

In order to evacuate the energy generated by the WEF to the national grid, a separate Basic Assessment will be undertaken to assess two grid connection alternatives:

- Alternative 1: A 132 / 400kV overhead powerline (OHL) within a 500 m assessment corridor from the Switching Station on site to a proposed new 132 / 400 kV MTS located north of the WEF and adjacent to the Hydra – Kronos 400 kV line.
- Alternative 2: A 132 / 400 kV overhead powerline (OHL) within a 500 m assessment corridor from the Switching Station on site to a proposed new 132 / 400 kV MTS located south of the WEF and adjacent to the Droërivier - Hydra 400 kV line.

The EA applications for the wind farm project and grid connection infrastructure are being undertaken in parallel as they are co-dependent, i.e., one will not be developed without the other.

Need and Desirability

There is currently considerable need and demand for additional electrical power and particularly for electricity from renewable and other diverse sources. This need stems from Eskom's severe power supply constraints (the national Electricity Supplier) due to ageing infrastructure and coal powerplants which are in dire need of significant maintenance work (much of which has not been adequately undertaken during the last few years), along with occasional coal supply problems, severe financial constraints and debt, and staff capacity constraints. This situation is creating a considerable constraint and risk to economic growth and development in South Africa.

The need for a greater diversity of energy generation capacity from greener and more renewable sources also stems for considerable international and local political pressure on South Africa to reduce its carbon emissions. South Africa has one of the most carbon-intensive economies in the world, with higher CO_2 emissions per GDP (PPP) (2018; most recently published figures) than the World, European, Asian, North American and Sub-Saharan figures, according to World Bank data.

The current electricity supply constraints are not short-term or temporary and have been a factor in the South African economy since 2008 and will continue into the foreseeable future due to growing demand and anticipated declines in supply from the existing old coal power plants. The IEP forecasts that existing electricity generation capacity will decline notably from 2025, with significant plant retirement occurring in 2031, 2041 and 2048. By 2050, only 20% of the current electricity generation capacity will remain. As a result, large investments are required in the electricity sector in order to maintain an adequate supply in support of economic growth, especially a much more diverse electricity generation system by 2050 with coal reducing its share from about 85% in 2015 to 15–20% in 2050, and solar, wind and gas generation increasing their share.

Legal and Policy context

For the purposes of meeting the objectives of the SIA the following international, national, provincial and local level policy and planning documents were reviewed, considered and adhered to in this study:

- **International standards:** The International Finance Corporation Performance Standards (PS) on Environmental and Social Sustainability.
- **National Legislation and Policy:**
  - Constitution of the Republic of South Africa, 1996 (Act 108 of 1996).
  - National Environmental Management Act, 1998 (Act 107 of 1998).
  - Environmental Impact Assessment Regulations, 2014.
  - National Energy Act, 2008 (Act 34 of 2008).
  - White Paper on the Energy Policy of the Republic of South Africa (1998).
  - White Paper on Renewable Energy (2003).
  - National Integrated Energy Plan (2016).
  - Integrated Resource Plan (2019).
  - National Development Plan (2011).
  - New Growth Path Framework (2010).
  - National Infrastructure Plan (2012).
- **Provincial Framework**
  - Northern Cape Provincial Spatial Development Framework (2019).
  - Northern Cape Provincial Growth and Development Strategy (2019).
- **District and Local Policy and Plans**
  - Pixley ka Seme District Municipality Integrated Development Plan (2022–2027).
  - Emthanjeni Local Municipality Integrated Development Plan (2021/2022).

Stakeholder engagement

Typically, one-on-one interviews are done with key stakeholders who are identified from groupings such as the local municipality (including ward councillors), directly affected and adjacent landowners, Tourism, Conservation, community forums/organisations, NGOs, schools, Business and Law Enforcement.

Although the stakeholder consultation differs from Public Participation, the SIA Practitioner often draws from information gathered during the Public Participation process, such as I&AP registers and Comment and Response Reports.

A site visit and stakeholder consultations took place from 1 to 3 November 2022. Face-to-face interviews were done with stakeholders from the following groupings: Law Enforcement (SAPS; Court; Traffic Department); Tourism/Hospitality establishments; directly affected landowners; adjacent landowners and Local Municipality, including ward councillors. Subsequent to this, and at request of Emthanjeni Local Municipality, an online meeting via Microsoft Teams was also held, to include additional stakeholders from the municipality.

Description of the Social Environment

This section provides a description of the socio-economic context of the affected area in and around the Soyuz 2 WEF development site. The baseline study presents a background description of the baseline conditions of the broader area and the potentially affected areas (the receiving environment) and includes a description of the local historical setting of the project and the local cultural context. Data from a variety of sources is included, including census data (from the 2011 census—the last census that was held in South Africa) for demographic profiles; the 2016 Community Survey conducted by StatsSA (for a more recent municipal profile than what the census data provides); the 2019 General Household Survey (conducted by StatsSA); the Emthanjeni Local Municipality Final Integrated Development Plan 2021/2022; and the websites of the Northern Cape Province and Emthanjeni Local Municipality. Municipal IDPs usually use data provided by StatsSA for inclusion in their IDPs, and therefore, it should be noted that data provided are in many instances dated but are the latest data that is available.

Data at the following levels are described: Provincial (Northern Cape Province), District (Pixley ka Seme District) and Local/Municipal (Emthanjeni Local Municipality).

The Northern Cape Province is the largest province in South Africa, covering approximately 372 889 m^2 and constituting about 30% of South Africa's land area. The province is also the most sparsely populated in the country, with its population constituting approximately 2.2% of South Africa’s total population. It lies to the south of its most important asset, the Orange River, which provides the basis for a healthy agricultural industry. The province shares borders with four other provinces, namely the Free State, North West, Eastern Cape and Western Cape. It also shares borders with Namibia and Botswana to the north. The Atlantic Ocean forms the western boundary.

The climate in the province is typically very warm in summer in most areas and very cold in winter. Unemployment has increased significantly between 1996 and 2011 (StatsSA, 2011 Provincial Profile – Northern Cape).

The key contributors to economic growth in the province are mining, construction, finance, utilities (including a growing renewable energy sector) and agriculture. The province contributes the least to the National GDP of all provinces (http://www.northern-cape.gov.za/).

According to Emthanjeni LM's IDP 2021/2022, Agriculture forms the backbone of Emthanjeni's economy, and it is the largest contributor to labour/employment currently. Sheep (for wool and mutton), game, lucerne and wheat farming are the main farming activities in the area. The area is known for supplying Karoo mutton, with the largest abattoir in the southern hemisphere reportedly located in De Aar. The IDP also describes the municipality as being a potential industrial growth point, with investments in the form of renewable energy, manufacturing and warehousing projects. The Manufacturing sector shows potential of growth through the introduction of renewable energy projects in De Aar and surrounding areas. The Municipality is dependent upon the following economic activities: Services sector (government institutions, NGOs, banks, etc.), Manufacturing (stone crushers, brick manufacturing, renewable energy generation, meat processing, etc.), Retail (including various chain stores), Agriculture, Transport (rail and road infrastructure), and Tourism.

The project site is located south of Britstown and consist of various farms located outside the urban areas of the municipality. From aerial imagery it is not clear whether any homesteads will be affected by the proposed WEF; this will be determined during the field work in the EIA phase.

The following demographic data for the project area is included:

- Structure of the population by broad age groups
- Population growth rates
- Population groups
- Religious affiliation
- Occurrence of deaths in households
- Dependency ratios
- Education
- Labour market, income, and ability to buy food
- Housing
- Access to services
- Female-headed households
- Child-headed households
- Crime and perceptions of safety

Impact Assessment

Direct, indirect and cumulative impacts that may occur during the planning, construction, operation and decommissioning project stages have been identified and assessed, using the assessment methodology outlined in Appendix 2 of the EIA Regulations, 2014 (as amended).

The following are included:

- **Identification and description** of activities likely to cause social and cultural impacts (social change processes) and potential direct, indirect and cumulative impacts, both positive and negative.
- **Rating** of the likely impacts (including secondary and cumulative impacts), before mitigation, including describing and evaluating alternatives.
- Listing of **proposed measures** to both enhance positive social impacts and mitigate negative social impacts.
- **Rating** of likely impacts, this time **after mitigation**.

The anticipated positive social impacts associated with the WEF are:

- Job creation: construction phase (High Positive)
- Job creation: operation phase (High Positive)
- SMME development (High Positive)
- Support of local/regional businesses: construction phase (Moderate Positive)
- Possibility for training and upskilling of local community during construction, operation and through LED projects (Moderate Positive)
- Possible reduction in crime rates (Low Positive)
- Supply of electricity to the national grid and positive contribution to the country's economy (High Positive)

The anticipated negative social impacts associated with the WEF are:

- In-migration of job seekers (Low Negative)
- Increase in traffic during construction (Low Negative)
- Noise from construction activities (Low Negative)
- Noise from operation (Low Negative)
- Heritage (Moderate Negative)
- Visual impacts and loss of sense of place (Moderate Negative)
- Impact on tourism (Low Negative)

Conclusion & Recommendations

There is overwhelmingly support for the project amongst the local community, and no objections were raised during the stakeholder consultation for the SIA, or so far during the public participation process.

All projects have negative impacts, some of which even cannot be mitigated, but these negative impacts have to be weighed against the positive impacts that the project will have, when making a recommendation on whether or not the project should be approved or not from a social point of view.

There were no High Negative impacts identified.
The positive social impacts therefore outweigh the negative impacts, and it is recommended that the project be approved from a social point of view, with the following conditions:

1. All proposed mitigation measures should be adhered to. These are:
    - Good communication about the project needs to be practiced throughout as both locals and businesses need time to plan accordingly for any changes that will occur in the area.
    - Ensure that notice is given and landowners and locals are properly informed throughout the project.
    - A positive relationship must be established and maintained with affected landowners. There should always be an open line of communication and grievances must be addressed satisfactorily and promptly.
    - Affected landowners must be consulted and respected in terms of access to the site, security and all activities on the site, in order to minimise negative impacts to landowners. Disruptions to directly affected and adjacent landowners must be kept to a minimum.
    - Complaints and concerns must be addressed promptly, and feedback must be given to complainants.
    - Employment opportunities and criteria should be communicated to the community before being advertised outside the municipal area.
    - Hiring should focus on the nearest and surrounding community. If not, jealousy and disdain or resentment for the project may develop.
    - Unreasonable expectations with regards to employment opportunities should not be created, and the developers should be transparent about the limited number of employment opportunities that will be created.
    - Ensure local SMMEs are utilised throughout the project, as far as possible.
    - The creation of secondary opportunities for income generation, such as supplying meals to employees, should be investigated and implemented if possible.
    - External contractors and suppliers from within the local municipality must be given preference.
    - Source materials and products locally, as far as possible.
    - It is recommended that opportunities for training and upskilling be maximised whenever possible, and that the local community, especially, be the beneficiaries of this.
    - Steps must be taken to minimise road accidents, including the use of clear signage, reducing speed limits and visible policing.
    - Planning and proper consultation with residents near turbines to inform them of construction dates and times, so as to minimise negative impacts. This should include

the use of internal roads by construction vehicles. Construction activities should be limited to regular business hours.
- Mitigation measures identified by the noise specialist should be adhered to.
- Measures should be taken to ensure security around any construction site, including maintaining access control onto affected farms.

2. All mitigation measures contained in the specialist studies should be included in the EMPr, in order to minimise social impacts that could result from any other impacts as a result of the proposed WEF.
3. The natural habitat present on the site must be rehabilitated and maintained as far as possible.
4. All the above measures must be included in the Environmental Management Programme, and thereby become binding should the project receive environmental authorisation.

1 INTRODUCTION

This Social Impact Assessment (SIA) is one of the specialist studies prepared for the Scoping/EIA process for the proposed Soyuz 2 Wind Energy Facility (WEF) in the Emthanjeni Local Municipality and the Pixley ka Seme District Municipality, Northern Cape Province.

1.1 SCOPE OF THE SIA

The Interorganizational Committee on Guidelines and Principles (ICGP) defines "social impacts" as "the consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalise their cognition of themselves and their society" (ICGP, 1994).

No definition exists for SIA in the context of developing countries specifically. In developing countries, SIA should be seen as "a framework for incorporating participation and social analysis into the design and delivery of development projects" (World Bank, 1995). Vanclay (2002) emphasises the importance of SIA forming part of development planning in developing countries by stating that the improvement of social well-being, with a focus on poverty reduction and democratisation, should be recognised as an objective of development projects and plans, and as such, should serve as a performance indicator considered in any form of impact assessment. "SIA is more than a technique or step; rather, it is a philosophy about development and democracy. As such, ideally it considers pathologies of development (i.e., harmful impacts), goals of development (such as poverty alleviation), and processes of development (e.g., participation, capacity building)" (Vanclay, 2002).

The objective of this Social Impact Assessment is to provide background to and identify possible beneficial (positive) and detrimental (negative) social and economic impacts of the proposed WEF. Following this report, consultation with a range of stakeholders will take place, and all identified social impacts will be assessed and rated. Measures to enhance positive impacts and mitigate negative impacts that the proposed project may have on affected individuals or communities will be proposed, and a recommendation on whether the proposed project should be authorised from a social point of view, will be made.

1.2 TERMS OF REFERENCE

The scope of work for the social impact assessment is as follows:

1. Review of the relevant legal and policy context (national and international).
2. Description of the proposed project.

3. Description of the existing baseline socio-economic characteristics of the study area in relation to the regional context.
4. Identification and assessment of potential social impacts resulting from the project (construction, operation and decommissioning, using CES' impact rating methodology).
5. Opinion on the acceptability of alternatives and recommendation of a preferred alternative.
6. Identification and description of potential cumulative social impacts resulting from the six wind farms and any other wind farm or other relevant developments in the study area.
7. Recommendation of mitigation measures to minimise or avoid negative impacts and/or optimise positive impacts/benefits associated with the project.
8. Development of a Social Management Plan including the following (in order to comply with the IFC PS standards):
    a. Stakeholder Engagement Plan;
    b. OHS and Emergency Plan;
    c. External communication and Grievance Management Process Plan; and
    d. Monitoring and review programme.

1.3 SPECIALISTS DETAILS

Hilda Bezuidenhout – Socio-Economic Specialist and Report Writer

Ms Hilda Bezuidenhout has extensive experience working in the environmental management field – first as an Environmental Assessment Practitioner (both in the private sector, consulting, and in the public sector, at the then National Department of Environmental Affairs), and in the last number of years focusing on Social Impact Assessments and related studies. She worked as an independent consultant (self-employed) for approximately 10 years before joining CES. She obtained an Honours Degree in Industrial Sociology and a Master's Degree in Environmental Studies (Environment and Society), both from the University of Pretoria. She has worked on a wide range of projects in energy (including renewable energy), mining, mixed-use development, transport infrastructure and recreational facility applications, and has acted as an external peer reviewer on a number of social impact-related projects.

Peter Bally – Socio-Economic Surveyor and Report Writer

Peter Bally is a Geography honours graduate from Rhodes University. He began his career in the geospatial industry where he worked with various satellite imagery platforms including Airbus' Pleiades, and Planet Labs' Dove satellite constellations. This gave him great experience in GIS and Remote Sensing capabilities beyond the visual spectrum. He obtained his BSocSci in Geography and Politics form Rhodes University that lends itself to his passion for working with people. Since starting at CES in May of 2021, he has worked on various mapping projects at a variety of scales, in addition to full Environmental Impact Assessments (EIAs), Basic Assessment Reviews (BARs) and the role of Environmental Control Officer (ECO). Other mapping capabilities include performing Normalised Differential Vegetation Index's (NDVIs) and drone surveying and imagery processing. Furthermore, his experience as a social consultant have led him to perform multiple Public Participation Processes (PPPs) and gained experience on a variety of Social Impact Assessments

(SIAs). In addition, he has conducted a variety of interviews such as focus group discussions and key informant interviews for screening reports and larger surveys, as well as having filled the role of a full-time field manager for a large socio-economic and epidemiological survey in the Lesotho Highlands for 3 months as well as a socio-economic survey in Mozambique.

1.4 METHODOLOGY

A typical SIA investigates one or more of the following issues:

- Demographic factors—number of people, their location, population density, age, etc.
- Socio-economic determinants—factors affecting incomes and productivity, such as risk aversion of the poorest groups, land tenure, access to productive inputs and markets, family composition, kinship reciprocity, and access to wage opportunities and labour migration.
- Social organization—organization and capacity at the household and community levels affecting participation in local-level institutions as well as access to services and information.
- Socio-political context—implementing agencies' development goals, priorities, commitment to project objectives, control over resources, experience, and relationship with other stakeholder groups.
- Needs and values—stakeholder attitudes and values determining whether development interventions are needed and wanted, appropriate incentives for change, and capacity of stakeholders to manage the process of change.

(The International Bank for Reconstruction and Development/THE WORLD BANK, 1998).

The Social Impact Assessment process consists of the following components:

- Desktop study, including a review of:
    - The available project information;
    - GIS spatial data for the site;
    - Socio-economic baseline data for the project area;
    - Local development plans and policies;
    - Environmental and Social Standards and legislation;
    - Minutes of stakeholder engagement meetings and comments submitted in the EIA phase; and
    - The results of other relevant specialist reports (as other categories/types of impacts can sometimes result in social impacts).
- Site visit, to make observations on, amongst other things, land uses and settlements.
- Meetings and interviews with key stakeholders.
- Drafting of the SIA Report.

The SIA Report includes the following information:

- A description of the scope of the SIA;
- Terms of Reference;
- Specialist details;

- Description of the methodology followed;
- Assumptions and limitations;
- Project description and location;
- Alternatives;
- Adherence to EIA requirements for specialist studies;
- Need and desirability;
- Legal and Policy context;
- Stakeholder engagement;
- Socio-economic baseline of the area;
- Impact Assessment;
- Mitigation measures; and
- Recommendations.

One SIA process has been undertaken for the six proposed wind farms and separate SIA Reports have been produced for each of the proposed facilities.

1.5 ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations are applicable to this SIA Report:

- The proponent has provided accurate information on their proposed development and intentions.
- No household/individual surveys have been done as part of the data gathering exercise. Instead, key stakeholders in the community, representing the following groups, have been identified and interviewed: Local Authority, ward councillors, directly affected and adjacent landowners, local community forums/NGOs, Tourism, Businesses and Law Enforcement. Consultation took place as far as possible face-to-face during a visit to the area, and some stakeholders were consulted via Microsoft Teams meeting. In addition, information obtained during the Public Participation process with regards to opinions on the application and social issues identified, have been drawn from.
- No economic modelling or analysis was done as part of the SIA. Any data relating to the economic profile of the area was obtained from census data (from the 1996, 2001 and 2011 censuses, and the 2016 Community Survey conducted by StatsSA for a more recent municipal profile than what the census data provides); the municipality's Integrated Development Plan; and the websites of the affected province, district and local municipality.
- This report only applies to the proposed Soyuz 2 WEF in the Northern Cape Province and will not necessarily be accurate for and applicable to similar developments at other sites.
- In order to understand the social environment and to predict impacts, complex systems have to be reduced to simple representations of reality (DEAT, 2002a). The experience of impacts is subjective and what one person may see as a negative impact may not be perceived as such by another person.

1.6 PROJECT DESCRIPTION AND LOCATION

The applicant Soyuz 2 (Pty) Ltd is proposing the development of a commercial Wind Energy Facility (WEF) and associated infrastructure on a site located approximately 23 km southeast of Britstown within the Emthanjeni Local Municipality and the Pixley ka Seme District Municipality in the Northern Cape Province.

Five additional WEFs are concurrently being considered on the surrounding properties and are assessed by way of separate impact assessment processes contained in the 2014 Environmental Impact Assessment Regulations (GN No. R982, as amended) for listed activities contained in Listing Notices 1, 2 and 3 (GN R983, R984 and R985, as amended). These projects are known as Soyuz 1 WEF, Soyuz 3 WEF, Soyuz 4 WEF, Soyuz 5 WEF and Soyuz 6 WEF.

A preferred project site with an extent of approximately 125 000 ha has been identified as a technically suitable area for the development of the six WEF projects. It is proposed that each WEF will comprise of up to 75 turbines with a contracted capacity of up to 480 MW. It is anticipated that each WEF will have an actual (permanent) footprint of up to 150 ha.

The Soyuz 2 WEF project site covers approximately 38 000 ha and comprises the following farm portions:

- Portion 3 of Farm Twyfelhoek No. 127
- Portion 4 of Farm Twyfelhoek No. 127
- Remaining Extent (Portion 0) of Farm Lemoenkloof No. 141.
- Portion 1 of Farm Lemoenkloof No. 141
- Portion 0 of Farm Twyfelhoek No. 127.
- Portion 5 (a portion of portion 1) of Farm Twyfelhoek No. 127
- Portion 9 (a portion of portion 1) of Farm Twyfelhoek No. 127
- Remaining Extent of Portion 1 of Farm Twyfelhoek No. 127
- Portion 0 of Farm No. 146
- Portion 3 of Farm No. 144.
- Portion 0 of Farm Dreunfontein No. 126
- Remaining Extent Portion 1 of Farm Dreunfontein No. 126
- Portion 2 of Farm No. 123
- Remaining Extent of Farm Eerste Geluk No. 121

The Soyuz 2 WEF project site is proposed to accommodate the following infrastructure, which will enable the wind farm to supply a contracted capacity of up to 480 MW:

- Up to 75 wind turbines with a maximum hub height of up to 160 m and a rotor diameter of up to 200 m;
- A transformer at the base of each turbine;

- Concrete turbine foundations of up to 1024 m^2 each;
- Permanent Crane hardstand / blade and tower laydown area / crane boom erection area with a combined maximum footprint 5000 m^2 at each WTG;
- Temporary concrete batch plants to be located at the construction camp area and the satellite laydown areas;
- Battery Energy Storage System (with a footprint of up to 5 ha);
- Internal up to 132 kV overhead lines between substations. A 300m wide corridor (150m on either side of the proposed route) has been considered to allow for any technical and environmental sensitivity constraints identified during micro-siting prior to layout finalisation. Permanent service roads will be required for the construction and maintenance of the overhead lines. In areas where these overhead lines do not follow an existing or proposed road, additional roads of up to 3m in width will be required. Temporary construction areas beneath each overhead line tower position will also be required;
- Medium voltage (33 kV) cables/powerlines running from wind turbines to the facility substations. The routing will follow existing/proposed access roads and will be buried where possible. If the use of overhead lines is required, the Avifaunal Specialist will be consulted timeously to ensure that a raptor friendly pole design are used, and that appropriate mitigation is implemented pro-actively.
- Up to six permanent met masts;
- Three substations and operation and maintenance facilities (up to 4 ha each) as well as a laydown area (8 000 m2) at each substation for the electrical contractor. Operation and maintenance facilities include a gate house, security building, control centre, offices, warehouses and workshops.
- Three temporary main construction camp areas (up to 12.25 ha each);
- Twelve temporary satellite laydown areas (5 000 m^2 each).
- Access roads to the site and between project components inclusive of stormwater infrastructure. A 200 m road corridor is being applied for to allow for slight realignments pending technical and environmental sensitivity constraints identified during micro-siting prior to layout finalisation. The final road will have maximum width of 12 m (within the 200 m corridor).

In order to evacuate the energy generated by the WEF to the national grid, a separate Basic Assessment will be undertaken to assess two grid connection alternatives:

- Alternative 1: A 132 / 400kV overhead powerline (OHL) within a 500 m assessment corridor from the Switching Station on site to a proposed new 132 / 400 kV MTS located north of the WEF and adjacent to the Hydra – Kronos 400 kV line.
- Alternative 2: A 132 / 400 kV overhead powerline (OHL) within a 500 m assessment corridor from the Switching Station on site to a proposed new 132 / 400 kV MTS located south of the WEF and adjacent to the Droerivier - Hydra 400 kV line.

The EA applications for the wind farm project and grid connection infrastructure are being undertaken

in parallel as they are co-dependent, i.e. one will not be developed without the other.

2 ADHERENCE TO THE EIA REQUIREMENTS FOR SPECIALISTS

2.1 APPENDIX 6 OF THE EIA REGULATIONS, 2014 – SPECIALIST REPORTS

The Environmental Impact Assessment (EIA) Regulations, promulgated in terms of the National Environmental Management Act (NEMA, Act no. 107 of 1998 as amended) dated 8th of December 2014, were amended on the 7th of April 2017. In terms of Appendix 6 of the Amended EIA Regulations (2014 and subsequent 2017 amendments), a Specialist Report must contain all the information necessary for a proper understanding of the nature of issues identified. Table 2-1 provides a list of all the information required from a Specialist Report, with the corresponding sections in this report relating to each of the requirements.

Table 2-1: Checklist of information legally required for a specialist report.

(1) A SPECIALIST REPORT PREPARED IN TERMS OF THE AMENDED NEMA EIA REGULATIONS (2014 AND SUBSEQUENT 2017 AMENDMENTS) MUST CONTAIN –	Relevant sections of this Report
(a) Details of- (i) The specialist who prepared the report; and (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae; (b) A declaration that the specialist is independent in a form as may be specified by the competent authority;	*Chapter 1, Sections 1.3, & Appendix A and B*
(c) An indication of the scope of, and the purpose for which, the report was prepared;	*Chapter 1*
(cA) An indication of the quality and age of the base data used for the specialist report;	*Chapter 6*
(cB) A description of the existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	*Chapter 7, Section2*
(d) The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	*N/A*
(e) A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	*Chapter 1, Section 1.4*
(f) Details of an assessment of a specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure inclusive of a site plan identifying alternatives;	*Chapter 2*
(g) An identification of any areas to be avoided, including buffers;	*Not Applicable*

(h) A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	*Not Applicable*
(i) A description of any assumptions made and any uncertainties or gaps in knowledge;	*Chapter 1*
(j) A description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	*Chapter 7*
(k) Any mitigation measures for inclusion in the EMPr;	*Chapter 7*
(l) Any conditions for inclusion in the environmental authorisation;	*Chapter 8*
(m) Any monitoring requirements for inclusion in the EMPr or environmental authorisation;	*Chapter 8*
(n) A reasoned opinion- (i) Whether the proposed activity, activities or portions thereof should be authorised; and (iA) Regarding the acceptability of the proposed activity or activities, and (ii) If the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	*Chapter 8*
(o) A description of any consultation process that was undertaken during the course of preparing the specialist report;	*Chapter 5*
(p) A summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	*Chapter 7*
(q) Any other information requested by the competent authority.	*None requested.*

2.2 Site Verification: Regulation 1.3 (c) of the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes

Regulation 1.3(c) of the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, Act 107 of 1998, when applying for Environmental Authorisation (GN No. 320 of 20 March 2020), requires that, prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the national web based environmental screening tool, must be considered by undertaking a site sensitivity verification.

This must be undertaken through the use of: (1) a desktop analysis, using satellite imagery; (2) a preliminary on-site inspection; and (3) any other available and relevant information. The outcome of the site sensitivity verification must: (1) confirm or dispute the current use of the land and the environmental sensitivity as identified by the prescribed screening tool, such as new developments

or infrastructure, a change in vegetation cover or status, etc.; (2) contain a motivation and evidence (e.g., photographs) of either the verified or different use of the land and environmental sensitivity; and (3) be submitted together with the relevant assessment report (in this case the Social Impact Assessment Report) prepared in accordance with Appendix 6 of the EIA Regulations.

The above needs to be carried out for all specialist studies, except for those for which a specific environmental theme protocol has been prescribed (i.e., agriculture, avifauna, biodiversity, noise, defence, and civil aviation). No theme protocol exists for Social Impact Assessment.

From satellite imagery, the following were observed and will inform the sensitivity verification of the site:

- Britstown is located approximately 23 km north of the site.
- There is a road (name unknown) that originates in Britstown and traverses the site from a northwestern to southeastern direction, and later from a northeastern to southwestern direction, after it split into two smaller (presumably farm access) roads east.
- The N12 national road runs adjacent to the northwestern corner of the site from a northeastern to southwestern direction.
- The landscape is arid, with large parts being mountainous.
- Very few cultivated lands are visible from Google Earth imagery, and the majority of the site is likely being used for grazing.
- Approximately 20 possible homesteads are observed.

The above were verified during field work (site visit and information obtained during interviews with key stakeholders), which took place early November 2022.

2.3 Integrated Environmental Management Series 22: Socio-economic Impact Assessment

Specific to SIA as Specialist Study, the National Department of Forestry, Fisheries and the Environment's (then DEAT) 2006 Integrated Environmental Management Series 22: Socio-Economic Impact Assessment will be considered in the SIA, including the following aspects:

- People's way of life—how they work, play and interact with one another on a daily basis;
- Their culture—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 democratisation that is taking place and the resources provided for this purpose;

- Their environment—the quality of the air and water that people use; the availability and quality of the food that they eat; the level of hazard or risk, dust and noise which they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources;
- Their health and well-being—where health is understood as a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity;
- Their personal and property rights—particularly whether people are economically affected, or experience personal disadvantage, which may include a violation of their civil rights; and
- Their fears and aspirations—their perceptions about their safety; fears about the future of the community; and their aspirations for their future and the future of their children.

3 NEED AND DESIRABILITY

3.1 SUPPLYING ELECTRICITY FROM RENEWABLE ENERGY SOURCES

There is currently considerable need and demand for additional electrical power and particularly for electricity from renewable and other diverse sources. This need stems from Eskom's severe power supply constraints (the national Electricity Supplier) due to ageing infrastructure and coal powerplants which are in dire need of significant maintenance work (much of which has not been adequately undertaken during the last few years), along with occasional coal supply problems, severe financial constraints and debt, and staff capacity constraints. This situation is creating a considerable constraint and risk to economic growth and development in South Africa.

The need for a greater diversity of energy generation capacity from greener and more renewable sources also stems for considerable international and local political pressure on South Africa to reduce its carbon emissions. South Africa has one of the most carbon-intensive economies in the world, with higher CO_2 emissions per GDP (PPP) (2018; most recently published figures) than the World, European, Asian, North American and Sub-Saharan figures, according to World Bank data.

The current electricity supply constraints are not short-term or temporary and have been a factor in the South African economy since 2008 and will continue into the foreseeable future due to growing demand and anticipated declines in supply from the existing old coal power plants. The IEP forecasts that existing electricity generation capacity will decline notably from 2025, with significant plant retirement occurring in 2031, 2041 and 2048. By 2050, only 20% of the current electricity generation capacity will remain. As a result, large investments are required in the electricity sector in order to maintain an adequate supply in support of economic growth, especially a much more diverse electricity generation system by 2050 with coal reducing its share from about 85% in 2015 to 15–20% in 2050, and solar, wind and gas generation increasing their share.

A Green Jobs study (2011) identified a number of advantages associated with wind power as a source of renewable energy with a large 'technical' generation potential. In this regard, wind energy does not emit carbon dioxide (CO_2) in generating electricity and is associated with exceptionally low lifecycle emissions. The construction period for a wind farm is much shorter than that of conventional power stations, while an income stream may in certain instances be provided to local communities through employment and land rental. The study also noted that the greenhouse gases (GHG) associated with the construction phase are offset within a very short period of time compared with the project's lifespan. Wind power therefore provides an ideal means for reaching emission reduction targets in a relatively easy manner. In addition, and of specific relevance to South Africa, wind as an energy source is not dependent on water (as compared to the massive water requirements of conventional power stations), has a limited footprint (and therefore does not impact on large tracts of land), and poses limited pollution and health risks, specifically when compared to coal and nuclear energy plants.

Within the South African context, information from the South African Wind Energy Association (SAWEA) at the NERSA hearings in February 2013 indicated that the price of providing additional electricity from wind farms has now become cheaper that what Eskom can provide from the new coal power stations in the pipeline. The tariffs for wind energy generation have consistently decreased since the first Bid Window of the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) until the fourth BID Window (Table 3-1).

Table 3-1: BID Windows RE tariffs

BID Window	**Average tariff in R/kWh** ***(April 2016 Rand value for comparison)***
BID Window 1 (4 November 2011)	R1.51
BID Window 2 (5 March 2012)	R1.19
BID Window 3 (19 August 2013)	R0.87
BID Window 4 and additional (18 August 2014)	R0.69–R0.79
BID Window 4 Expedited (11 November 2015)	R0.62

(Source: CSIR Energy Centre, 2016)

In addition, according to the CSIR (2016) the actual tariffs of RE BID Window 4 Expedited is 40% cheaper than new baseload coal (Coal BID Window 1), at R0.62 kWh (solar PV and wind) and R1.03 kWh (baseload coal). In addition to being more expensive, coal-fired power stations have fewer job creation possibilities than RE, carry future expenses due to climate change impacts, and have health expense issues due to pollution.

The National Integrated Resource Plan (IRP) 2010 outlines the preferred energy mix with which to meet the electricity needs over a 20-year planning period until 2030. In line with the national commitment to transition to a low carbon economy, 17 800 MW of the 2030 IRP target was expected to be from renewable energy sources, with 5 000 MW to be operational by 2019 and a further 2 000 MW (i.e., a combined 7 000 MW) operational by 2020. Since then, a number of key assumptions have changed, including the electricity demand projection, Eskom's existing plant

performance, and new technology costs, resulting in the update of the IRP in 2019. The updated 2019 IRP forecast an additional 8 100 MW wind energy by 2030, with wind energy forecast to represent 15.1% of the installed capacity mix by 2030.

The IPPPP's primary mandate is to secure electrical energy from the private sector for renewable and non-renewable energy sources. With regard to renewables, the programme is designed to reduce the country's reliance on fossil fuels, stimulate an indigenous renewable energy industry and contribute to socio-economic development and environmentally sustainable growth. The IPPPP has been designed not only to procure energy but has also been structured to contribute to the broader national development objectives of job creation, social upliftment and broadening of economic ownership.

3.2 Project Location and Compatibility with Existing Policy and Planning for the Area

Renewable energy (including wind farms) is strongly supported at a national, provincial and local level. The development of and investment in renewable energy is supported by the National Development Plan (NDP), New Growth Path Framework and National Infrastructure Plan, which all make reference to renewable energy. The development of renewable energy is also strongly supported by the National Integrated Energy Plan, 2016 and the IRP, 2019. At a provincial and local level the development of renewable energy is supported by the Northern Cape Provincial Strategic Plan (2020–2025), Pixley ka Seme District Municipality Integrated Development Plan (2022–2027) and Spatial Development Framework, and the Emthanjeni Local Municipality IDP (2021/2022) and SDF.

However, it is important that the need for and benefits of renewable energy generation facilities, including wind farms, be weighed against possible negative impacts it may have on the social environment, such as an area's scenic assets and tourism potential. These issues will be assessed in the Final SIA for the proposed Soyuz 2 WEF and will need to be considered by the relevant authorities when considering the application.

4 LEGAL AND POLICY CONTEXT

Legislation and policy embody and reflect requirements, key societal norms, values and developmental goals. The legislative and policy context plays an important role in identifying, assessing and evaluating the significance of potential social impacts associated with any given proposed development. Whether the proposed development satisfies the core criteria—appropriateness, need and desirability—therefore constitutes a key component of an SIA. These criteria must conform to international best practice for conducting SIAs, as well as reporting national and provincial reporting requirements. For the purposes of meeting the objectives of the SIA the following international, national, provincial and local level policy and planning documents were reviewed, considered and adhered to in this study:

- **International standards:** The International Finance Corporation Performance Standards (PS) on Environmental and Social Sustainability.
- **National Legislation and Policy:**
  - Constitution of the Republic of South Africa, 1996 (Act 108 of 1996).
  - National Environmental Management Act, 1998 (Act 107 of 1998).
  - Environmental Impact Assessment Regulations, 2014.
  - National Energy Act, 2008 (Act 34 of 2008).
  - White Paper on the Energy Policy of the Republic of South Africa (1998).
  - White Paper on Renewable Energy (2003).
  - National Integrated Energy Plan (2016).
  - Integrated Resource Plan (2019).
  - National Development Plan (2011).
  - New Growth Path Framework (2010).
  - National Infrastructure Plan (2012).
- **Provincial Framework**
  - Northern Cape Provincial Spatial Development Framework (2019).
  - Northern Cape Provincial Growth and Development Strategy (2019).
- **District and Local Policy and Plans**
  - Pixley ka Seme District Municipality Integrated Development Plan (2022–2027).
  - Emthanjeni Local Municipality Integrated Development Plan (2021/2022).

4.1 INTERNATIONAL STANDARDS

Since the project is to lenders' standards, the SIA needs to comply with the standards set out by the International Finance Corporation (IFC). The IFC is a member of the World Bank Group, and one of the largest development financing institutions that focuses exclusively on the private sector in developing countries (IFC, 2012). The IFC works in developing countries to create employment opportunities, generate tax revenue, improve corporate governance and to ensure that projects contribute to the upliftment of its countries' local communities. In respect of the latter, it is also the IFC's vision for people to be presented with an opportunity to escape their poverty and improve their lives.

The IFC published its Performance Standards (PSs) on Environmental and Social Sustainability in April 2006 and published comprehensive Guidance Notes (GNs) in July 2007. The PSs and GNs were revised in 2012 (IFC, 2012). This SIA is being conducted to specifically comply with these guidelines. The PSs that may be relevant to the social context are the following:

- PS 1: Assessment and management of environmental and social risks and impacts;
- PS 2: Labour and working conditions;
- PS 4: Community health, safety and security;
- PS 5: Land acquisition and involuntary resettlement;
- PS 7: Indigenous peoples; and
- PS 8: Cultural heritage.

Table 4-1 briefly explains the respective relevant PSs.

Table 4-1: Performance Standards relevant to this SIA

Performance Standard	Main Objectives
PS1: Assessment and management of environmental and social risks and impacts	• Identify and assess social and environment impacts, both adverse and beneficial, in the project's area of influence; • Avoid, or where avoidance is not possible, minimise, mitigate or compensate for adverse impacts on workers, Project Affected Communities (PACs) and the environment; • Ensure that PACs are appropriately engaged on issues that could potentially affect them; and • Promote improved social and environmental performance of companies through the effective use of management systems.
PS2: Labour and working conditions	• Establish, maintain, and improve the worker/management relationship; • Promote the fair treatment, non-discrimination and equal opportunity of workers, and compliance with national labour and employment laws; • Protect the workforce by addressing child labour and forced labour; • Promote safe and healthy working conditions; and • Protect and promote the health of workers.
PS4: Community health, safety and security	• Avoid or minimise adverse impacts on human health and the environment by avoiding or minimising pollution from project activities; and • Promote the reduction of emissions that contribute to climate change.
PS5: Land acquisition and involuntary resettlement	• Avoid or at least minimise involuntary resettlement wherever feasible by exploring alternative project designs and layouts; • Mitigate adverse social and economic impacts from land requisition or restrictions on affected persons' use of land by: (i) Providing compensation for loss of assets at replacement cost; and (ii) Ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation and the informed participation of those affected; • Improve or at least restore the livelihoods and standards of living of displaced persons; and

Performance Standard	Main Objectives
	• Improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites.
PS7: Indigenous peoples	• Ensure that the development process fosters full respect for the dignity, human rights, aspirations, cultures and natural resource-based livelihoods of Indigenous Peoples; • Avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not feasible, to minimise, mitigate, or compensate for such impacts, and to provide opportunities for development benefits, in a culturally appropriate manner; • Establish and maintain an ongoing relationship with the Indigenous Peoples affected by a project throughout the life of the project; • Foster good faith negotiation with and informed participation of Indigenous Peoples when projects are to be located on traditional or customary lands under use by the Indigenous Peoples; and • Respect and preserve the culture, knowledge and practices of Indigenous Peoples.
PS8: Cultural heritage	• Protect cultural heritage from adverse impacts of project activities and support its preservation; and • Promote the equitable sharing of benefits from the use of cultural heritage in business activities.

4.2 NATIONAL LEGISLATION AND POLICY

4.2.1 Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

The Bill of Rights in the Constitution of the Republic of South Africa (Act 108 of 1996) (Section 24(a)) states:

Everyone has the right –

- to an environment that is not harmful to their ***health and wellbeing***; and
- to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
  - prevent pollution;
  - promote conservation; and
  - secure ecologically sustainable development and use of natural resources ***while promoting justifiable economic and social development***.

4.2.2 National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)

The National Environmental Management Act (Act 107 of 1998) (NEMA) defines *sustainable development* as follows: “the integration of ***social***, economic and environmental factors into planning, implementation and decision-making so as to ensure that the development serves present and future generations” (S1(1)(xxix)).

The Act, in its preamble, states that, whereas many inhabitants of South Africa live in an environment that is harmful to their health and well-being, the following (relating to the social environment) are acknowledged:

- Everyone has the right to an environment that is not harmful to his or her ***health or wellbeing***.
- The State must respect, protect, promote and fulfil the social, economic and environmental rights of everyone and ***strive to meet the basic needs of previously disadvantaged communities***.
- Inequality in the distribution of wealth and resources, and the resultant poverty, are among the important causes as well as the results of environmentally harmful practices.
- Sustainable development requires the integration of ***social***, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations.
- Everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
    - prevent pollution and ecological degradation;
    - promote conservation; and
    - secure ecologically sustainable development and use of natural resources while ***promoting justifiable economic and social development***.

The following NEMA principles (contained in Chapter 1 of the Act) refer directly to the ***human/social environment:***

- Environmental management must ***place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably*** (S2(2)).
- Development must be ***socially***, environmentally and economically sustainable (S2(3)).
- Sustainable development requires, amongst other things, that negative impacts on the environment ***and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimized and remedied***" (S2(4)(a)).
- Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and ***it must take into account the effects of decisions on*** all aspects of the environment and ***all people in the environment*** by pursuing the selection of the best practicable environmental option (S2(4)(b)).
- Environmental justice must be pursued so that adverse environmental impacts ***shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons*** (S2(4)(c)).
- Equitable access to environmental resources, ***benefits and services to meet basic human needs and ensure human well-being*** must be pursued (S2(4)(d)).
- The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and ***participation by vulnerable and disadvantaged persons must be ensured*** (S2(4)(f)).

- Decisions must take into account the ***interests, needs and values of all interested and affected parties***, including all forms of traditional and ordinary knowledge (S2(4)(g)).
- The ***social***, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment (S2(4)(i).

Section 24 of NEMA states that the potential impact on the environment, socio-economic conditions and cultural heritage of activities that require authorisation must be considered, investigated and assessed prior to implementation, in order to give effect to the general objectives of integrated environmental management.

4.2.3 Environmental Impact Assessment Regulations, 2014

The EIA Regulations, 2014 (as amended) refers to the inclusion and consideration of social aspects in the EIA process as follows:

- The geographical, physical, biological, ***social***, economic, heritage and cultural sensitivity of the sites and the risk of impacts of the proposed activity on these aspects should be considered and assessed in the basic assessment process (Appendix 1, 2(d)).
- In the scoping phase, the site selection process should include an impact and risk assessment focusing on the geographical, physical, biological, ***social***, economic, heritage and cultural sensitivity of the sites (Appendix 2, 1(d)).
- A scoping report must contain the information that is necessary for a proper understanding of the process, including:
  - The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, ***social***, economic, heritage and cultural aspects (Appendix 2, 2(g)(iv)).
  - Positive and negative impacts that the proposed activity and alternatives will have on the environment and ***on the community that may be affected***, focusing on the geographical, physical, biological, ***social***, economic, heritage and cultural aspects (Appendix 2, 2(g)(vii)).
- In the EIA phase, the location of the development footprint within the approved site as contemplated in the accepted scoping report should be identified by focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment (Appendix 3, 2(c)).
- An environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, including:
  - The environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, ***social***, economic, heritage and cultural aspects (Appendix 3, 3(1)(h)(iv)).
  - Positive and negative impacts that the proposed activity and alternatives will have on the environment and ***on the community that may be affected***, focusing on the geographical, physical, biological, ***social***, economic, heritage and cultural aspects (Appendix 3, 3(1)(h)(vii)).

It is clear from the above that, although there are no explicit requirements for conducting comprehensive SIAs in NEMA or the EIA Regulations, environmental and social interests should be considered equally important.

4.2.4 National Energy Act, 2008 (Act 34 of 2008)

One of the objectives of the National Energy Act (2008) is to promote diversity of supply of energy and its sources. In this regard, the preamble makes direct reference to renewable resources, including wind "to ensure that diverse energy resources are available, in sustainable quantities, and at affordable prices, to the South African economy, in support of ***economic growth and poverty alleviation***, taking into account environmental management requirements…; to provide for… increased generation and consumption of renewable energies".

4.2.5 White Paper on the Energy Policy of the Republic of South Africa (1998)

Investment in renewable energy initiatives is supported by the White Paper on Energy Policy for South Africa (December 1998). In this regard the document notes:

> "Government policy is based on an understanding that renewables are energy sources in their own right, are not limited to small-scale and remote applications, and have significant medium and long-term commercial potential… Renewable resources generally operate from an unlimited resource base and, as such, can increasingly contribute towards a long-term sustainable energy future".

The support for renewable energy policy is guided by a rationale that South Africa has a very attractive range of renewable resources, particularly solar and wind, and that renewable applications are in fact the lowest cost–energy service in many cases, more so when social and environmental costs are taken into account. Government policy on renewable energy is therefore concerned with meeting the following challenges:

- Ensuring that economically feasible technologies and applications are implemented;
- Ensuring that an equitable level of national resources is invested in renewable technologies, given their potential, and compared to investments in other energy supply options; and
- Addressing constraints on the development of the renewable industry.

The White Paper also acknowledges that South Africa has neglected the development and implementation of renewable energy applications, despite the fact that the country's renewable energy resource base is extensive, and many appropriate applications exist. The White Paper notes that renewable energy applications have specific characteristics that need to be considered.
Advantages include:

- Minimal environmental impacts in operation in comparison with traditional supply technologies; and
- Generally lower running costs, and high labour intensities.

Disadvantages include:

- Higher capital costs in some cases;
- Lower energy densities; and
- Lower levels of availability, depending on specific conditions, especially with sun and wind-based systems.

4.2.6 White Paper on Renewable Energy (2003)

The White Paper on Renewable Energy (November 2003) (further referred to as the White Paper) supplements the White Paper on Energy Policy and recognises that the medium- and long-term potential of renewable energy is significant. This Paper sets out Government's vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa. The White Paper notes that, while South Africa is well endowed with renewable energy resources that have the potential to become sustainable alternatives to fossil fuels, these have thus far remained largely untapped. As a signatory to the Kyoto Protocol[1], Government is determined to make good on the country's commitment to reducing greenhouse gas emissions. To this purpose, Government has committed itself to the development of a framework in which a national renewable energy framework can be established and operate.

South Africa is also a signatory of the Copenhagen Accord, a document that delegates at the 15th session of the Conference of Parties (COP 15) to the United Nations Framework Convention on Climate Change agreed to "take note of" at the final plenary on 18 December 2009. The accord endorses the continuation of the Kyoto Protocol and confirms that climate change is one of the greatest challenges facing the world. In terms of the accord, South Africa committed itself to a reduction target of 34% compared to business as usual. In this regard the IRP 2010 aims to allocate 43% of new energy generation facilities in South Africa to renewables.

Apart from the reduction of greenhouse gas emissions, the promotion of renewable energy sources is aimed at ensuring energy security through the diversification of supply (also refer to the objectives of the National Energy Act). Government's long-term goal is the establishment of a renewable energy industry producing modern energy carriers that will offer in future years a sustainable, fully non-subsidised alternative to fossil fuels.

4.2.7 National Integrated Energy Plan (2016)

The development of a National Integrated Energy Plan (IEP) was envisaged in the White Paper on the Energy Policy of the Republic of South Africa of 1998 and, in terms of the National Energy Act, 2008 (Act 34 of 2008), the Minister of Energy is mandated to develop and, on an annual basis, review

[1] The Kyoto Protocol is a protocol to the United Nations Framework Convention on Climate Change (UNFCCC), aimed at fighting global warming. The UNFCCC is an international environmental treaty with the goal of achieving "stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The Protocol was initially adopted on 11 December 1997 in Kyoto, Japan and entered into force on 16 February 2005. As of November 2009, 187 states have signed and ratified the protocol (Wikipedia).

and publish the IEP in the Government Gazette. The purpose of the IEP is to provide a roadmap of the future energy landscape for South Africa which guides future energy infrastructure investments and policy development.

The IEP notes that South Africa needs to grow its energy supply to support economic expansion and in so doing, alleviate supply bottlenecks and supply-demand deficits. In addition, it is essential that all citizens are provided with clean and modern forms of energy at an affordable price. As part of the Integrated Energy Planning process, eight key objectives were identified, namely:

- Objective 1: Ensure security of supply;
- Objective 2: Minimise the cost of energy;
- Objective 3: Promote the creation of jobs and localisation;
- Objective 4: Minimise negative environmental impacts from the energy sector;
- Objective 5: Promote the conservation of water;
- Objective 6: Diversify supply sources and primary sources of energy;
- Objective 7: Promote energy efficiency in the economy; and
- Objective 8: Increase access to modern energy.

The IEP provides an assessment of current energy consumption trends within different sectors of the economy (i.e., agriculture, commerce, industry, residential and transport) and uses this information to identify future energy requirements, based on different scenarios. The scenarios are informed by different assumptions on economic development and the structure of the economy and also take into account the impact of key policies such as environmental policies, energy efficiency policies, transport policies and industrial policies, amongst others.
Based on this information the IEP then determines the optimal mix of energy sources and technologies to meet those energy needs in the most cost-effective manner for each of the scenarios. The associated environmental impacts, socio-economic benefits and macroeconomic impacts are also analysed. The IEP is therefore focused on determining the long-term energy pathway for South Africa, taking into account a multitude of factors which are embedded in the eight objectives.

As part of the analysis four key scenarios were developed, namely the Base Case, Environmental Awareness, Resource Constrained and Green Shoots scenarios:

- The Base Case Scenario assumes that existing policies are implemented and will continue to shape the energy sector landscape going forward. It assumes moderate economic growth in the medium to long term.
- The Environmental Awareness Scenario is characterised by more stringent emission limits and a more environmentally aware society, where a higher cost is placed on externalities caused by the supply of energy.
- The Resource Constrained Scenario, in which global energy commodity prices (i.e., coal, crude oil and natural gas) are high due to limited supply
- The Green Shoots Scenario describes an economy in which the targets for high economic growth and structural changes to the economy, as set out in the National Development Plan (NDP), are met.

The IEP notes that South Africa should continue to pursue a diversified energy mix which reduces reliance on a single or a few primary energy sources. In terms of renewable energy, the document refers to wind and solar energy. The document does, however, appear to support solar over wind, noting that solar PV and CSP with storage present excellent opportunities to diversify the electricity mix, to produce distributed generation and to provide off-grid electricity. Solar technologies also present the greatest potential for job creation and localisation. Incentive programmes and special focused programmes to promote further development in the technology, as well as solar roll-out programmes, should be pursued.

In terms of existing electricity generation capacity, the IEP indicates that existing capacity will start to decline notably from 2025, with significant plant retirement occurring in 2031, 2041 and 2048. By 2050 only 20% of the current electricity generation capacity remains. As a result, large investments are required in the electricity sector in order to maintain an adequate supply in support of economic growth.

By 2020, various import options become available, and some new coal capacity is added along with new wind, solar and gas capacity. The mix of generation capacity technologies by 2050 is considerably more diverse than the current energy mix, across all scenarios. The main differentiating factors between the scenarios are the level of demand, constraints on emission limits and the carbon dioxide externality costs.

In all scenarios the energy mix for electricity generation becomes more diverse over the period to 2050, with coal reducing its share from about 85% in 2015 to 15–20% in 2050 (depending on the scenario). Solar, wind, nuclear, gas and electricity imports increase their share. The Environmental Awareness and Green Shoots scenarios take on higher levels of renewable energy.

The IEP notes that a diversified energy mix with a reduced reliance on a single or a few primary energy sources should be pursued. In terms of renewable energy, wind and solar are identified as the key options.

4.2.8 Integrated Resource Plan (2019)

The NDP envisages that, by 2030, South Africa will have an energy sector that provides reliable and efficient energy service at competitive rates, is socially equitable through expanded access to energy at affordable tariffs and that is environmentally sustainable through reduced pollution.

The Integrated Resource Plan (IRP) 2010–2030 represents an electricity infrastructure development plan for South Africa based on least-cost supply and demand balance, taking into account security of supply and the environment (minimize negative emissions and water usage). Since the IRP 2010–2030 was promulgated in 2011 a total 6 422MW under the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) has been procured, with 3 272MW operational and made available to the grid.

At the time of promulgation, it was envisaged that the IRP would be a “living plan” to be revised by the Department of Energy (DoE) frequently.

4.2.9 National Development Plan (2011)

The National Development Plan (NDP) contains a plan aimed at eliminating poverty and reducing inequality by 2030. The NDP identifies nine key challenges and associated remedial plans. Managing the transition towards a low carbon national economy is identified as one of the nine key national challenges. Expansion and acceleration of commercial renewable energy is identified as a key intervention strategy.

Infrastructure investment is a key priority of the NDP. The NDP identifies the need for South Africa to invest in a strong network of economic infrastructure designed to support the country’s medium- and long-term economic and social objectives. Energy infrastructure is a critical component that underpins economic activity and growth across the country, and it needs to be robust and extensive enough to meet industrial, commercial and household needs.

4.2.10 The New Growth Path Framework (2010)

The aim of the New Economic Growth Path Framework is to enhance growth, employment creation and equity. Central to the New Growth Path is a massive investment in infrastructure as a critical driver of jobs across the economy. In this regard, the framework identifies investments in five key areas namely: ***energy***, transport, communication, water and housing.

The New Growth Path also identifies five other priority areas as part of the programme, through a series of partnerships between the State and the private sector. The Green Economy is one of the five priority areas to create jobs, including expansions in construction and the production of technologies for solar, wind and biofuels. Clean manufacturing and environmental services are projected to create 300 000 jobs over the next decade.

4.2.11 National Infrastructure Plan (2012)

The aim of the National Infrastructure Plan (2012) is to transform the economic landscape while simultaneously creating significant numbers of new jobs and strengthen the delivery of basic services. As part of the Plan, 18 strategic integrated projects (SIPs) have been identified, including three energy SIPs, namely:

- SIP 8: Green energy in support of the South African economy.
- SIP 9: Electricity generation to support socio-economic development.
- SIP 10: Electricity transmission and distribution for all.

4.3 IFC PERFORMANCE STANDARDS COMPARED TO NEMA REQUIREMENTS

The IFC published its Performance Standards (PS) on Environmental and Social Sustainability in April 2006, and then revised them in 2012. In addition to these standards, the IFC also published supporting Guidance Notes (GNs) on each standard. The IFC performance standards have become the international benchmark for Environmental and Social Impact Assessments (ESIAs) and are used to measure the environmental performance and management of large international projects. Table 4-2 provides a brief overview of each performance standard and indicates its applicability to the SIA for this project.

Table 4-2: Description of each Performance Standard and its applicability

Description	Applicability to the EIA
Performance Standard 1: Social & Environmental Assessment and Management Systems The primary objectives of PS1 are to: • To identify and evaluate environmental and social risks and impacts of the project. • To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and, where residual impacts remain, compensate/offset for risks and impacts to workers, Affected Communities, and the environment. • To promote improved environmental and social performance of clients through the effective use of management systems. • To ensure that grievances from Affected Communities and external communications from other stakeholders are responded to and managed appropriately. • To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them, and to ensure that relevant	The ESIA will identify the environmental and social risks by undertaking a series of specialist assessments within the projects area of influence that are aligned with Performance Standards 2-8. Further to the above, Public Participation will be undertaken throughout the ESIA process. During this process affected landowners, tenants, neighbours and key stakeholders will be notified and invited to participate in the process. All comments and issues raised will be recorded and responded to as part of the ESIA process. The PP process is aligned with both the national legislation as well as the IFC's requirements. All adverse impacts must be avoided and if this is not possible, they must be minimised. As such, an environmental management programme (EMPr) will be compiled which outlines what mitigation measures are to be used, and how they are to be implemented, monitored and evaluated. The EMPr will outline the roles and responsibilities associated with implementation and monitoring requirements and will identify communication strategies to ensure community engagement throughout the project lifecycle. The environmental management guideline will be aligned with the IFC's General Environmental, Health and Safety Guidelines, the Environmental, Health, and Safety Guidelines for Wind Energy and appropriate national guidelines. A Stakeholder Engagement Plan that outlines grievance mechanisms and methods of engaging with

Description	Applicability to the EIA
environmental and social information is disclosed and disseminated.	stakeholders to notify them of changes throughout the project lifecycle, will also be included as an appendix to the EMPr.
Performance Standard 2: Labour and Working Conditions The primary objectives of PS2 are to: • Establish, maintain, and improve the worker–management relationship. • Promote the fair treatment, non-discrimination and equal opportunity of workers, and compliance with national labour and employment laws. • Protect the workforce by addressing child labour and forced labour. • Promote safe and healthy working conditions. • Protect and promote the health of workers.	PS2 outlines in detail what working conditions are acceptable and how worker relationships should be managed, and also deals with occupational health and safety for the project (addressed in various management plans). These issues will be addressed in the Social Impact Assessment, Social Management Plan, ESIA and EMPr.
Performance Standard 4: Community Health, Safety and Security The primary objectives of PS4 are to: • Avoid or minimise risks to, and impacts on, the health and safety of the local community during the project lifecycle from both routine and non-routine circumstances. • Ensure that the safeguarding of personnel and property is carried out in a legitimate manner that avoids or minimises risks to the community's safety and security.	The major requirement in terms of PS4 is that all risks and impacts to the surrounding community are assessed and managed appropriately. This includes issues such as infrastructure and equipment safety, hazardous material storage and handling, hazards associated with the natural environment (e.g., floods, landslides, etc.), community exposure to disease and emergency preparedness and response. These aspects will be addressed in the Social Impact Assessment and the ESIA and EMPr, and will be aligned with the IFC's General Environmental, Health and Safety Guidelines as well as the Environmental, Health, and Safety Guidelines for Wind Energy. In addition, a Social Management Plan that includes the following will be included: • A Stakeholder Engagement Plan. • OHS and Emergency Plan. • External Communication and Grievance Management Process Plan. • A Monitoring and Review Plan.
<u>Performance Standard 5:</u> Land Acquisition and Involuntary Resettlement	It is assumed that no physical resettlement of people is anticipated for this project and as such this standard is not applicable.

Description	Applicability to the EIA
The primary objectives of PS5 are to: • Avoid or at least minimise involuntary resettlement wherever feasible by exploring alternative project designs and layouts. • Mitigate adverse social and economic impacts from land requisition or restrictions on affected persons' use of land by (i) providing compensation for loss of assets at replacement cost; and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation and the informed participation of those affected. • Improve or at least restore the livelihoods and standards of living of displaced persons. • Improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites.	
Performance Standard 7: Indigenous Peoples Indigenous peoples are defined as a distinct social or cultural group possessing the following characteristics in varying degrees: • Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others. • Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories. • Customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture. • An indigenous language, often	Whether this PS is applicable to this project will be investigated during the course of the project.

Description	Applicability to the EIA
different from the official language of the country or region. The primary objectives of PS7 are: • To ensure that the development process fosters full respect for the dignity, human rights, aspirations, cultures and natural resource-based livelihoods of Indigenous Peoples. • To avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not feasible, to minimize, mitigate, or compensate for such impacts, and to provide opportunities for development benefits, in a culturally appropriate manner. • To establish and maintain an ongoing relationship with the Indigenous Peoples affected by a project throughout the life of the project. • To foster good faith negotiation with and informed participation of Indigenous Peoples when projects are to be located on traditional or customary lands under use by the Indigenous Peoples. • To respect and preserve the culture, knowledge and practices of Indigenous Peoples.	
Performance Standard 8: Cultural Heritage The primary objectives of PS8 are to: • Protect cultural heritage from adverse impacts of project. activities and support its preservation. • Promote the equitable sharing of benefits from the use of cultural heritage in business activities.	Cultural heritage applicable to this study includes properties and sites of archaeological, historical, cultural, artistic and religious significance. PS8 aims to guide developments on how to protect these areas during the project lifecycle. Heritage and palaeontological specialist assessments will be undertaken for the ESIA. These assessments must comply with the applicable national law as well as internationally recognised practices for the protection of heritage sites. As part of the reporting the specialists will need to provide comment on whether any of the sites

Description	Applicability to the EIA
	are considered Critical Cultural Heritage Sites as per the criteria in PS8 and will need to develop appropriate "Chance-find Procedures".

Both the South African National Environmental Management Act (NEMA) and International Finance Corporation (IFC) Performance Standards (PS) aim to determine, assess, and manage environmental and social risk. The IFC recognises that host country regulations differ between countries and state that where these differ from those presented in the EHS Guidelines, the most stringent will apply.

NEMA is considered to be stringent, with South Africa having one of the best sets of environmental laws globally. Further to this, NEMA aligns with the requirements set out in Performance Standard 1 and the associated Guidance Notes (GN22–GN26) as both of these processes require the following:

- Initial screening and scoping phase;
- Examination of alternatives;
- Stakeholder identification and engagement throughout the process, including public meetings at both scoping and EIA phase;
- Identification and evaluation of direct, indirect and cumulative impacts that the project will have on the social and biophysical environment;
- Generation of mitigation and management measures that follow the mitigation hierarchy (avoid, minimise, restore, offset);
- Documentation of the process (i.e., the ESIA Report);
- Specialist assessments; and
- Drafting of an Environmental Management Plan.

An area where the South African legislated process falls short of the Performance Standards is on the social aspects. In South Africa the primary focus of an EIA is on the biophysical environment, and this is the focus of the listed activities. Thus, the EIR must include social and economic considerations, and assess social and economic impacts in more detail that required by NEMA, since NEMA is not as rigorous as the PS are in terms of social impacts. Any limitations will be adequately dealt with in the SIA, Stakeholder Management Plan and ESIA.

4.4 PROVINCIAL FRAMEWORK

4.4.1 Northern Cape Provincial Spatial Development Framework

The Northern Cape Provincial Spatial Development Framework – Review of Socio-economic Potential of Towns Study (2018) was commissioned to enable Government, the private sector and communities in the Northern Cape to collaborate in prioritising the effective development of urban and rural spaces over the long term. It states that adequate investment in infrastructure such as

transportation, communications, ***energy***, and basic services improves rural productivity and better access to markets, jobs and public services.

4.4.2 Northern Cape Provincial Growth and Development Strategy (2019)

The Northern Cape Provincial Growth and Development Strategy (2019) aims to place the Northern Cape Province on a new development trajectory of sustainable development which forms part of its long-term strategic approach. The document relies heavily on the 2015 Sustainable Development Goals, the blueprint of the global development agenda, to achieve a better and more sustainable future for all. It recognises that social wellbeing is a complex concept, and refers to several aspects relating to human life, such as happiness, material fulfilment and personal needs – although many aspects of social well-being can only be achieved by an individual and his/her subjective feelings and experiences, access to basic infrastructure and economic opportunities acts as a catalyst for achieving various levels of human well-being.

It makes provision for new government priorities, including job creation, accountability, the environment, alternative energy, rural development, health and poverty alleviation.

4.5 District and Local Policy & Plans

4.5.1 Pixley ka Seme District Municipality Integrated Development Plan (2022–2027)

The Pixley ka Seme District IDP (2022–2027) identifies the district as a leading innovative region and global centre for renewable energy and space science (through the Square Kilometre Array radio telescope project). Existing and the potential for future renewable energy developments are mentioned throughout the document, including the potential for technical skilling (technician and artisan training) for the renewable energy trade, the production or assembly of renewable energy components, and the renewable energy value chain. It points out that electrification provides a solid base for the development of local communities – it enables access to safe potable water, food security and lighting, and reduces the need for collecting and using other traditional sources of energy. It also mentions the contribution that existing renewable energy projects make through their Corporate Social Investment (CSI) Programmes.

The following opportunities and recommendations are made:

- Tapping into the Climate Change Fund for all the ailing Local Municipalities that host solar and wind energy renewable energy projects.
- Support initiatives, climate change and greenhouse gas projects and programmes that promote the reduction of energy consumption.
- Investment in renewable energy projects (solar, wind, hydro) is required within the District.

4.5.2 Emthanjeni Local Municipality Integrated Development Plan (2021/2022)

The Emthanjeni IDP (2021/2022) states that the municipality is becoming a centre for renewable energy developments, although the sector has not yet had a sustainable impact on projects and job creation. Renewable energy projects, together with Manufacturing and Warehousing, is seen as one of the key investment sectors in the municipality that can contribute to significant economic growth.

5 STAKEHOLDER ENGAGEMENT

Stakeholder engagement as part of the SIA differs from Public Participation for the EIA. Public Participation as part of an EIA process is regulated, with prescriptions on who must be consulted, and how. Stakeholder engagement for a Social Impact Assessment, on the other hand, is at the SIA Practitioner's discretion, with no obligation to consult with specific/all stakeholders.

Typically, one-on-one interviews are done with key stakeholders who are identified from groupings such as the local municipality (including ward councillors), directly affected and adjacent landowners, Tourism, Conservation, community forums/organisations, NGOs, schools, Business and Law Enforcement.

Although the stakeholder consultation differs from Public Participation, the SIA Practitioner often draws from information gathered during the Public Participation process, such as I&AP registers and Comment and Response Reports.

A site visit and stakeholder consultations took place from 1 to 3 November 2022. Face-to-face interviews were done with stakeholders from the following groupings: Law Enforcement (SAPS; Court; Traffic Department); Tourism/Hospitality establishments; directly affected landowners; adjacent landowners and Local Municipality, including ward councillors. Subsequent to this, and at request of Emthanjeni Local Municipality, an online meeting via Microsoft Teams was also held, to include additional stakeholders from the municipality.

6 DESCRIPTION OF THE SOCIAL ENVIRONMENT

6.1 INTRODUCTION

This section provides a description of the socio-economic context of the affected area in and around the Soyuz 2 WEF development site. The applicant, Soyuz 2 (Pty) Ltd, is proposing the development of a commercial Wind Energy Facility (WEF) and associated infrastructure on a site located approximately 23 km south of Britstown in the Northern Cape Province. The site falls within the Emthanjeni Local Municipality (LM), Pixley ka Seme District Municipality (DM).

Five additional WEFs are concurrently being considered on the surrounding properties and are assessed by way of separate environmental impact assessment processes. The six facilities are all located in the Pixley ka Seme DM, Northern Cape Province:

Table 6-1: The six proposed wind farms

Proposed WEF	Approximate location	Local Municipality
Soyuz 1	22 km south of Britstown	Emthanjeni LM
Soyuz 2 (this application)	23 km south of Britstown	Emthanjeni LM
Soyuz 3	35 km south of Britstown	Emthanjeni and Ubuntu LMs
Soyuz 4	46 km south of Britstown	Ubuntu LM
Soyuz 5	58 km south of Britstown	Ubuntu LM
Soyuz 6	53 km southeast of Britstown	Ubuntu LM

Baseline conditions are the existing conditions and past trends associated with the human environment in which the proposed activity is to take place (DEAT, 2006). Establishing the baseline conditions is essential for describing the receiving environment, the status quo, and for identifying and predicting potential impacts. “A prediction of change can only be as effective as the baseline information from which it is derived. It is thus important that the specialist puts the proposed project in perspective by comparing the current state with the potential future state” (DEAT, 2002a).

The baseline study presents a background description of the baseline conditions of the broader area and the potentially affected areas (the receiving environment) and includes a description of the local historical setting of the project and the local cultural context. Data from a variety of sources is included, including census data (from the 2011 census—the last census that was held in South Africa) for demographic profiles; the 2016 Community Survey conducted by StatsSA (for a more recent municipal profile than what the census data provides); the 2019 General Household Survey (conducted by StatsSA); the Emthanjeni Local Municipality Final Integrated Development Plan 2021/2022; and the websites of the Northern Cape Province and Emthanjeni Local Municipality. Municipal IDPs usually use data provided by StatsSA for inclusion in their IDPs, and therefore, it should be noted that data provided are in many instances dated but are the latest data that is available.

Data at the following levels are described: Provincial (Northern Cape Province), District (Pixley ka Seme District) and Local/Municipal (Emthanjeni Local Municipality).

6.2 Background information: Northern Cape Province, Emthanjeni Local Municipality and the Project site

The Northern Cape Province is the largest province in South Africa, covering approximately 372 889 m^2 and constituting about 30% of South Africa's land area. The province is also the most sparsely populated in the country, with its population constituting approximately 2.2% of South Africa’s total population. It lies to the south of its most important asset, the Orange River, which provides the basis for a healthy agricultural industry. The province shares borders with four other provinces, namely the Free State, North West, Eastern Cape and Western Cape. It also shares borders with Namibia and Botswana to the north. The Atlantic Ocean forms the western boundary. The climate in the province is typically very warm in summer in most areas

and very cold in winter. Unemployment has increased significantly between 1996 and 2011 (StatsSA, 2011 Provincial Profile – Northern Cape).

The key contributors to economic growth in the province are mining, construction, finance, utilities (including a growing renewable energy sector) and agriculture. The province contributes the least to the National GDP of all provinces (http://www.northern-cape.gov.za/).

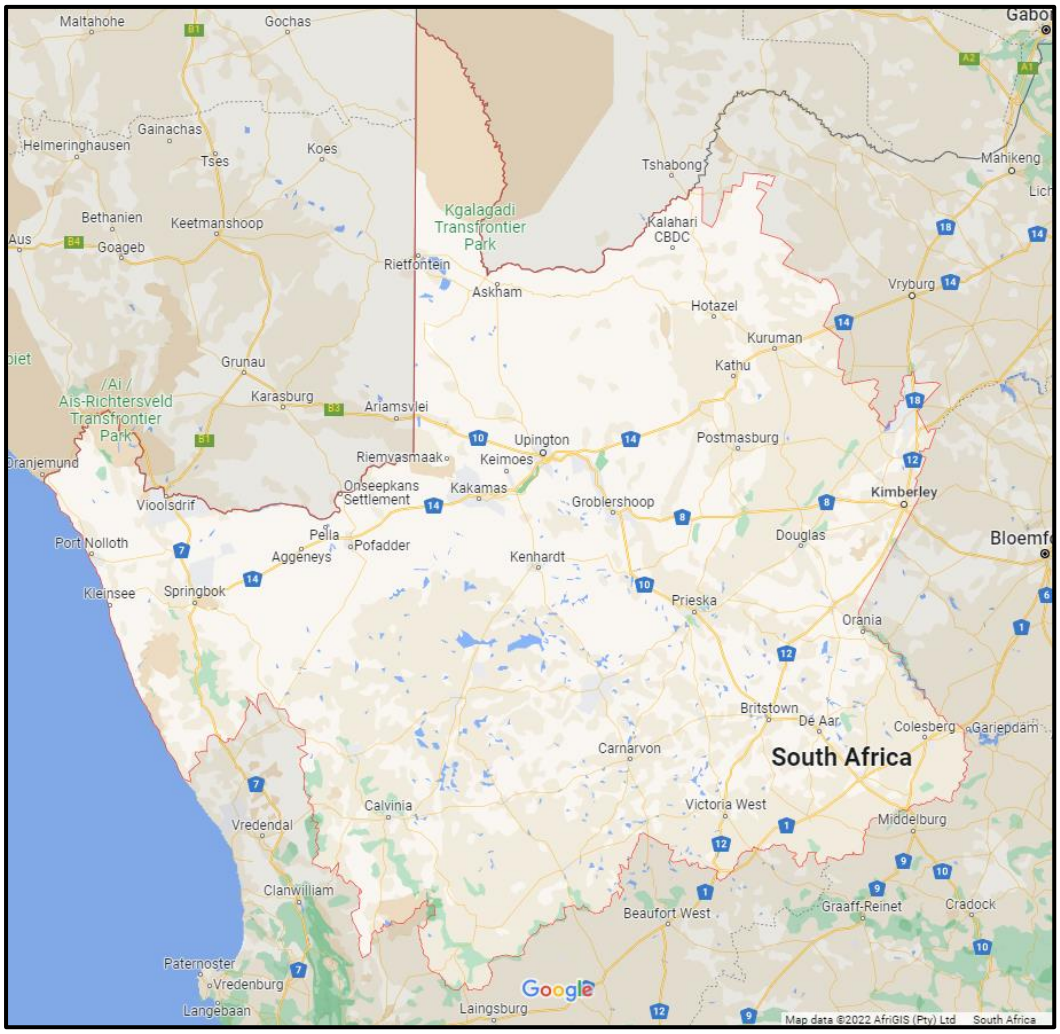


Figure 6-1: Northern Cape Province (Source: Google Maps)

The province is divided into five districts, namely Namakwa, Pixley ka Seme, Siyanda, Frances Baard, and John Taolo Gaetsewe. The project site falls within the Pixley ka Seme District Municipality.

Emthanjeni LM, the local municipality within which the project site falls, is one of eight local municipalities in Pixley ka Seme District, and comprises the towns of Britstown, De Aar and Hanover, with the administrative seat being in De Aar.

According to Emthanjeni LM's IDP 2021/2022, Agriculture forms the backbone of Emthanjeni's economy, and it is the largest contributor to labour/employment currently. Sheep (for wool and

mutton), game, lucerne and wheat farming are the main farming activities in the area. The area is known for supplying Karoo mutton, with the largest abattoir in the southern hemisphere reportedly located in De Aar. The IDP also describes the municipality as being a potential industrial growth point, with investments in the form of renewable energy, manufacturing and warehousing projects. The Manufacturing sector shows potential of growth through the introduction of renewable energy projects in De Aar and surrounding areas. The Municipality is dependent upon the following economic activities: Services sector (government institutions, NGOs, banks, etc.), Manufacturing (stone crushers, brick manufacturing, renewable energy generation, meat processing, etc.), Retail (including various chain stores), Agriculture, Transport (rail and road infrastructure), and Tourism.

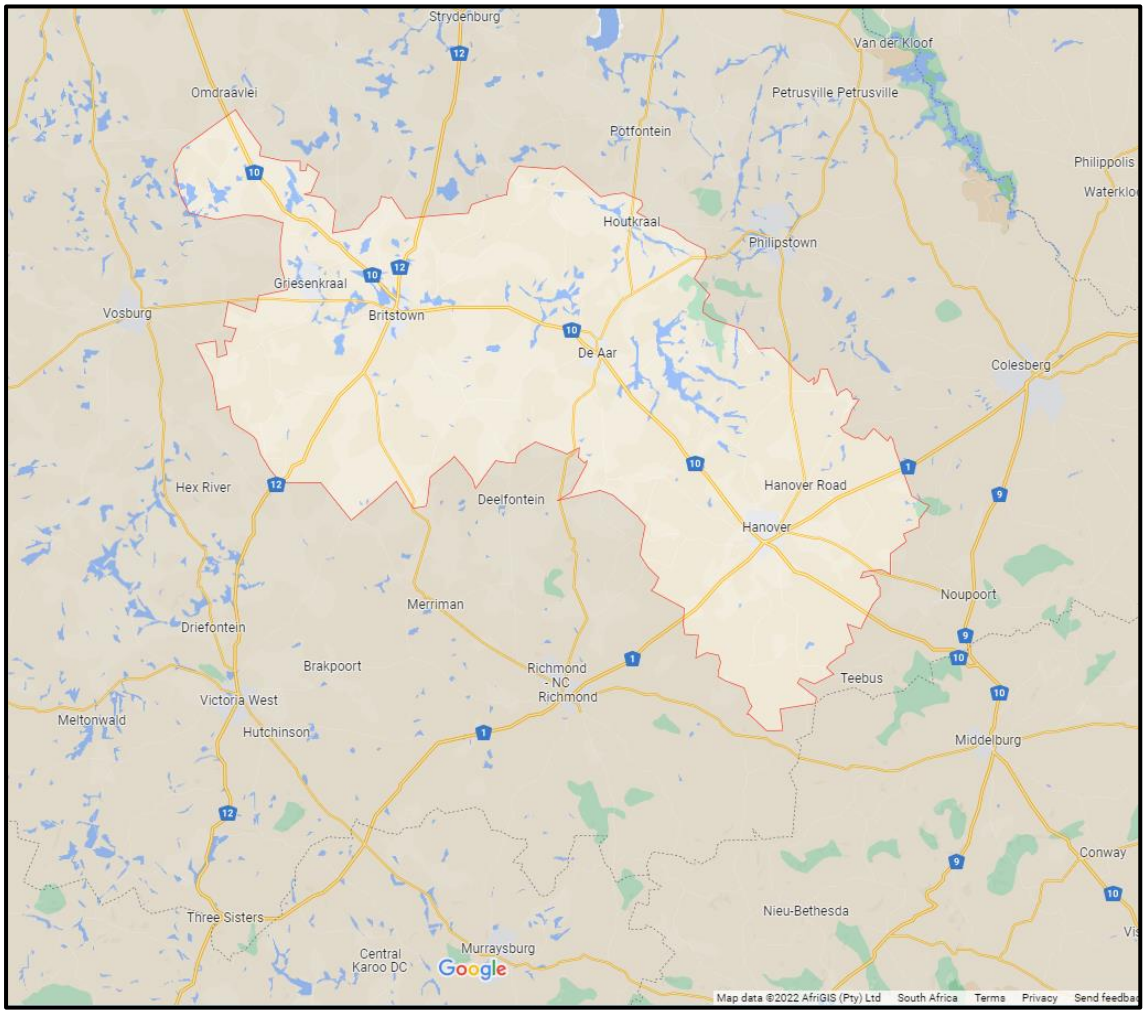


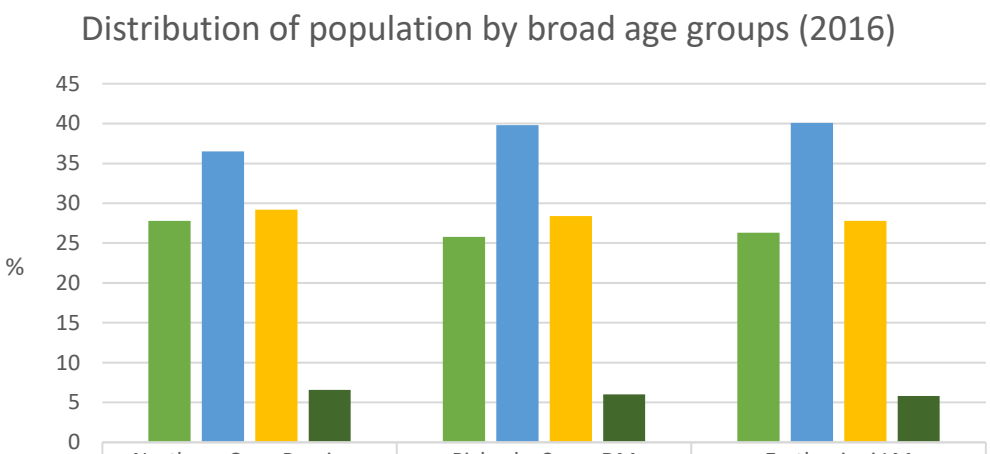
Figure 6-2: Emthanjeni Local Municipality (Source: Google Maps)

The project site is located south of Britstown and consist of various farms located outside the urban areas of the municipality. From aerial imagery it is not clear whether any homesteads will be affected by the proposed WEF; this will be determined during the field work in the EIA phase.

6.3 DEMOGRAPHICS

6.3.1 Structure of the population by broad age groups

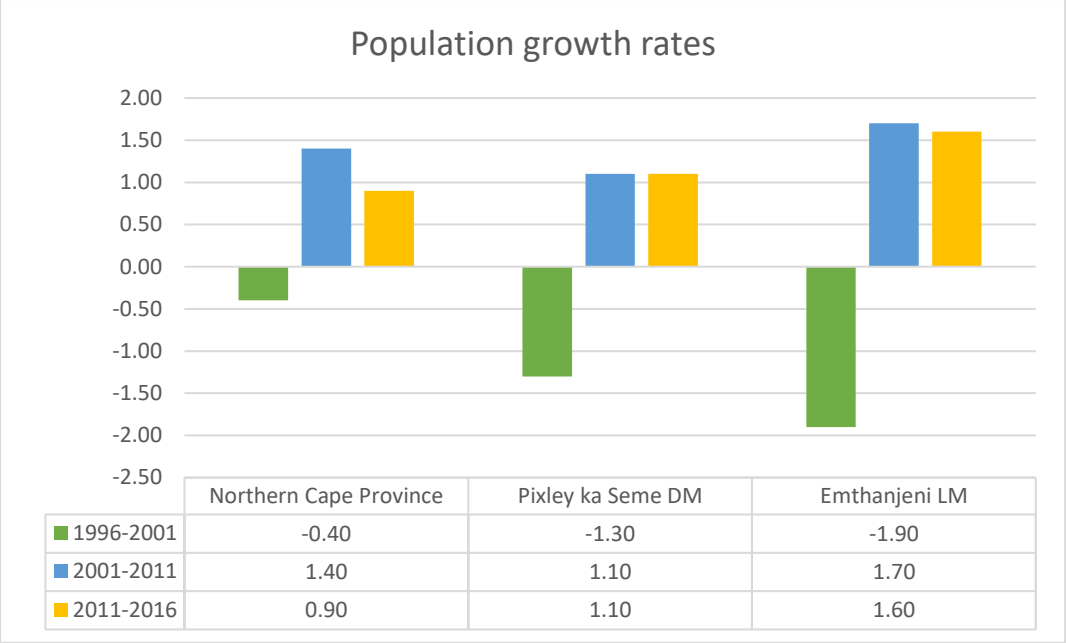
The age profile for Emthanjeni LM is similar to that of Pixley ka Seme District and the Northern Cape Province, with the majority of residents falling in the age group 15–34 years, followed by 35–64 and 0–14 years. The smallest number of residents fall in the age group 65+ years.



	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
0–14	27.8	25.8	26.3
15–34	36.5	39.8	40.1
35–64	29.2	28.4	27.8
65+	6.6	6	5.8

6.3.2 Population growth rates

The Northern Cape Province, Pixley ka Seme District and Emthanjeni LM all had negative growth rates between the period 1996–2001. This changed after 2001, with positive growth rates being recorded for the province, district and municipality for the periods 2001–2011 and 2011–2016.

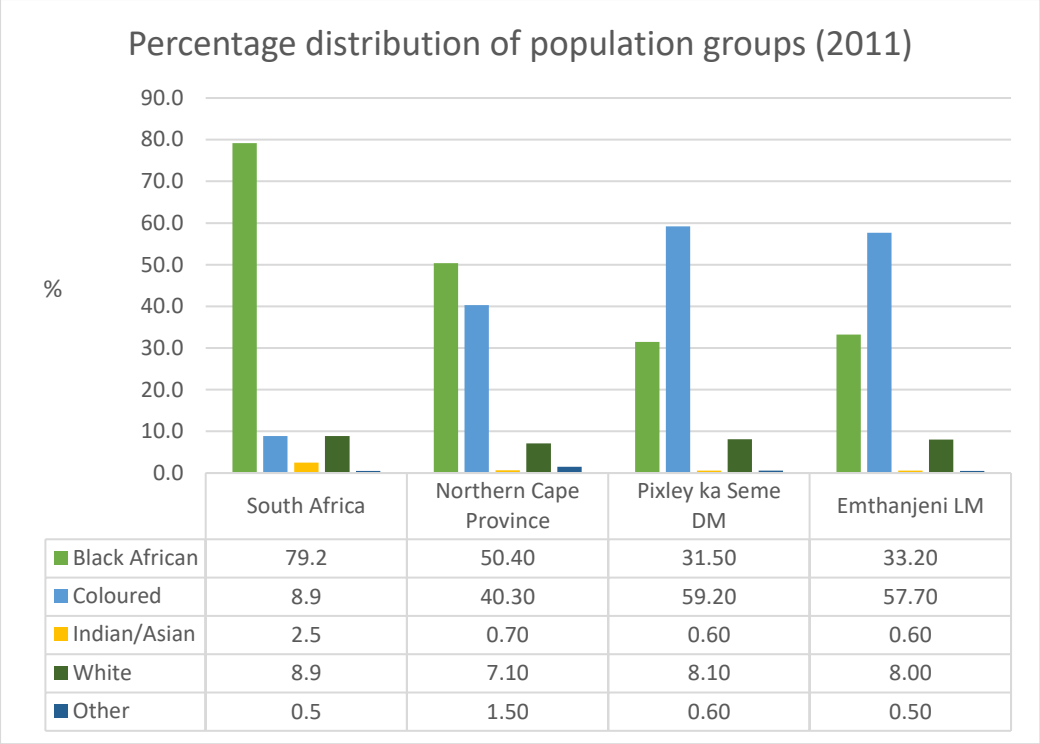


	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
1996-2001	-0.40	-1.30	-1.90
2001-2011	1.40	1.10	1.70
2011-2016	0.90	1.10	1.60

According to the StatsSA 2016 Community Survey, the Northern Cape also has the smallest percentage of residents who were born outside South Africa, namely 1.1%, compared to 50.8% in Gauteng and 12.2% (the second highest percentage in the country) in the Western Cape. Of the residents of Pixley ka Seme DM who were born outside South Africa, 50.5% were born in one of the SADC countries, 10.5% were born elsewhere in Africa, 6.3% were born in Europe, 31.5% were born in Asia, 1.3% were born in North America, and none were born in the remaining continents.

6.3.3 Population groups

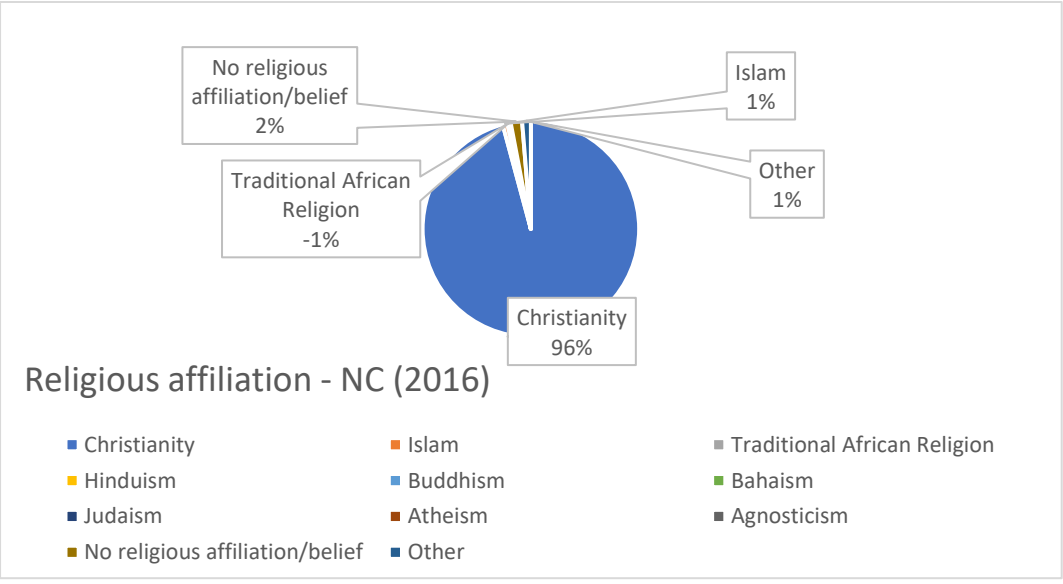
The population distribution for the district and local municipality differs from that of the country and the province—in South Africa and the Northern Cape Province, the dominant population group is Black African, whereas in Pixley ka Seme DM and Emthanjeni LM it is Coloured. The proportion Coloured residents in the province, however, does not reflect that of the country as a whole, with their distribution in the province being much higher in the province than in the country. On all levels (National, Provincial, District and Local), Whites are the third most prevalent, with the lowest number of residents on all levels being Indian/Asian.



	South Africa	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
Black African	79.2	50.40	31.50	33.20
Coloured	8.9	40.30	59.20	57.70
Indian/Asian	2.5	0.70	0.60	0.60
White	8.9	7.10	8.10	8.00
Other	0.5	1.50	0.60	0.50

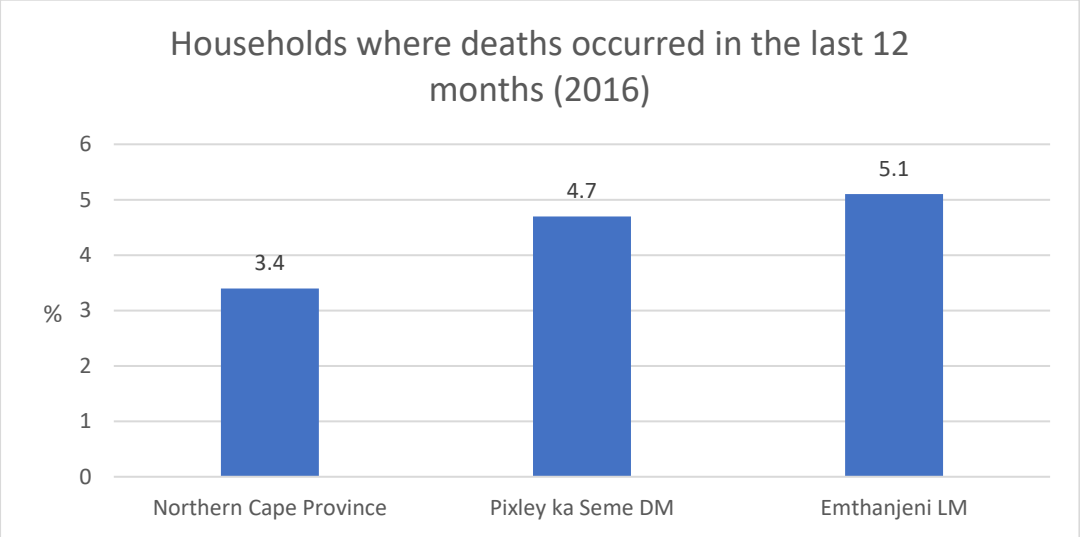
6.3.4 Religious affiliation

In terms of religious affiliation, the majority of residents (96%) of the Northern Cape Province are Christian, followed by no religious affiliation/belief (2%), Traditional African Religion (1%) and Muslims (1%).



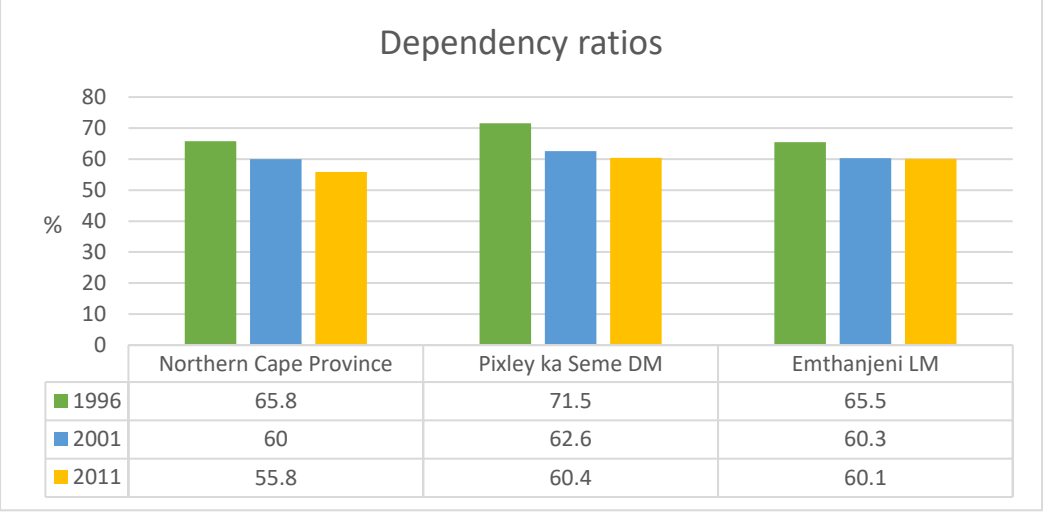
6.3.5 Occurrence of deaths in households

The occurrence of deaths in households was higher in Emthanjeni LM than in the District or Province, in the 12 months preceding the Community Survey that took place in 2016. 3.4% of households in the Northern Cape had deaths in their households during the 12-month period, while 4.7% of households in the Pixley ka Seme District and 5.1% of households in Emthanjeni LM had deaths in their households.



6.3.6 Dependency ratios

Dependency ratios indicate to what extent the working age group (15–64 years) of a population has to support those aged 0–14 years and 65+ years.

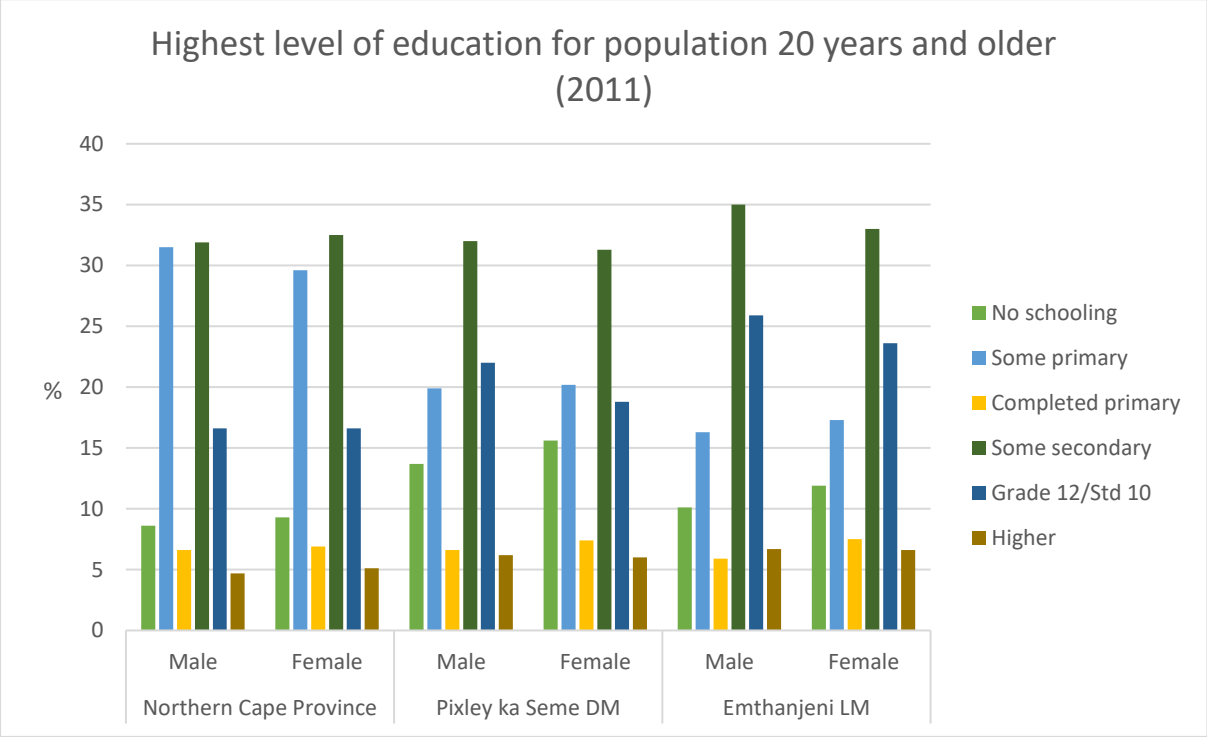


	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
1996	65.8	71.5	65.5
2001	60	62.6	60.3
2011	55.8	60.4	60.1

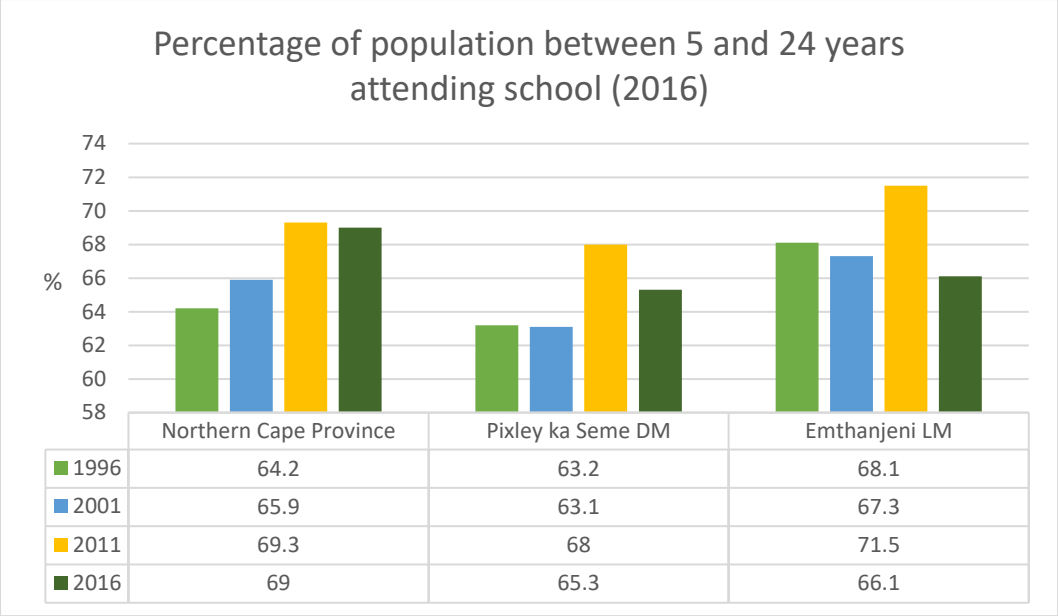
Emthanjeni LM's dependency ratio has decreased slightly between 2001 and 2011, with larger decreases seen in the province and district.

6.3.7 Education

The highest percentage of residents older than 20 years residing in Emthanjeni LM has completed some secondary education, followed by those who completed Grade 12/Std 10, some primary, no schooling, completed primary, and higher. This is similar to levels for the district and province, except that a larger percentage of residents in the province completed some primary education than those completing Grade 12/Std 10. There are only slight differences for highest level of education completed between males and females.

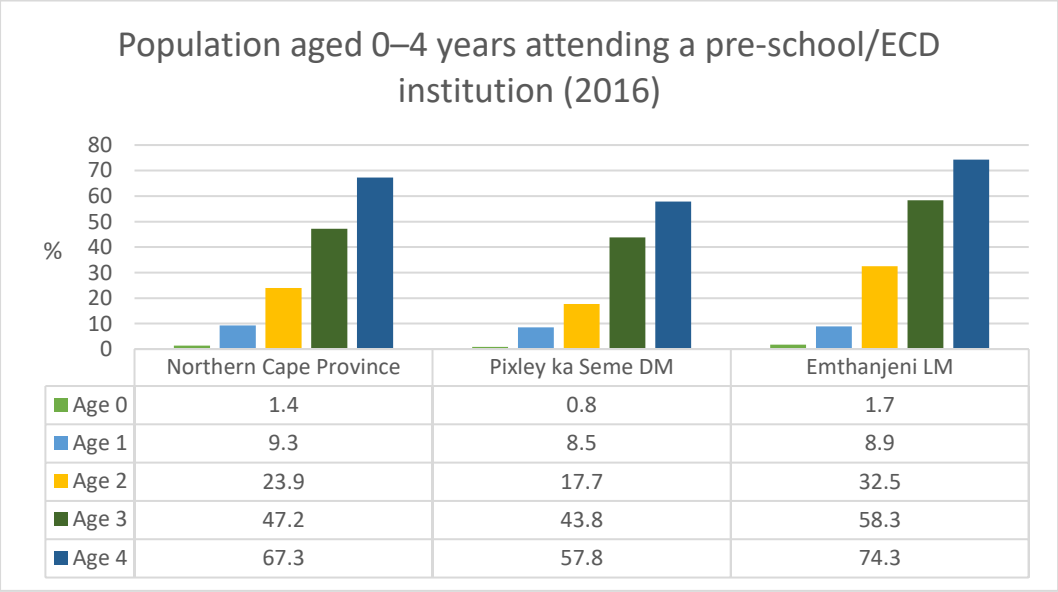


The percentage of the population between the ages of 5 and 24 years attending school has decreased between 2011 and 2016, after having shown an increase in the period 2001–2011. This was the case in the province, district and local municipality.



	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
1996	64.2	63.2	68.1
2001	65.9	63.1	67.3
2011	69.3	68	71.5
2016	69	65.3	66.1

Attendance of pre-school or Early Childhood Development (ECD) institutions increased with age in the province, district and local municipality, with almost three quarters (74.3%) of children aged 4 attending in Emthanjeni LM.

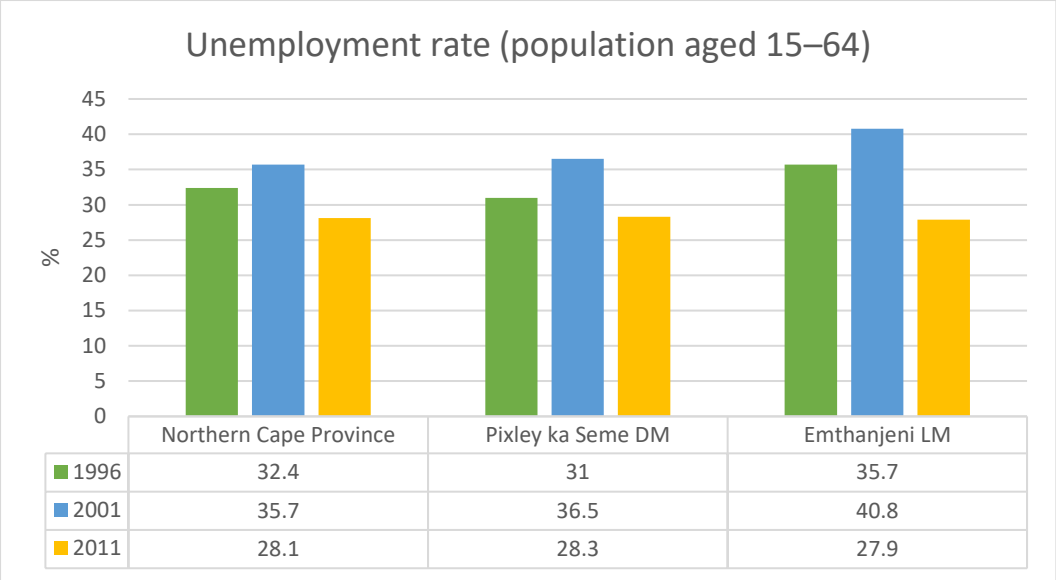


	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
Age 0	1.4	0.8	1.7
Age 1	9.3	8.5	8.9
Age 2	23.9	17.7	32.5
Age 3	47.2	43.8	58.3
Age 4	67.3	57.8	74.3

6.3.8 Labour market, income, and ability to buy food

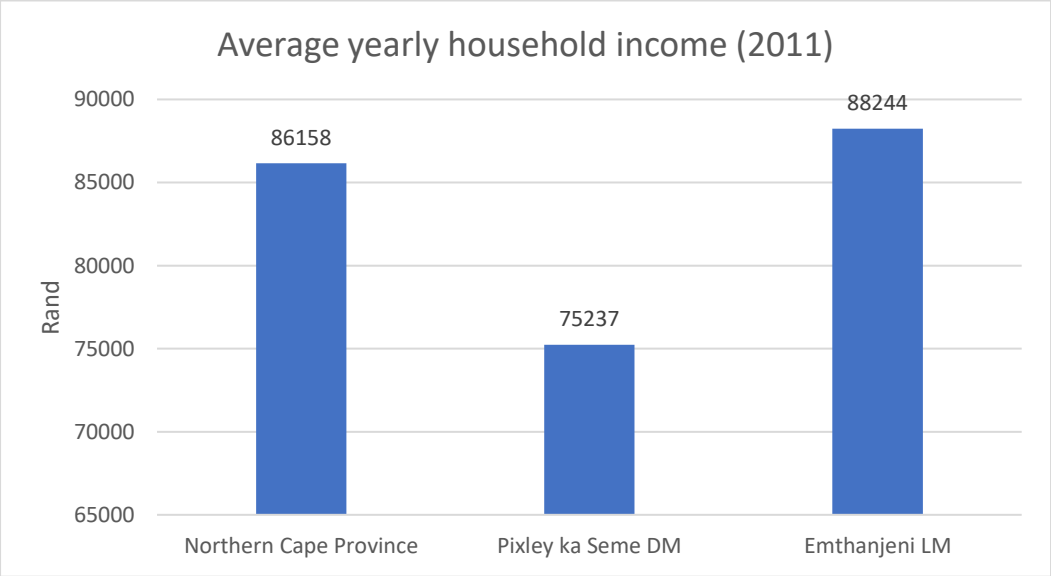
The unemployment rate decreased in the province, district and local municipality between 2001 and 2011. However, these figures are dated and realistically speaking likely much higher, with a significant increase between 2011 and 2022 expected. The employment figures contained in the Emthanjeni Local Municipality IDP 2021/2022 is unfortunately also from the 2011 census. Figures in in the province and municipality will likely follow the same trajectory as national figures, which increased significantly from around 24% in 2011 to 35.3% in the

fourth quarter of 2021. The increase in the unemployment rate from 2020 to 2021 was steeper than between 2011 and 2020, likely due to the impact of Covid-19 and accompanying lockdowns which resulted in businesses closing and employees losing their jobs.

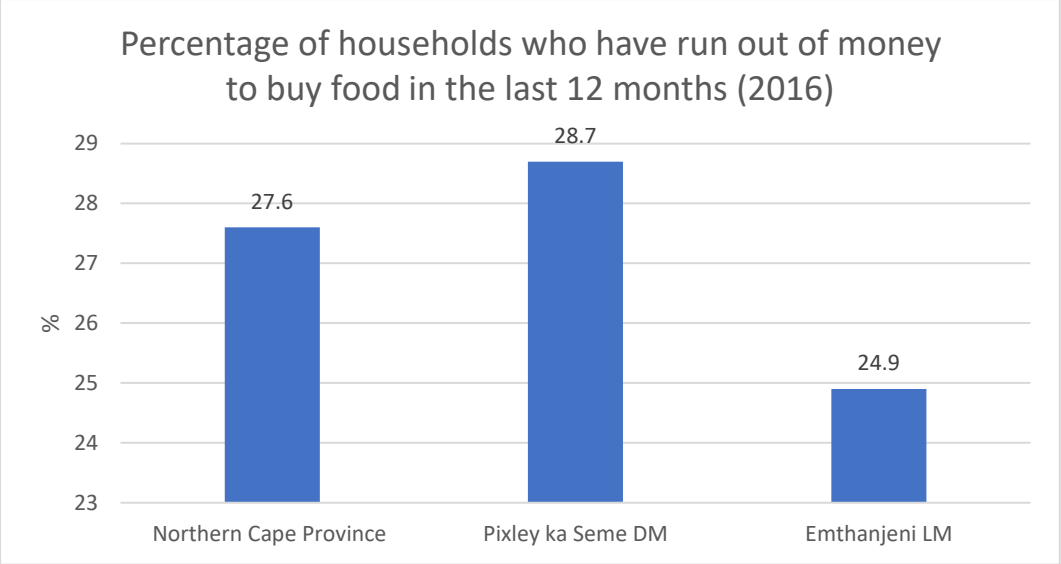


	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
1996	32.4	31	35.7
2001	35.7	36.5	40.8
2011	28.1	28.3	27.9

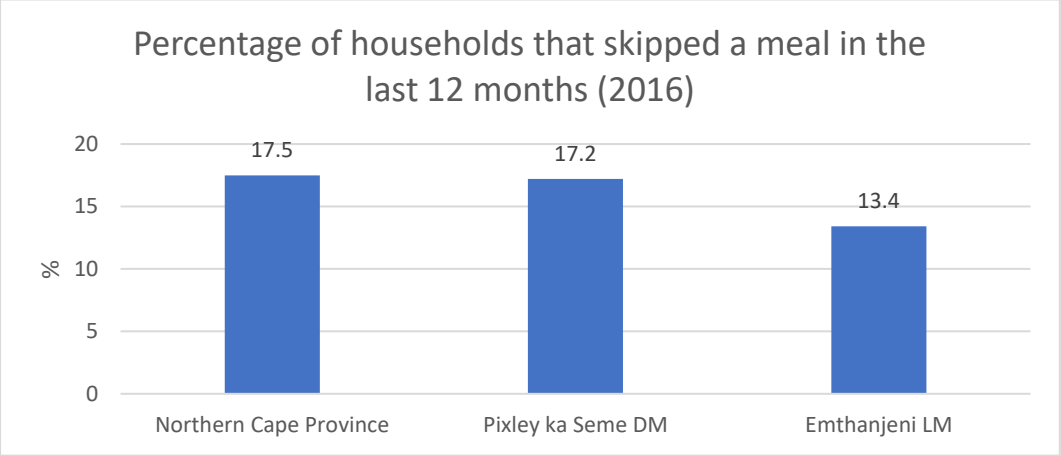
The average yearly income in Emthanjeni LM was R88 244.00 (translating to R7 354.00 per month) in 2011—slightly higher than the provincial average and significantly higher than the district average, which was R75 237.00.



Almost a quarter of households (24.9%) in Emthanjeni LM ran out of money to buy food at some point during the 12 months preceding the Community Survey conducted by StatsSA in 2016. This was lower than the provincial and district figures, that were 27.6% and 28.7% respectively.

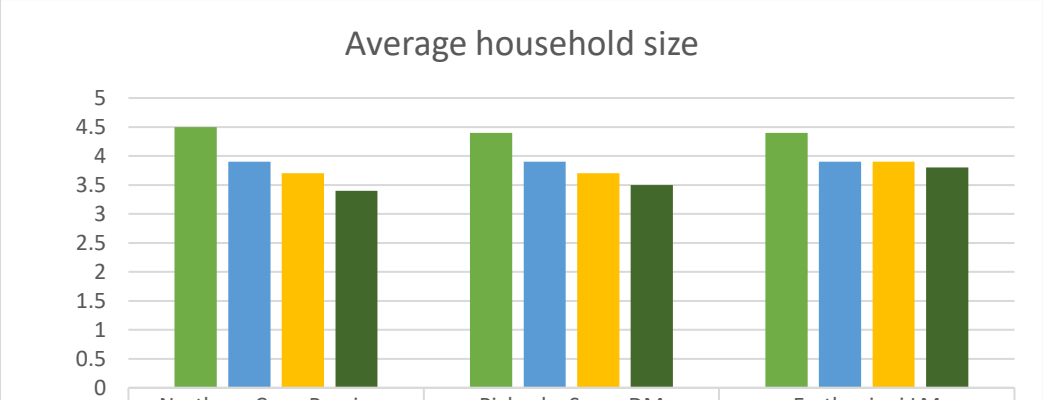


The percentage of households in the LM who skipped a meal in the 12 months preceding the 2016 Community Survey because they did not have enough food for the household, were also lower (13.4%) than the figures for the province (17.5%) and district (17.2%).



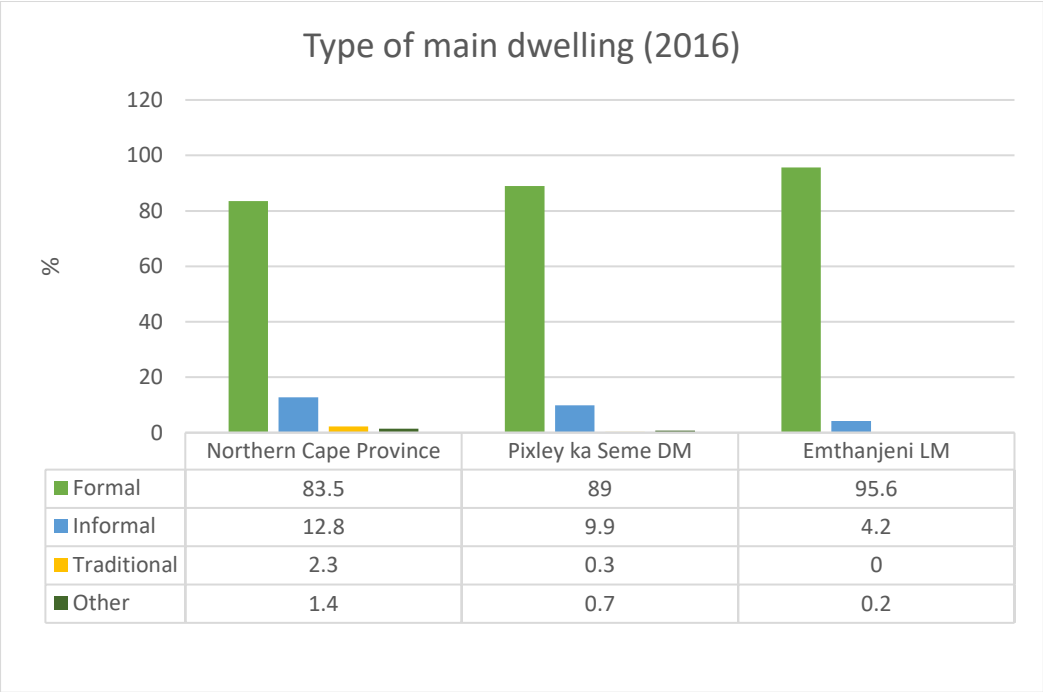
6.3.9 Housing

The average household size has decreased slightly across the provincial, district and local municipal levels from 1996 to 2011. The average household size in Emthanjeni LM 3.8 in 2016, whereas it was 3.4 in the province and 3.5 in the district.



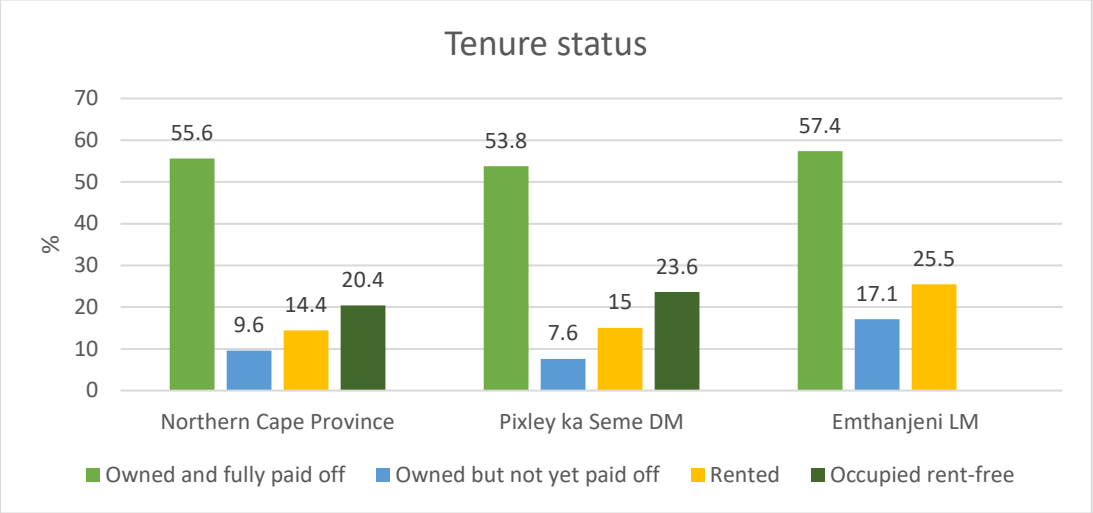
	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
1996	4.5	4.4	4.4
2001	3.9	3.9	3.9
2011	3.7	3.7	3.9
2016	3.4	3.5	3.8

Most residents in the province, district and local municipality live in formal dwellings, with the percentage for Emthanjeni LM being 95.6% in 2016, compared to 83.5% in the province and 89% in the district. The percentage of residents living in informal dwellings was highest in the province (12.8%), followed by the district (9.9%) and the local municipality (4.2%).

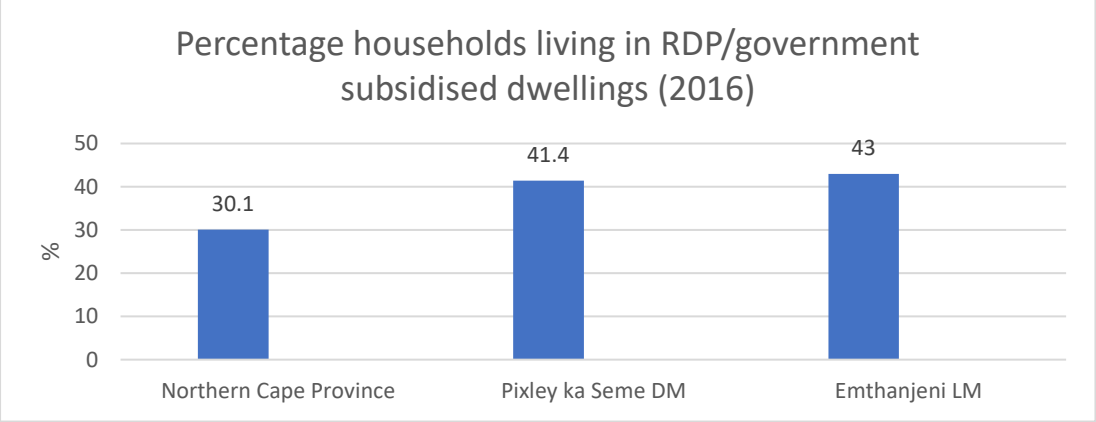


	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
Formal	83.5	89	95.6
Informal	12.8	9.9	4.2
Traditional	2.3	0.3	0
Other	1.4	0.7	0.2

The majority of residents in the province, district and local municipality indicated that their dwellings were owned by them and fully paid off (55.6%, 53.8% and 57.4%, respectively). Figures for dwellings that were occupied rent-free were not available for Emthanjeni LM, but 20.4% and 23.6% of residents in the province and district, respectively, indicated that they were occupying their dwellings rent-free.

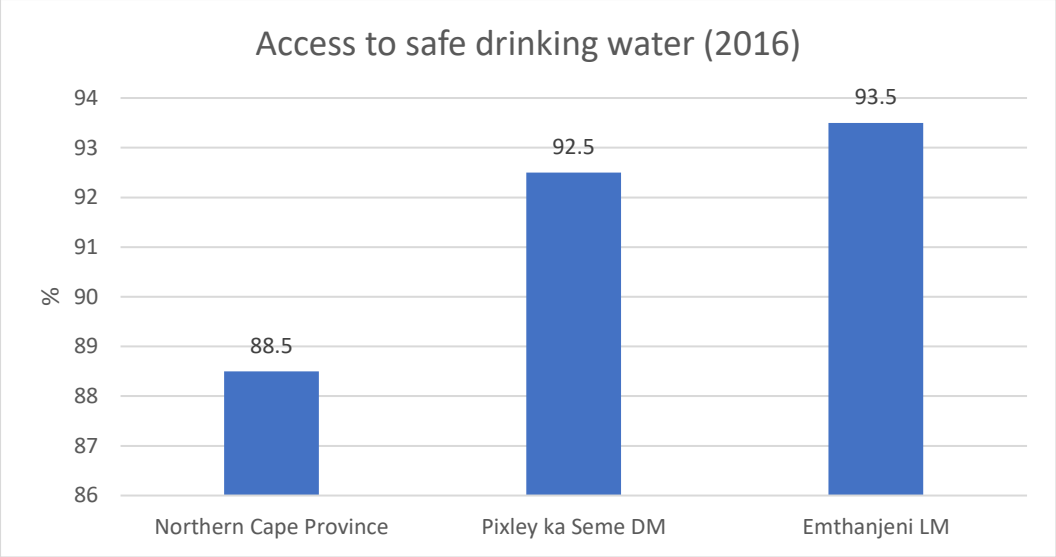


According to the 2016 Community Survey, 43% of residents of Emthanjeni LM were living in RDP houses or other government-subsidised dwellings, followed by 41.4% in the district and 30.1% in the province.

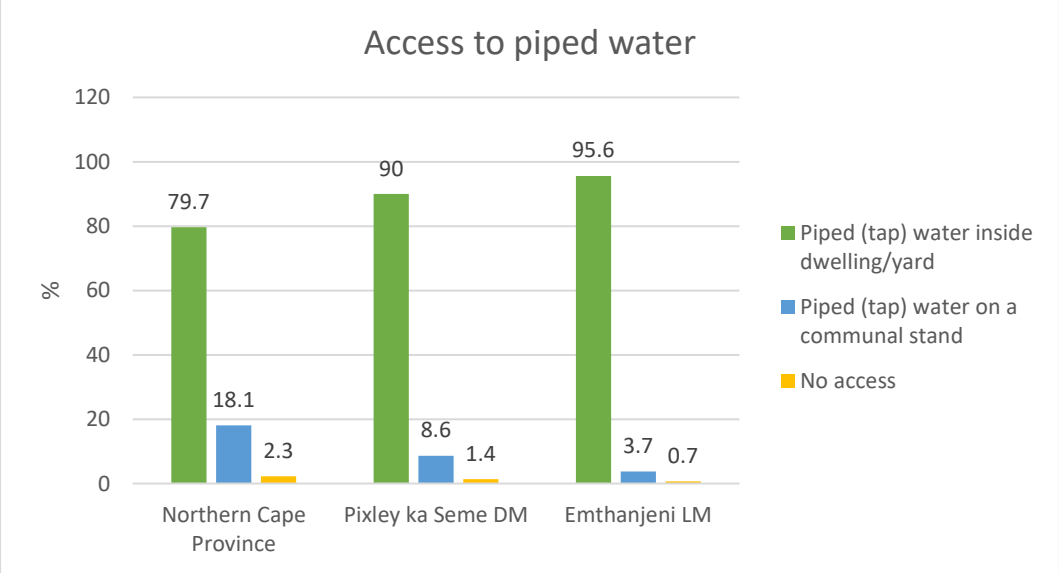


6.3.10 Access to services

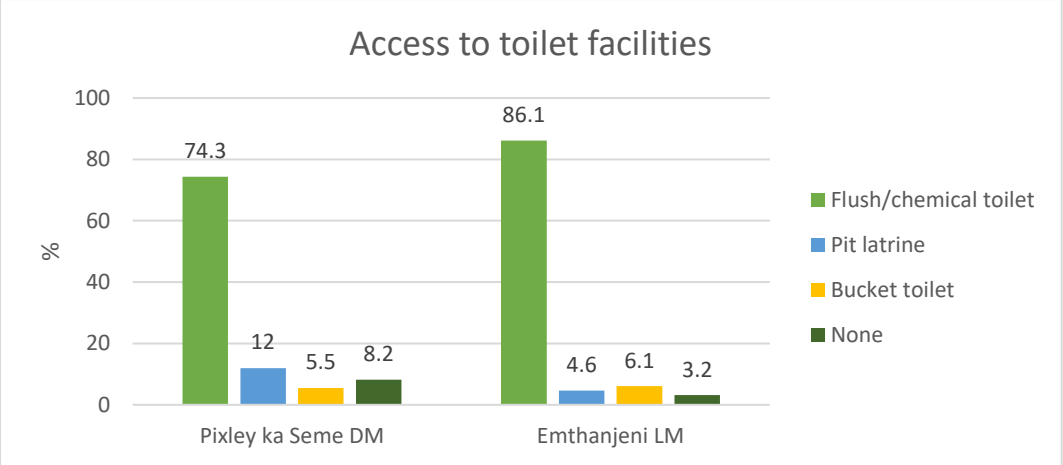
93.5% of residents of Emthanjeni LM indicated in the 2016 Community Survey that they had access to safe drinking water, with 92.5% of residents of Pixley ka Seme District and 88.5% of residents of the Northern Cape indicating that they did.



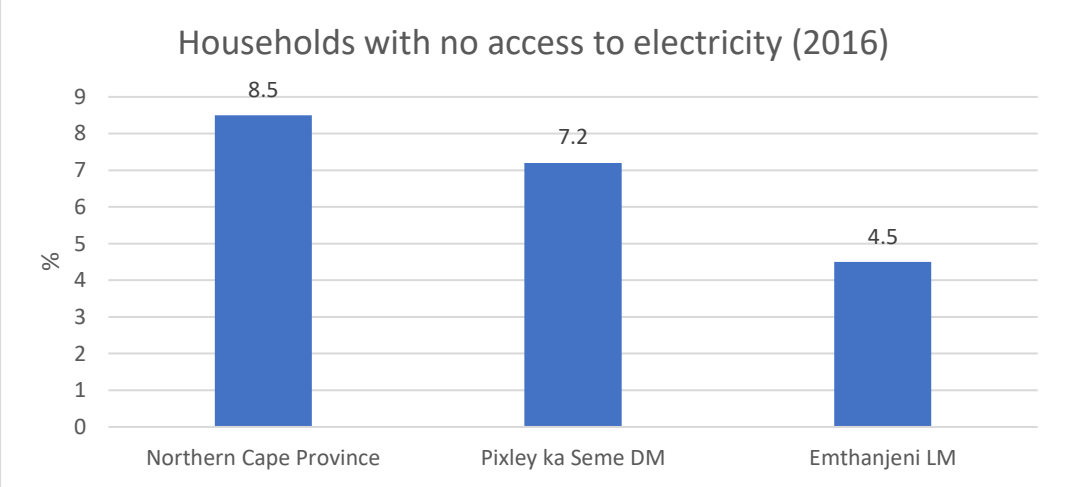
Almost all (95.6%) residents of Emthanjeni LM indicated in 2011 that they had piped (tap) water inside their dwelling or yard. This was significantly higher than the provincial figure of 79.7% in 2011. Only 0.7% in the LM indicated that they had no access to piped water.



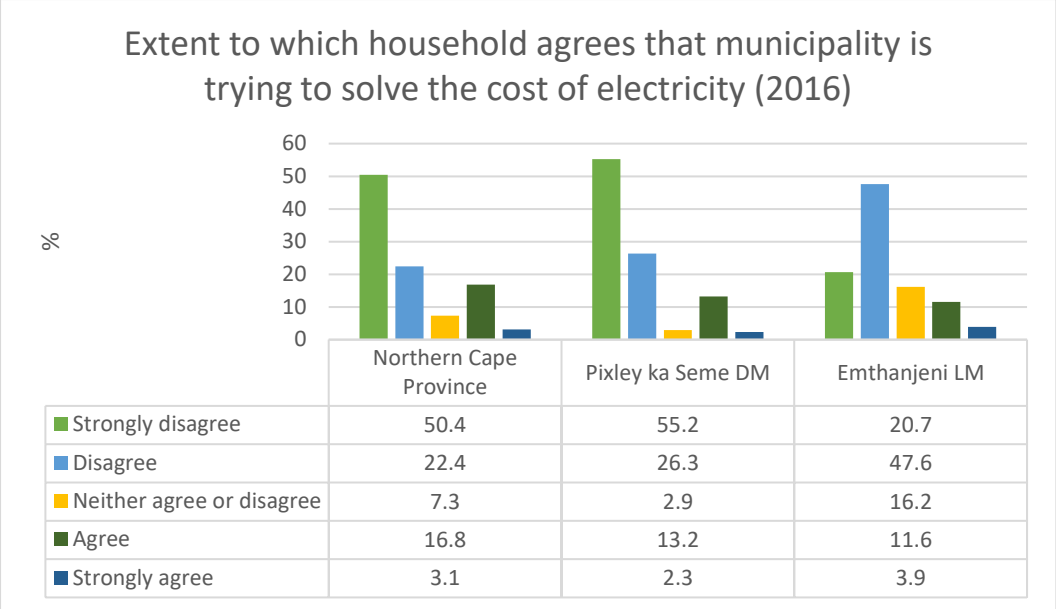
The majority of residents had access to flush/chemical toilet facilities (86.1% in Emthanjeni LM and 74.3% in Pixley ka Seme District) in 2011. 4.6% used pit latrines and 6.1% used bucket toilets in Emthanjeni LM, and 3.2% indicated that they had no access to any toilet facilities.



The percentage of households that had no access to electricity in 2016 was lower in the local municipality (4.5%) than in the district (7.2%) and province (8.5%)



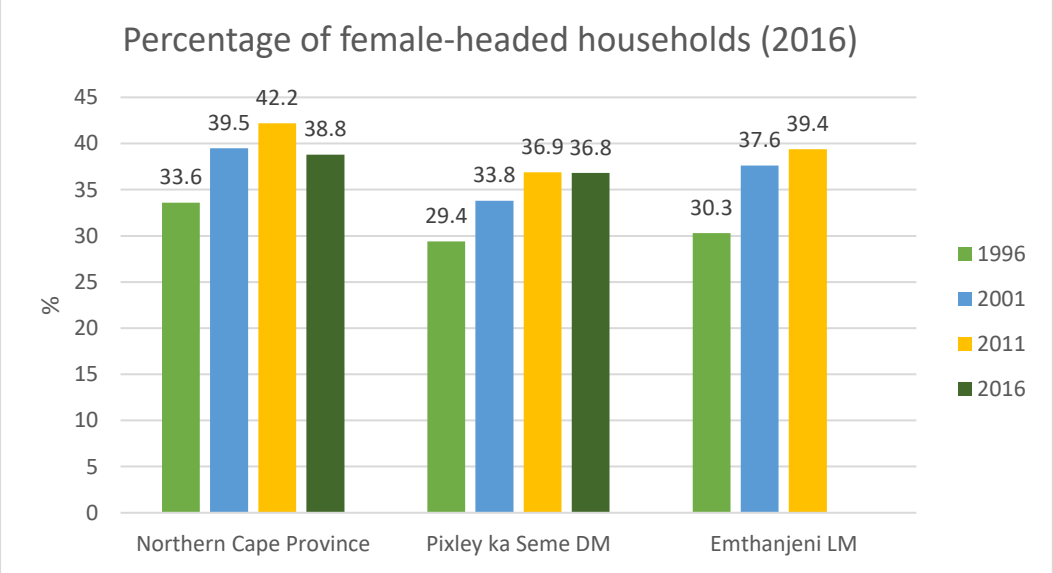
In terms of the extent to which households agreed that their municipalities were trying to mitigate high electricity costs, the largest percentage of residents who strongly disagreed were in the greater district (55.2%), followed by the province (50.4%) and the local municipality (20.7%), although the lower percentage who strongly disagreed in the local municipality by no means meant that residents did in fact agree, as 47.6% indicated that they disagreed. This may, however, be indicative of a higher level of satisfaction in general with service delivery by the municipality, which would correspond to the more favourable data for the local municipality in terms of access to safe drinking water, piped water, flush/chemical toilets and electricity, compared to the data for the district and province.



	Northern Cape Province	Pixley ka Seme DM	Emthanjeni LM
Strongly disagree	50.4	55.2	20.7
Disagree	22.4	26.3	47.6
Neither agree or disagree	7.3	2.9	16.2
Agree	16.8	13.2	11.6
Strongly agree	3.1	2.3	3.9

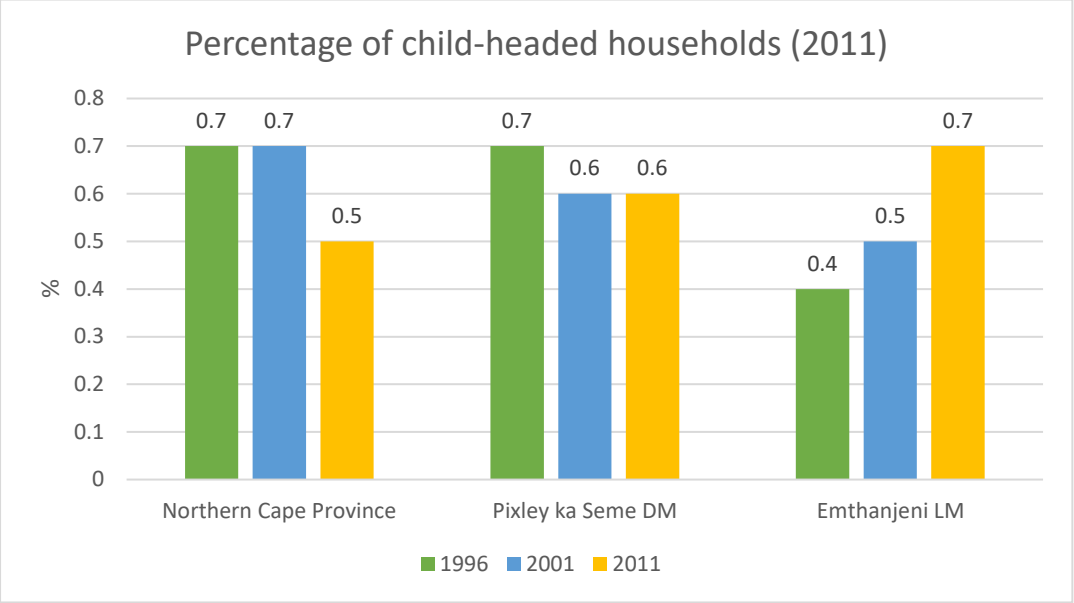
6.3.11 Female-headed households

The percentage of female-headed households increased from 1996 to 2011 across the province, district and local municipality. Data for 2016 was not available for the local municipality, but it showed a decrease in female-headed households from 2011 to 2016 in both the province and the district.



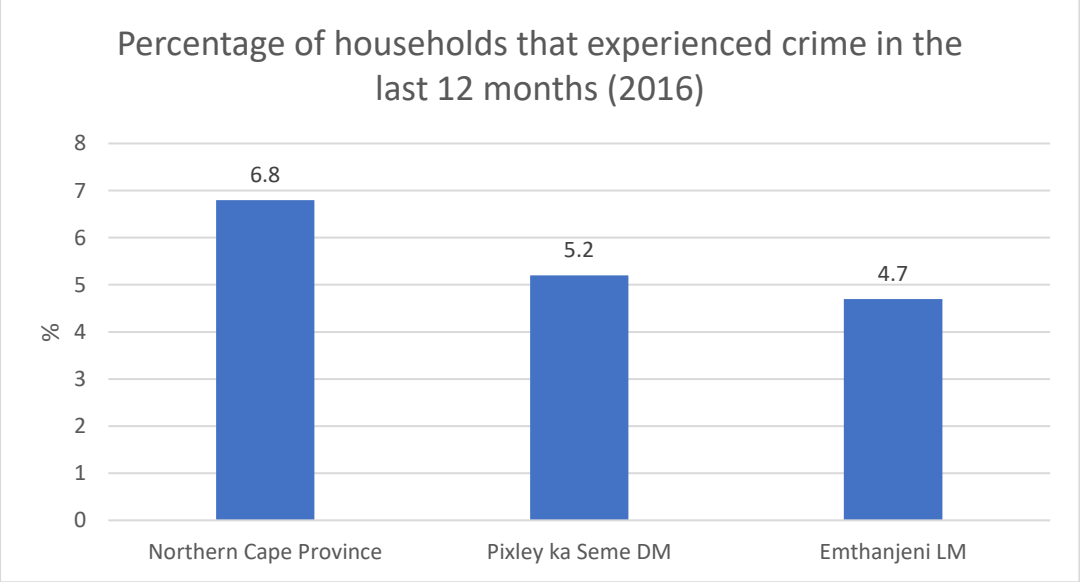
6.3.12 Child-headed households

The percentage of child-headed households decreased in both the province and the district from 1996 to 2011. In the local municipality, however, the percentage child-headed households increased during the same period, with 0.7% of households headed by children.

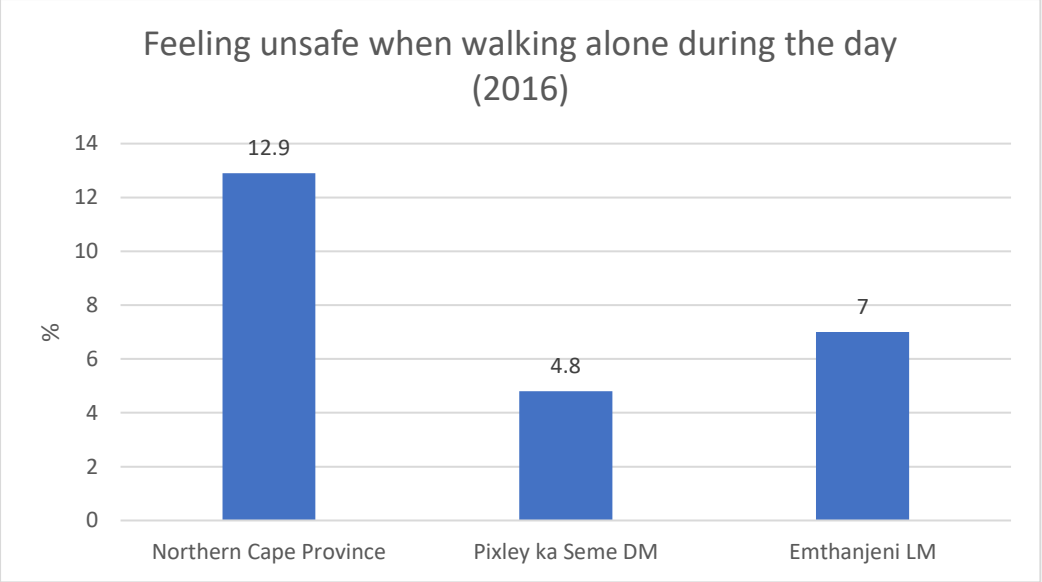


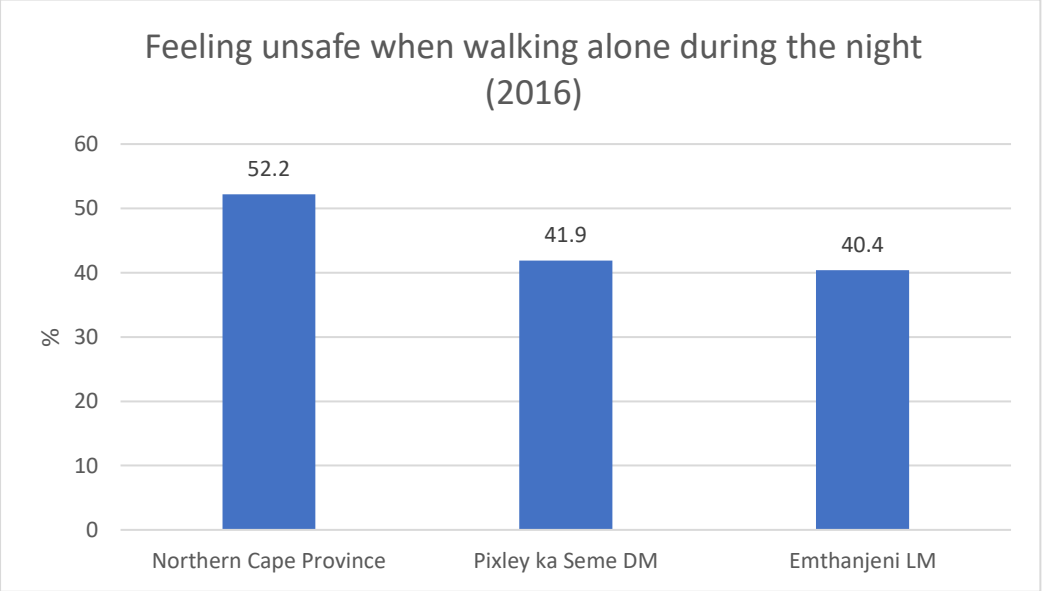
6.3.13 Crime and perceptions of safety

A lower percentage of households experienced crime in the 12 months preceding the 2016 Community Survey in the local municipality, than in the district and the province as a whole.



In the province, 12.9% of residents indicated that they felt unsafe when walking alone during the day, compared to 7% in the local municipality. These percentages increased significantly when respondents were asked if they felt unsafe when walking alone during the night, with more than half (52.2%) of residents in the province indicating they felt unsafe, and 40.4% of residents in the local municipality indicating they felt unsafe walking alone during the night.


Feeling unsafe when walking alone during the day (2016)
%
14
12
10
8
6
4
2
0
12.9
4.8
7
Northern Cape Province
Pixley ka Seme DM
Emthanjeni LM


Feeling unsafe when walking alone during the night (2016)
%
60
50
40
30
20
10
0
52.2
41.9
40.4
Northern Cape Province
Pixley ka Seme DM
Emthanjeni LM

7 IMPACT ASSESSMENT

7.1 IMPACT ASSESSMENT CRITERIA & METHOD

Impacts are defined as the changes in an environmental parameter that result from undertaking an activity. The change is the difference between the effect on the environmental parameter where the activity is undertaken compared to that where the activity is not undertaken. Impacts occur over a specific period and within a defined area.

Impacts may occur during the planning/design, construction, operational and decommissioning phases of the development, and may be direct, indirect and/or cumulative in nature.

- **Direct impacts** are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
- **Indirect impacts** of an activity are indirect or induced changes that may occur as a result of the activity (e.g., the reduction of water in a stream that supply water to a reservoir that supply water to the activity). These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place as a result of the activity.
- **Cumulative impacts**, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

It is often the case that one type of impact (for example an environmental impact) can lead to a different type of impact (for example a social impact). An example is air pollution (environmental impact) due to a new factory that can result in impacts on the health of surrounding communities (social impact). Therefore, it is important when conducting a Social Impact Assessment, to consider all the impacts identified by the other studies conducted for the same development, such as impacts identified in an EIA Report, Traffic Impact Assessment, Visual Impact Assessment and Biodiversity Assessment. This will ensure that some important potential impacts are not left out and therefore not mitigated.

In order to identify potential impacts (both positive and negative) it is important that the nature of the proposed projects is well understood so that the impacts associated with the projects can be assessed. The process of identification and assessment of impacts will include:

- Determining the current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured.
- Determining future changes to the environment that will occur if the activity does not proceed.
- Developing an understanding of the activity in sufficient detail to understand its consequences.
- The determination of significant impacts which are likely to occur if the activity is undertaken.

Other aspects to be taken into consideration in the assessment of impact significance are:

- Impacts will be evaluated for the construction and operation phases of the development. The assessment of impacts for the decommissioning phase will be brief, as there is limited understanding at this stage of what this might entail. The relevant rehabilitation guidelines and legal requirements applicable at the time will need to be applied.
- Impacts will be evaluated with and without mitigation in order to determine the effectiveness of mitigation measures on reducing the significance of a particular impact.
- The impact evaluation will, where possible, take into consideration the cumulative effects associated with this and other facilities/projects which are either developed or in the process of being developed in the local area.
- The impact assessment will attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, national standards are to be used as a measure of the level of impact.

CES has developed an evaluation criteria of impacts in accordance with the requirements outlined in Appendix 2 of the EIA Regulations (2014, as amended). This scale takes into consideration the following variables:

- Nature: negative or positive impact on the environment.
- Type: direct, indirect and/or cumulative effect of impact on the environment.
- Significance: The criteria in Table 7-1 are used to determine the overall significance of an activity. The impact effect (which includes duration; extent; consequence and probability) and the reversibility/mitigation of the impact are then read off the significance matrix in order to determine the overall significance of the issue. The overall significance is either negative or positive and will be classified as low, moderate or high (Table 7-2).
- Consequence: the consequence scale is used in order to objectively evaluate how severe a number of negative impacts might be on the issue under consideration, or how beneficial a number of positive impacts might be on the issue under consideration.
- Extent: the spatial scale defines the physical extent of the impact.
- Duration: the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.

- Probability: the likelihood of impacts taking place as a result of project actions arising from the various alternatives. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development and alternatives. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.
- Reversibility: The degree to which an environment can be returned to its original/partially original state.
- Irreplaceable loss: The degree of loss which an impact may cause.
- Mitigation potential: The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four categories used are listed and explained in Table 7-1 below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

Table 7-1: Ranking of Evaluation Criteria

NATURE	
Positive	Beneficial/positive impact.
Negative	Detrimental/negative impact.
TYPE	
Direct	Direct interaction of an activity with the environment.
Indirect	Impacts on the environment that are not a direct result of the project or activity.
Cumulative	Impacts which may result from a combination of impacts of this project and similar related projects.
DURATION	
Short term	Less than 5 years.
Medium term	Between 5-20 years.
Long term	More than 20 years.
Permanent	Over 40 years or resulting in a permanent and lasting change that will always be there.
EXTENT	
Localised	Impacts affect a small area of a few hectares in extent. Often only a portion of the project area.
Study area	The proposed site and its immediate environments.
Municipal	Impacts affect the municipality, or any towns within the municipality.
Regional	Impacts affect the wider district municipality or the Eastern Cape Province as a whole.
National	Impacts affect the entire country.
International/Global	Impacts affect other countries or have a global influence.
CONSEQUENCE	
Slight	Slight impacts or benefits on the affected system(s) or party(ies).
Moderate	Moderate impacts or benefits on the affected system(s) or party(ies).
Severe/ Beneficial	Severe impacts or benefits on the affected system(s) or party(ies).

PROBABILITY	
Definite	More than 90% sure of a particular fact. Should have substantial supportive data.
Probable	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
Unsure	Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.
REVERSIBILITY	
Reversible	The activity will lead to an impact that can be reversed provided appropriate mitigation measures are implemented.
Irreversible	The activity will lead to an impact that is permanent regardless of the implementation of mitigation measures.
IRREPLACEABLE LOSS	
Resource will not be lost	The resource will not be lost/destroyed provided mitigation measures are implemented.
Resource will be partly lost	The resource will be partially destroyed even though mitigation measures are implemented.
Resource will be lost	The resource will be lost despite the implementation of mitigation measures.
MITIGATION POTENTIAL	
Easily achievable	The impact can be easily, effectively and cost effectively mitigated/reversed.
Achievable	The impact can be effectively mitigated/reversed without much difficulty or cost.
Difficult	The impact could be mitigated/reversed but there will be some difficultly in ensuring effectiveness and/or implementation, and significant costs.
Very Difficult	The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly.

Table 7-2: Description of significance ratings.

Significance Rating		Description
LOW NEGATIVE	**LOW POSITIVE**	The impacts on this issue are acceptable and mitigation, whilst desirable, is not essential. The impacts on the issue by themselves are insufficient, even in combination with other low impacts, to prevent the development being approved. Impacts on this particular issue will result in either positive or negative medium to short term effects on the social and/or natural environment.
MODERATE NEGATIVE	**MODERATE POSITIVE**	The impacts on this issue are important and require mitigation. The impacts on this issue are, by themselves, insufficient to prevent the implementation of the project, but could in conjunction with other issues with moderate impacts, prevent its implementation. Impacts on this particular issue will usually result in either a positive or negative medium to long-term effect on the social and/or natural environment.
HIGH NEGATIVE	**HIGH POSITIVE**	The impacts on this issue are serious, and if not mitigated, they may prevent the implementation of the project (if it is a negative impact).

		Impacts on this particular issue would be considered by society as constituting a major and usually a long-term change to the (natural and/or social) environment, and will result in severe effects or if positive, substantial beneficial effects.

Assessment of Cumulative Impacts

In terms of the NEMA EIA Regulations (2014), a cumulative impact is defined as:
"The past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities".

Project induced cumulative impacts should be considered, along with direct and indirect impacts, in order to better inform the developer's decision making and project development process. Cumulative impacts may be categorised into one or more of the following types:

- **Additive:** the simple sum of all the effects (e.g. the accumulation of ground water pollution from various developments over time leading to a decrease in the economic potential of the resource);
- **Synergistic:** effects interact to produce a total effect greater than the sum of individual effects. These effects often happen as habitats or resources approach capacity (e.g. the accumulation of water, air and land degradation over time leading to a decrease in the economic potential of an area);
- **Time crowding:** frequent, repetitive impacts on a particular resource at the same time (e.g. multiple boreholes decreasing the value of water resources);
- **Neutralizing:** where effects may counteract each other to reduce the overall effect (e.g. infilling of a wetland for road construction, and creation of new wetlands for water treatment); and,
- **Space crowding:** high spatial density of impacts on an ecosystem (e.g. rapid informal residential settlement).

Cumulative impacts are, however, difficult to accurately and confidently assess, owing to the high degree of uncertainty, as well as their often being based on assumptions. It is therefore difficult to provide as detailed an assessment of cumulative impacts as is the case for direct and indirect project induced impacts. This is usually because of the absence of specific details and information related to cumulative impacts. In these situations, the EAP will need to ensure that any assumptions made as part of the assessment are made clear. Accordingly, this includes an overview and analysis of cumulative impacts related to a variety of project actions, and does not provide a significance rating for these impacts, as was done for direct project induced impacts. The objective is to identify and focus on potentially significant cumulative impacts so these may be taken into consideration in the decision-making process. It is important to realise these constraints, and to recognise that the assessment will not, and indeed cannot, be perfect. The potential for cumulative impacts will, however, be considered,

rather than omitted from the decision-making process and is therefore of value to the project and the environment.

Within the proposed WEF development area and a 100 km radius around it, the following renewable energy facilities are applicable:

- Soyuz 1 WEF (DFFE Ref: 14/12/16/3/3/2/2205)
- Soyuz 2 WEF (DFFE Ref: 14/12/16/3/3/2/2206)
- Soyuz 3 WEF (DFFE Ref: 14/12/16/3/3/2/2207)
- Soyuz 4 WEF (DFFE Ref: 14/12/16/3/3/2/2208)
- Soyuz 5 WEF (DFFE Ref: 14/12/16/3/3/2/2209)
- Soyuz 6 WEF (DFFE Ref: 14/12/16/3/3/2/2210)
- Taaibos North WEF (DFFE Ref: TBA)
- Taaibos South WEF (DFFE Ref: TBA)
- Soutrivier Central WEF (DFFE Ref: TBA)
- Soutrivier South WEF (DFFE Ref: TBA)
- Soutrivier North WEF (DFFE Ref: TBA)
- Mainstream Victoria West Wind and Solar (DFFE Ref: 12/12/20/1788)
- Modderfontein Solar PV Facility (DFFE Ref: 14/12/16/3/3/1/917)
- Noblesfontein Wind Energy Facility (DFFE Ref: 12/12/20/1993/2) (operational)
- Ishwati Emoyeni Wind Energy Facility (DFFE Ref: 14/12/16/3/3/2/411)
- Brakpoort PV Solar PV Facility (DFFE Ref: 14/12/16/3/3/2/331)
- Nuweveld North Wind Energy Facility (DFFE Ref: 14/12/16/3/3/2/2042)
- Nuweveld West Wind Energy Facility (DFFE Ref: 14/12/16/3/3/2/2043)
- Nuweveld East Wind Energy Facility (DFFE Ref: 14/12/16/3/3/2/2044)
- De Aar Wind Energy Facility 1 (DFFE Ref: 12/12/20/2463/1)
- De Aar Wind Energy Facility 2 (DFFE Ref: 12/12/20/2463/2)

No-go Alternative Impact Approach

It is mandatory to consider the “no-go” option in the EIA process. The “no-go” alternative refers to the current status quo and the risks and impacts associated with it. Some existing activities may carry risks and may be undesirable (e.g. an existing contaminated site earmarked for a development). The no-go is the continuation of the existing land use, i.e. maintain the status quo.

7.2 DESCRIPTION OF SOCIO-ECONOMIC IMPACTS

In this section, the following are included:

- **Identification and description** of activities likely to cause social and cultural impacts (social change processes) and potential direct, indirect and cumulative impacts, both positive and negative.
- **Rating** of the likely impacts (including secondary and cumulative impacts), before mitigation, including describing and evaluating alternatives. The following important aspects will specifically be considered:
    - Description how the different segments of the community are likely to respond;
    - The goal of all projects should be sustainable social development;
    - Human Rights need to be considered;
    - Indigenous, Traditional, Tribal and other land-connected peoples should be acknowledged and given specific attention – Free, Prior and Informed Consent (FPIC);
    - Whether there will be in-migration;
    - Whether regional development issues were considered in the study; and
    - Any environmental justice issues.
- Listing of **proposed measures** to both enhance positive social impacts and mitigate negative social impacts. Mitigation measures must include the following, where possible and applicable:
    - Recommending changes in proposed action or alternatives;
    - Providing suggestions about compensation;
    - Measures to discourage dependency on the proponent;
    - Measures to promote active involvement of people;
    - Suggesting partnerships between civil society, government and the private sector;
    - Measures to increase capabilities and productivity of people;
    - Measures to mitigate impacts on family stability;
    - Measures that will contribute to poverty alleviation;
    - Addressing inequality issues;
    - Proposing benefit agreements;
    - Proposals for economic development processes;
    - Suggestions regarding employment creation;
    - Suggestions regarding contributing to education/skills development;
    - Potential establishment of infrastructure;
    - Description of potential conflict and recommendation of resolution processes;
    - Development of coping strategies in the community for dealing with non-mitigatable impacts; and
    - Advise on appropriate institutional and coordination arrangements for all parties.
- **Rating** of likely impacts, this time **after mitigation**.

7.2.1 Social aspect: Feelings in relation to the project

Comments received during the stakeholder mostly related to the following: requests for more information; benefits that the project would have for the surrounding communities; requests to be kept informed about the project; and excitement about possible job opportunities being created and opportunities for SMMEs. Few expressions of opposition to the project have been received so far, including during the PP process. Some indicated that the development would bring hope to the community of Britstown, that has not seen large scale investment in decades. The project will allow for local businesses to potentially profit from the presence of the WEF during both the construction and operational phases. Overall feelings in the town were overwhelmingly positive, and in the surrounding farms feelings were generally positive towards the WEF.

Table 7-3: Feelings in relation to the project

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Feelings in relation to the project													
Positive attitude towards the development	Overall feelings in the town were overwhelmingly positive, and in the surrounding farms feelings were generally positive towards the WEF.	Positive	Direct	Moderate	Municipal	Short- Mid term	Definite	Reversible	N/A	Achievable	**MODERATE POSITIVE**	• Good communication about the project needs to be practiced throughout as both locals and businesses need time to plan accordingly for any changes that will occur in the area. • Ensure that notice is given and landowners and locals are properly informed throughout the project.	**MODERATE POSITIVE**

7.2.2 Social aspect: Community relations and expectations

Expectations are high among members of the local community in terms of what the development will offer and contribute, especially where it may improve their livelihoods. Expectations with regards to employment opportunities (both during construction and operation), possible business opportunities for SMMEs, and training and skills development will have to be carefully managed.

Table 7-4: Community relations and expectations

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Community relations and expectations													
High community expectations for benefits resulting from the project	Expectations are high among members of the local community in terms of what the development will offer and contribute, especially where it may improve their livelihoods.	Positive	Direct	Moderate	Municipal	Long term	Definite	N/A	N/A	Achievable	**MODERATE POSITIVE**	• Good communication about the project needs to be practiced throughout as both locals and businesses need time to plan accordingly for any changes that will occur in the area. • Ensure that notice is given and landowners and locals are properly informed throughout the project. • A positive relationship must be established and maintained with affected landowners. There should always be an open line of communication and grievances	**MODERATE POSITIVE**

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
												must be addressed satisfactorily and promptly. • Affected landowners must be consulted and respected in terms of access to the site, security and all activities on the site, in order to minimise negative impacts to landowners. Disruptions to directly affected and adjacent landowners must be kept to a minimum. • Complaints and concerns must be addressed promptly, and feedback must be given to complainants.	

7.2.3 Social aspect: Employment and other income generation opportunities

Most comments from community members surrounding the site related to job creation/income opportunities, housing and requests for more information. A recurring theme was that people are desperate for jobs/income, and therefore welcome the development. Several of the stakeholders consulted indicated that people will be very happy with the development, as it will bring great benefits to the community, especially in terms of job creation. This is not surprising as unemployment in the area is high. Some interviewees indicated that the development will create employment opportunities for the disenfranchised youth.

Job creation and other opportunities to generate income will be both temporary (during construction) and permanent (during operation). Expectations in this regard will have to be carefully managed and it is recommended that locals be prioritised when it comes to allocating both temporary and permanent jobs as far as is possible. As with employment, many stakeholders expressed a need for locals to be given the opportunity to develop businesses or for existing businesses to be used, either during construction or operation.

Table 7-5: Employment and other income generation opportunities

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Employment and other income generation opportunities													
Job Creation: construction	A number of employment opportunities will be created during the construction phase	Positive	Direct/ Indirect/	Severe/beneficial	Regional	Short term	Definite	N/A	N/A	Achievable	HIGH POSITIVE	• Employment opportunities and criteria should be communicated to the community before being advertised outside the municipal area. • Hiring should focus on the nearest and surrounding community. If not, jealousy and disdain or resentment for the project may develop. • Unreasonable expectations with regards to employment opportunities should not be created, and the developers should be transparent about the limited number of employment opportunities that will be created.	HIGH POSITIVE
Job Creation: operation	A number of employment opportunities will be created during the operation phase	Positive	Direct/ Indirect/ Cumulative/	Severe/beneficial	Regional	Long term	Definite	N/A	N/A	Achievable	HIGH POSITIVE		HIGH POSITIVE

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SMME development	As part of the WEF's LED programme, development of SMMEs may be supported	Positive	Direct/ Indirect/	Severe/beneficial	Municipal	Long term	Possible	N/A	Resource will not be	Achievable	**HIGH POSITIVE**	• Ensure local SMME's are utilised throughout the project, as far as possible. • The creation of secondary opportunities for income generation, such as supplying meals to employees, should be investigated and implemented if possible. • External contractors and suppliers from within the local municipality must be given preference. • Source materials and products locally, as far as possible.	**HIGH POSITIVE**
Support of local/regional businesses: construction	Personnel that come to the area during the construction phase will likely support local businesses, such as hospitality facilities, food outlets, etc. Local or regional businesses may also be able to supply some of the construction materials.	Positive	Direct/ Indirect/ Cumulative	Moderate	Regional	Short term	Probable	N/A	N/A	Achievable	**MODERATE POSITIVE**		**MODERATE POSITIVE**

7.2.4 Social aspect: Training opportunities and skills development

There may be an opportunity to provide training and develop skills during both construction and operation phases. It is recommended that these be maximised and included whenever possible, and that the local community, especially, be the beneficiaries of this. It is anticipated that there may also be such opportunities arising from the WEF's LED programme subsequent to commencement of operation.

Table 7-6: Training opportunities and skills development

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Training opportunities and skills development													
Possibility for training and upskilling of local community during construction, operation and through LED projects.	There may be an opportunity to provide training and develop skills during both construction and operation phases. It is anticipated that there may also be such opportunities arising from the WEF's LED programme subsequent to commencement of operation.	Positive	Direct	Moderate	Municipal	Long term	Possible	N/A	N/A	Achievable	**MODERATE POSITIVE**	It is recommended that these be maximised whenever possible, and that the local community, especially, be the beneficiaries of this.	**MODERATE POSITIVE**

7.2.5 Social aspect: In-migration of job seekers

A large-scale in-migration of people in search of work is often a concern associated with new developments. However, this usually applies to larger developments, and is not expected to happen in a large scale in the instance of the WEF.

Table 7-7: In-migration of job seekers

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
In-migration of job seekers													
In-migration of job seekers	A large-scale in-migration of people in search of work is often a concern associated with new developments. However, this usually applies to larger developments, and is not expected to happen in a large scale in the instance of the WEF.	Negative	Direct	Slight	Municipal	Long term	Unsure	N/A	N/A	N/A	**LOW NEGATIVE**	No mitigation proposed.	**LOW NEGATIVE**

7.2.6 Social aspect: Traffic

There will likely be an increase in traffic, especially construction vehicles, during the construction phase. This can lead to motor vehicle accidents, injury and possibly loss of lives. However, this will be temporarily, and the Traffic Department did not express a concern in that regard, as the N12 is already used, and therefore able to accommodate, heavy duty traffic including trucks.

Table 7-8: Traffic

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Traffic													
Increase in traffic during construction	There will likely be an increase in traffic, especially construction vehicles, during the construction phase. However, this will be temporarily, and the Traffic Department did not express a concern in that regard, as the N12 is already used, and therefore able to accommodate, heavy duty traffic including trucks.	Negative	Direct	Moderate	Study area	Short term	Probable	Reversable	N/A	Achievable	**MODERATE NEGATIVE**	Steps must be taken to minimise road accidents, including the use of clear signage, reducing speed limits and visible policing.	**LOW NEGATIVE**

7.2.7 Social aspect: Noise

In an interview with the Traffic Department, noise impacts associated with the project was mentioned as likely negligible as Britstown is located on the N12 that is already heavily utilised by trucking, and the project should therefore not affect the town more than it is already being affected by current activities. Noise impacts during construction, both from construction vehicles and construction activities, will be temporary in nature. During operation, noise impacts will also be negligible. Measures, as identified in the Noise Impact Assessment, should be adhered to to avoid negatively impacting the wellbeing of residents.

Table 7-9: Noise

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Noise													
Noise from construction activities	Construction activities will create some noise disturbance, but since the development will be located outside town boundaries, it will likely not have much impact on residents of Britstown.	Negative	Direct	Slight	Local	Short Term	Possible	Irreversible	N/A	Achievable	**LOW NEGATIVE**	Measures should be taken to reduce noise. Noise generating activities should be limited to regular business hours.	**LOW NEGATIVE**

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
Noise from operation	Noise from wind turbines may cause disturbance, especially during night time.	Negative	Direct	Moderate	Local	Long term	Probable	Reversible	N/A	Easily achievable	**MODERATE NEGATIVE**	Mitigation measures proposed by the Noise specialist must be adhered to.	**LOW NEGATIVE**

7.2.8 Social aspect: Heritage

There may be sensitive heritage features on the site that may be impacted. A Heritage Impact Assessment was done to address this, and recommendations and mitigation measures contained in the Heritage Impact Assessment must be adhered to.

Table 7-10: Heritage

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Heritage													
There may be sensitive heritage features on the site that may be impacted.	There may be sensitive heritage features on the site that may be impacted.	Negative	Direct	Moderate	Local	Permanent	Possible	Irreversible	N/A	Easily achievable	**MODERATE NEGATIVE**	Recommendations and mitigation measures contained in the Heritage Impact Assessment must be adhered to.	**MODERATE NEGATIVE**

7.2.9 Social aspect: Crime and security

During an interview with the SAPS in Britstown, it was stated that crime was not a very serious problem, and the presence of the project could in fact reduce the rate of petty theft and stock theft in the area. They also mentioned that money coming into the town from the project may increase the rate of domestic violence due to increased alcohol consumption, but that people may also resort less to crime if they obtain legitimate incomes through employment or business opportunities.

Table 7-11: Crime and security

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Crime and security													
Possible reduction in crime rates	The presence of the project could possibly reduce the rate of petty theft and stock theft in the area. People may also resort less to crime if they obtain legitimate incomes through employment or business opportunities.	Positive	Direct/Indirect/Cumulative	Slight	Regional	Long term	Possible	N/A	N/A	Achievable	**LOW POSITIVE**	• Measures should be taken to ensure security around any construction site, including maintaining access control onto affected farms. • Affected landowners must be consulted and respected in terms of access to the site, security and all activities on the site, in order to minimise negative impacts to landowners.	**LOW POSITIVE**

7.2.10 Social aspect: Changes in land use

Land use throughout the project is entirely agricultural. A meeting with the Emthanjeni Local Municipality brought to light that zoning will have to be changed from agricultural to industrial. Any development that takes place on agricultural land may also lead to a loss of agricultural production capacity, resulting in potential job losses and food insecurity. However, in the project's case, the current land use is compatible with the construction of a wind farm, as grazing area will not be reduced significantly, and therefore the above potential negative impacts are not applicable. None of the farmers in the area made mention of this, either. In addition, landowners will be compensated for the use of their land by the developer.

Table 7-12: Changes in land use

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Changes in land use													
Loss of agricultural land	A small amount of agricultural land (used for grazing currently) will be lost to the wind turbines and access roads, but this will not be significant.	Negative	Direct	Slight	Local	Long term	Possible	N/A	N/A	N/A	**LOW NEGATIVE**	No mitigation suggested.	**LOW NEGATIVE**

7.2.11 Social aspect: Visual impacts and sense of place

WEFs invariably have a visual impact on an area. Many people perceive this as negative, and as spoiling the sense of place, while others find it quite a positive feature adding to the character of a place.

Table 7-13: Visual impacts and sense of place

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Visual impacts and sense of place													
Negative visual impact and loss of sense of place	WEFs invariably have a visual impact on an area. Many people perceive this as negative, and as spoiling the sense of place.	Negative	Direct	Moderate	Study area	Long term	Possible	Irreversible	N/A	N/A	**MODERATE NEGATIVE**	Mitigation measures suggested by the visual impact specialist must be adhered to.	**MODERATE NEGATIVE**

7.2.12 Social aspect: Impact on Tourism

Interviews with various businesses that take part in the tourism/hospitality industry found the WEF project favourable. One hunting business did, however, express concerns that the presence of the WEF will negatively impact their international clientele as the WEF obscuring the skyline will not appeal to those seeking the specific aesthetic of the desolate landscape. It was, however, mentioned that local hunters would not mind the presence of the WEF, and that the land is large enough to accommodate international clientele on portions where the turbines would not be visible.

Table 7-14: Impact on tourism

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Impact on tourism													
Loss of income due to visual impacts	The presence of the WEF may negatively impact a hunting establishment in that international clientele seek the specific aesthetic of the desolate landscape, which will change as a result of the WEF.	Negative	Direct/Indirect/Cumulative	Slight	Local	Long term	Possible	N/A	N/A	N/A	**LOW NEGATIVE**	No mitigation suggested	**LOW NEGATIVE**

7.2.13 Social aspect: Supply of electricity to the national grid and positive contribution to the country's economy

There is currently considerable need and demand for additional electrical power and particularly for electricity from renewable and other diverse sources. This need stems from Eskom's severe power supply constraints (the national Electricity Supplier) due to ageing infrastructure and coal powerplants which are in dire need of significant maintenance work (much of which has not been adequately undertaken during the last few years), along with occasional coal supply problems, severe financial constraints and debt, and staff capacity constraints. This situation is creating a considerable constraint and risk to economic growth and development in South Africa. This project will positively contribute to meeting these needs.

Table 7-15: Supply of electricity to the national grid and positive contribution to the country's economy

POTENTIAL ISSUES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
SOCIAL IMPACT ASSESSMENT													
Supply of electricity to the national grid and positive contribution to the country's economy													
Additional supply of energy to the national grid.	There is currently considerable need and demand for additional electrical power and particularly for electricity from renewable and other diverse sources. This project will positively contribute to meeting these needs.	Positive	Direct/Indirect/Cumulative	Severe/beneficial	National	Long term	Definite	N/A	N/A	N/A	**HIGH POSITIVE**	No mitigation suggested	**HIGH POSITIVE**

8 CONCLUSION & RECOMMENDATIONS

There is overwhelmingly support for the project amongst the local community, and no objections were raised during the stakeholder consultation for the SIA, or so far during the public participation process.

All projects have negative impacts, some of which even cannot be mitigated, but these negative impacts have to be weighed against the positive impacts that the project will have, when making a recommendation on whether or not the project should be approved or not from a social point of view.

The anticipated positive social impacts associated with the WEF are:

- Job creation: construction phase (High Positive)
- Job creation: operation phase (High Positive)
- SMME development (High Positive)
- Support of local/regional businesses: construction phase (Moderate Positive)
- Possibility for training and upskilling of local community during construction, operation and through LED projects (Moderate Positive)
- Possible reduction in crime rates (Low Positive)
- Supply of electricity to the national grid and positive contribution to the country's economy (High Positive)

The anticipated negative social impacts associated with the WEF are:

- In-migration of job seekers (Low Negative)
- Increase in traffic during construction (Low Negative)
- Noise from construction activities (Low Negative)
- Noise from operation (Low Negative)
- Heritage (Moderate Negative)
- Land use change (Low Negative)
- Visual impacts and loss of sense of place (Moderate Negative)
- Impact on tourism (Low Negative)

There were no High Negative impacts identified. The positive social impacts therefore outweigh the negative impacts, and it is recommended that the project be approved from a social point of view, with the following conditions:

1. All proposed mitigation measures should be adhered to. These are:
    - Good communication about the project needs to be practiced throughout as both locals and businesses need time to plan accordingly for any changes that will occur in the area.
    - Ensure that notice is given and landowners and locals are properly informed throughout the project.

- A positive relationship must be established and maintained with affected landowners. There should always be an open line of communication and grievances must be addressed satisfactorily and promptly.
- Affected landowners must be consulted and respected in terms of access to the site, security and all activities on the site, in order to minimise negative impacts to landowners. Disruptions to directly affected and adjacent landowners must be kept to a minimum.
- Complaints and concerns must be addressed promptly, and feedback must be given to complainants.
- Employment opportunities and criteria should be communicated to the community before being advertised outside the municipal area.
- Hiring should focus on the nearest and surrounding community. If not, jealousy and disdain or resentment for the project may develop.
- Unreasonable expectations with regards to employment opportunities should not be created, and the developers should be transparent about the limited number of employment opportunities that will be created.
- Ensure local SMMEs are utilised throughout the project, as far as possible.
- The creation of secondary opportunities for income generation, such as supplying meals to employees, should be investigated and implemented if possible.
- External contractors and suppliers from within the local municipality must be given preference.
- Source materials and products locally, as far as possible.
- It is recommended that opportunities for training and upskilling be maximised whenever possible, and that the local community, especially, be the beneficiaries of this.
- Steps must be taken to minimise road accidents, including the use of clear signage, reducing speed limits and visible policing.
- Planning and proper consultation with residents near turbines to inform them of construction dates and times, so as to minimise negative impacts. This should include the use of internal roads by construction vehicles. Construction activities should be limited to regular business hours.
- Mitigation measures identified by the noise specialist should be.
- Measures should be taken to ensure security around any construction site, including maintaining access control onto affected farms.

2. All mitigation measures contained in the specialist studies should be included in the EMPr, in order to minimise social impacts that could result from any other impacts as a result of the proposed WEF.
3. The natural habitat present on the site must be re habilitated and maintained as far as possible.
4. All the above measures must be included in the Environmental Management Programme, and thereby become binding should the project receive environmental authorisation.

9 REFERENCES

Borel-Saladin JM & Turok IN. 2013. The impact of the green economy on jobs in South Africa, South African Journal of Science, *Volume 109. Number 9/10, September/October 2013.*

Constitution of the Republic of South Africa, 1996 (Act no. 108 of 1996).

CSIR Energy Centre. 2016. Comparison of IRP assumptions with actual tariffs.

DEAT. 2002a. Specialist Studies. Information Series 4. Pretoria: Department of Environmental Affairs and Tourism (DEAT).

DEAT. 2006. Socio-Economic Impact Assessment. Integrated Environmental Management Series 22. Pretoria: Department of Environmental Affairs and Tourism (DEAT).

Department of Energy. Integrated Resource Plan (IRP) 2010 and 2019, South Africa.

Emthanjeni Local Municipality. http://www.emthanjeni.co.za/

Emthanjeni Local Municipality. 2021. Final Integrated Development Plan 2021/2022 (Final review of the 4th generation).

Green Jobs Study. 2011. IDC, DBSA Ltd and TIPS.

IFC. 2012. *Performance Standards*. [Online]. Available: http://www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Sustainability+Framework+-+2012/Performance+Standards+and+Guidance+Notes+2012/ [2012, September 09].Independent Power Producers Procurement Programme (IPPPP): 2017. An Overview, Department of Energy, National Treasury and DBSA.

Interorganizational Committee on Guidelines and Principles. 1994. Guidelines and Principles for Social Impact Assessment. Washington DC: Department of Commerce.

Maswana Joint Venture. 2018. Provincial Spatial Development Framework for the Northern Cape Province – Review of the socio-economic potential of towns study.

Mulcahy, M. 2014. Market Intelligence Report: Renewable Energy Greencape.

National Environmental Management Act, 1998 (Act no. 107 of 1998).

National Infrastructure Plan (2012), South Africa.

New Growth Path Framework (2010), South Africa.

Northern Cape Provincial Government. http://www.northern-cape.gov.za/

Regulations in terms of Chapter 5 of the National Environmental Management Act, 1998 (Environmental Impact Assessment Regulations) of 4 December 2014.

Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) Report undertaken by the Department of Energy, National Treasury and the Development Bank of South Africa in June 2017.

Statistics South Africa. 2012. Census 2011 Municipal report – Northern Cape. Pretoria: Statistics South Africa.

Statistics South Africa. 2014. Census 2011 Provincial Profile: Northern Cape. Pretoria: Statistics South Africa.

Statistics South Africa. 2018. Community Survey 2016, Provincial profile – Northern Cape. Pretoria: Statistics South Africa.

Statistics South Africa. 2020. General Household Survey 2019. Pretoria: Statistics South Africa.

Strategic Environmental Assessment for wind and solar energy in South Africa (CSIR, 2015).

The International Bank for Reconstruction and Development / THE WORLD BANK. 1998. Participation and Social Assessment: Tools and Techniques. Compiled by J. Rietbergen-McCracken and D. Narayan.

Vanclay, F. 2002. Conceptualising social impacts. Environmental Impact Assessment Review (22), 183-211.

World Bank. 1995. Social Assessment. Environmental Department Dissemination Notes Number 36. Washington DC: World Bank.

World Bank (2018 data on CO2 emissions). CO2 emissions (kg per PPP $ of GDP) | Data (worldbank.org)

APPENDIX A – SPECIALIST'S CV

HILDA BEZUIDENHOUT
Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CONTACT DETAILS

Name of Company	**CES – Environmental and Social Advisory Services**
Designation	Principal Environmental Consultant – Gauteng branch of CES
Profession	Social Impact Assessment Practitioner
E-mail	Hilda.Bezuidenhout@cesnet.co.za
Office number	+27 (0) 87 549 1646
Mobile	+27 (0) 83 248 3741
Key areas of expertise	➢ Social Impact Assessment ➢ Stakeholder consultation ➢ Social baseline studies ➢ Resettlement Action Plans ➢ Public Participation ➢ Environmental Impact Assessment

PROFILE

Hilda has extensive experience working in the environmental management field – first as an Environmental Assessment Practitioner (both in the private sector, consulting, and in the public sector, at the then National Department of Environmental Affairs), and for the last 10 years focusing on Social Impact Assessments and related studies. She worked as an independent consultant (self-employed) for approximately 10 years before joining CES.

She obtained an Honours Degree in Industrial Sociology and a Masters Degree in Environmental Studies (Environment and Society), both from the University of Pretoria. She has worked on a wide range of projects in energy (including renewable energy), mining, mixed-use development, transport infrastructure and recreational facility applications, and has acted as an external peer reviewer on a number of social impact-related projects.

HILDA BEZUIDENHOUT

Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

Employment Experience

- March 2022 – Present:
  Principal Environmental Consultant – Social (Coastal & Environmental Services)
  Gauteng, South Africa
- October 2012 – March 2022:
  Independent Social Impact Assessment Practitioner (self-employed)
- August 2010 – September 2012:
  Assistant Director, EIA Administration (National Department of Environmental Affairs) Pretoria, South Africa
- September 2009 – June 2010:
  Secondment (National Department of Environmental Affairs)
  Pretoria, South Africa
- March 2008 – July 2010:
  Social Scientist/Public Participation Project Manager (Strategic Environmental Focus) Pretoria, South Africa
- January 2007 – March 2008:
  Environmental Assessment Practitioner (Rock Environmental Consulting)
  Pretoria, South Africa

Academic Qualifications

- MA Environment and Society
  University of Pretoria, 2010
- BA Hons. Industrial Sociology
  University of Pretoria, 2001
- BA
  University of Pretoria, 1996

Courses

- Training of Trainers Workshop for Integrating HIV and Gender related issues in EIA in Southern and Eastern Africa (one of 18 South African delegates nominated to attend) – UNDP (2012).
- Numerous other workshops and training courses, particularly applicable to SIA and EIA.

Consulting Experience

Social Impact Assessment

Managed and conducted numerous Social Impact Assessments (SIAs) and drafted SIA Reports in terms of relevant EIA legislation and regulations, as well as IFC Standards, for development proposals in various sectors. Have also peer reviewed a number of SIAs that formed part of EIA applications.

HILDA BEZUIDENHOUT
Curriculum Vitae

Key actions included identification and assessment of potential impacts of new developments on communities/people; key stakeholder identification and consultation; community liaison; meeting facilitation; social surveys; community baseline studies; needs assessments; recommendation of measures to enhance positive impacts and mitigate negative impacts on communities; drafting of Social Opinions.

Project experience include:

- Social Impact Assessment for the proposed Kalahari Umtu Substation and Sub transmission lines, Northern Cape Province, South Africa
- Socio-economic Impact Assessment for the proposed Rainbow Junction mixed-use development (social component and report compilation), City of Tshwane Metropolitan Municipality, South Africa
- Socio-economic Impact Assessment for the Tshwane Bus Rapid Transit Line – CBD to Soshanguve (social component and report compilation), South Africa
- Basic Social Assessment (desktop study) for the expansion of the ash facility at Tutuka power station, Mpumalanga Province, South Africa
- Basic Social Assessment (desktop study) for the expansion of the ash facility at Majuba power station, Mpumalanga Province, South Africa
- Social Impact Assessment for the Matimba Power Station continuous ash disposal facility, Lephalale, Limpopo Province, South Africa
- Social Impact Assessment – route assessment of conveyor belt to site alternative two: Matimba Power Station ash disposal facility, Lephalale, Limpopo Province, South Africa
- Social Impact Assessment for a Mining Right on Portions 26, 46 and 47 of the Farm Droogenfontein 242 IR near Delmas, Mpumalanga, South Africa
- Social Impact Assessment for Provincial Road K77 between Elizabeth Road and K154, Midvaal Local Municipality, Gauteng Province, South Africa
- Social Impact Assessment for the Kekana and Wonderboom 132kV substation projects and associated 132Kv powerlines, Hammanskraal, Gauteng Province, South Africa
- Social Impact Assessment for resettlement along the proposed Ariadne-Eros 400/132KV multi-circuit transmission powerlines, KwaZulu-Natal Province, South Africa
- Social Impact Assessment for the proposed Vanrhynsdorp Limestone Opencast Mine Mining Right Application, Matzikama Local Municipality, Western Cape Province, South Africa
- Social Impact Assessment for the proposed EIA and EMPr amendment to consolidate Sedibelo, Magazynskraal and Kruidfontein Mines into IBMR, North West Province, South Africa
- Social Impact Assessment for the proposed EIA and EMPr amendment for Pilanesberg Platinum Mines to include the West Portal and associated facilities, North West Province
- Social survey for the proposed construction of Tsakani Substation and a 17km 132kV powerline from the existing Mbumbu Substation to the proposed Tsakani Substation at Bushbuckridge, Mpumalanga Province, South Africa
- Peer review of the Socio-economic Impact Assessment Report for the proposed SolAfrica Central Receiver Power Plant, Northern Cape Province, South Africa
- Peer review of the Basic Social Assessment (desktop study) for the proposed Mfolozi River Bridge, KwaZulu-Natal Province, South Africa

HILDA BEZUIDENHOUT
Curriculum Vitae

- Peer review of the Basic Social Assessment (desktop study) for the proposed Pongola River Bridge, KwaZulu-Natal Province, South Africa
- Peer review of the Basic Social Assessment (desktop study) for the proposed White Mfolozi River Bridge, KwaZulu-Natal Province, South Africa
- Peer review of the SIA Baseline Report for the Southern wastewater Treatment Works, Durban, KwaZulu-Natal Province, South Africa
- Peer review of the Socio-economic Impact Assessment Report for the proposed Musina– Makhado Energy and Metallurgy Special Economic Zone (MMSEZ), Limpopo Province, South Africa
- Social Opinion for the proposed Mountain Fun Park Luge – Current use of the site for religious purposes, Johannesburg, Gauteng Province, South Africa

Public Participation

Managed and conducted public participation for a broad range of applications for environmental authorisation as part of the Environmental Impact Assessment process.

Key actions included identifying potential Interested and Affected Parties (I&APs); preparing public participation materials to announce new applications; facilitation of public meetings; keeping and updating I&AP registers and Comment and Response Reports and drafting PP chapters for EIA Reports.

Environmental Impact Assessment

Managed and conducted Environmental Impact Assessments (EIAs), both Basic Assessments and Scoping/EIAs, for commercial developments, water and stormwater infrastructure developments, residential/township developments, mixed-use developments, industrial developments, agricultural projects, energy applications, and road infrastructure projects.

Also reviewed applications for environmental authorisation, including making recommendations whether applications should be approved or not, while on secondment at the National Department of Environmental Affairs.

Established and managed an EIA Administration Unit at the National Department of Environmental Affairs. Core duties included: processing of EIA applications within legislated timeframes; providing of and reporting statistics; managing departmental EIA administration databases, systems and tools; co-ordination of and liaison between the various sub-directorates within the Chief Directorate: Integrated Environmental Authorisations; supervising Administrative Officers and Environmental Officers within the unit; responding to external and internal queries and requests (including parliamentary questions and media queries); providing input into environment-related legislation and policies.

HILDA BEZUIDENHOUT
Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

HILDA BEZUIDENHOUT Date: 14 March 2022