

BUFFELSPOORT SOLAR PV ENERGY FACILITY

North West Province

Social Assessment - Baseline Report

May 2022

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REPORT DETAILS

Title	:	Social Impact Assessment (SIA) Scoping Report: Buffelspoort Solar PV Energy Facility
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External Peer Review	:	Dr Neville Bews
Client	:	Buffelspoort Solar Project (Pty) Ltd
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Date	:	May 2022

When used as a reference this report should be cited as: Savannah Environmental (2022) Social Impact Assessment (SIA) Report for the Buffelspoort Solar PV Energy Facility, North West Province.

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SPECIALIST DECLARATION OF INTEREST

I, Nondumiso Bulunga, declare that –

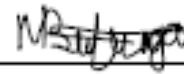
- » I act as the independent specialist in this application.
- » I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- » I declare that there are no circumstances that may compromise my objectivity in performing such work.
- » I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity.
- » I will comply with the Act, Regulations and all other applicable legislation.
- » I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- » I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority, and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- » All the particulars furnished by me in this form are true and correct.
- » I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the Act.

Nondumiso Bulunga

Name

17 May 2022

Date



Signature

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FIGURES

Figure 1.1: Locality map illustrating the location of the Buffelspoort Solar PV Energy Facility, North West Province. 4

ACRONYMS

ABET	Adult Basic Education and Training
BPDM	Bojanala Platinum District Municipality
CLO	Community Liaison Officer
DoE	Department of Energy
DM	District Municipality
EA	Environmental Authorisation
EAP	Economically Active Population
ECA	Environment Conservation Act (No. 73 of 1989)
ECO	Environmental Control Officer
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EPC	Engineering, Procurement and Construction
FET	Further Education and Training
GDP	Gross Domestic Product
GNR	Government Notice
GVA	Gross Value Added
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IEP	Integrated Energy Plan
IFC	International Finance Corporation
IRP	Integrated Resource Plan
km	Kilometre
kV	Kilovolt
LED	Local Economic Development
LM	Local Municipality
NEMA	National Environmental Management Act (No. 107 of 1998)
NDP	National Development Plan
O&M	Operation and Maintenance
PGDS	Provincial Growth and Development Strategy
PSDF	Provincial Spatial Development Framework
RES	Renewable Energy Strategy
SDF	Spatial Development Framework
SIA	Social Impact Assessment
SWOT	Strengths, Weaknesses, Opportunities and Threats
SMME	Small Medium and Micro Enterprises

1. INTRODUCTION AND PROJECT DESCRIPTION

Buffelspoort Solar Project (Pty) Ltd is proposing to develop a Solar Photovoltaic (PV) Energy Facility and associated infrastructure (hereafter referred to as the "Project"). The development of the Solar PV Energy Facility and associated infrastructure requires Environmental Authorisation (EA) from the North West Department of Economic Development, Environment, Conservation and Tourism (NWDEDECT) in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), and the Environmental Impact Assessment (EIA) Regulations, 2014 (GNR 326), as amended, subject to the completion of an Environmental Impact Assessment (EIA) process.

Nondumiso Bulunga of Savannah Environmental (Pty) Ltd has been appointed as the independent social consultant responsible for undertaking a Social Impact Assessment (SIA) as part of the EIA process being conducted for the project.

1.1. Project Description

Buffelspoort Solar Project (Pty) Ltd is proposing to develop a Solar Photovoltaic (PV) Energy Facility and associated infrastructure on Portions 75 and 134 of the Farm Buffelspoort 343JQ, located approximately 6 km west of Moonooi, within the jurisdiction of the Rustenburg Local Municipality and the Bojanala Platinum District Municipality in the North-West Province. The proposed project will have a contracted capacity of up to 40MWp and will be known as the Buffelspoort Solar PV Energy Facility.

The purpose of the facility will be to supply power to a private offtaker through connecting to an existing 88kV Substation via a newly proposed ~ 2.5 km long 88kV single circuit overhead power line that will be routed over privately-owned properties from the onsite facility substation to the point of interconnection, north of the N4. The construction of the Solar PV Energy Facility aims to enable the private offtaker to diversify their energy mix and to reduce their reliance on Eskom supplied power and is a conscious effort for the offtaker to contribute to their sustainability targets and reduce their carbon footprint.

A grid connection corridor which varies in width from 200 m to 300 m and is up to 2.5 km in length has been identified for the assessment and suitable placement of the grid connection infrastructure within the corridor. This corridor will provide for the avoidance of sensitive environment areas and features.

A Development Footprint of up to ~77ha has been identified within the proposed Project Site (~223ha) by Buffelspoort Solar Project (Pty) Ltd for the development of the Buffelspoort Solar PV Energy Facility. Infrastructure associated with the Solar PV Energy Facility will include the following:

- » Solar PV array comprising PV panels and mounting structures.
- » Inverters and transformers.
- » Cabling between the arrays.
- » Onsite facility substation.
- » 88kV single circuit overhead power line for the distribution of the generated power, which will be connected to an existing 88kV Substation just north of the proposed project site.

- » Battery Energy Storage System (BESS¹) – to be initiated at a later stage than the Solar PV Energy Facility.
- » Temporary laydown area.
- » Operations and Maintenance (O&M) building, which will include a site security office, warehouse, storage area and workshop.
- » Main access road (existing – to be upgraded with hard surface) and internal (new) gravel roads.
- » Fencing around the site, including an access gate.

1.2. Objective of the Scoping Process

This SIA Report has been prepared as part of the Scoping Process being undertaken for the Buffelspoort Solar PV Energy Facility and associated infrastructure (hereafter referred as the "Project"). The purpose of this SIA Report is to provide details on the nature and extent of Buffelspoort Solar PV Energy Facility and associated infrastructure, and the potential social impacts associated with the construction, operation, and decommissioning of the proposed Project. The inputs contained within this SIA Scoping Report are intended to provide a high-level overview of the social environment within which the project is proposed and set the scene for issues which will be addressed in detail as part of the EIA Phase specialist investigations.

The objective of this SIA Report is therefore to:

- » Identify and review policies and legislation which may have relevance to the activity from a social perspective.
- » Provide comment on the need and desirability of the proposed activity from a social perspective.
- » Identify potential impacts and risks associated with the preferred activity and technology alternatives.
- » Identify key social issues to be addressed in the EIA phase.
- » Agree on the level of assessment to be undertaken, including the methodology to be applied to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site.

1.3. Details of the Independent Specialist

This SIA Report has been undertaken by Nondumiso Bulunga of Savannah Environmental. Dr Neville Bews has undertaken an external review of this SIA and has provided an external reviewer's letter. This letter is attached as **Appendix C**.

- » **Nondumiso Bulunga** – holds a master's degree in advanced Geographical Information System and has eight years of experience in the environmental field. Her key focus is on environmental and social impact assessments, public participation, stakeholder engagement environmental management screening as well as mapping using ArcGIS for a variety of environmental projects.
- » **Dr Neville Bews** is a Senior Social Scientist and Human Resource professional at Dr. Neville Bews & Associates. Dr. Bews has a Doctorate in Literature and Philosophy (D. Litt. et Phil) from the Rand Afrikaans

¹ The BESS is included as part of the ESIA process albeit that the facility will only be installed after the Solar PV Energy Facility has come into operation. The total electricity requirements for the offtaker is currently under review and an energy master plan is being developed, which will only be finalised post implementation of the Solar PV Energy Facility to address all the electricity needs of the offtaker. The BESS has been included in this ESIA in order to ensure that should the energy master plan require this component to be included sooner than expected that it has already been authorised

University (RAU) (now the University of Johannesburg (UJ)), and 37 years of experience in the fields of Social Impact Assessment and Research, and Human Resource Management. Dr. Bews has worked on a number of large infrastructure, mining and water resource projects.

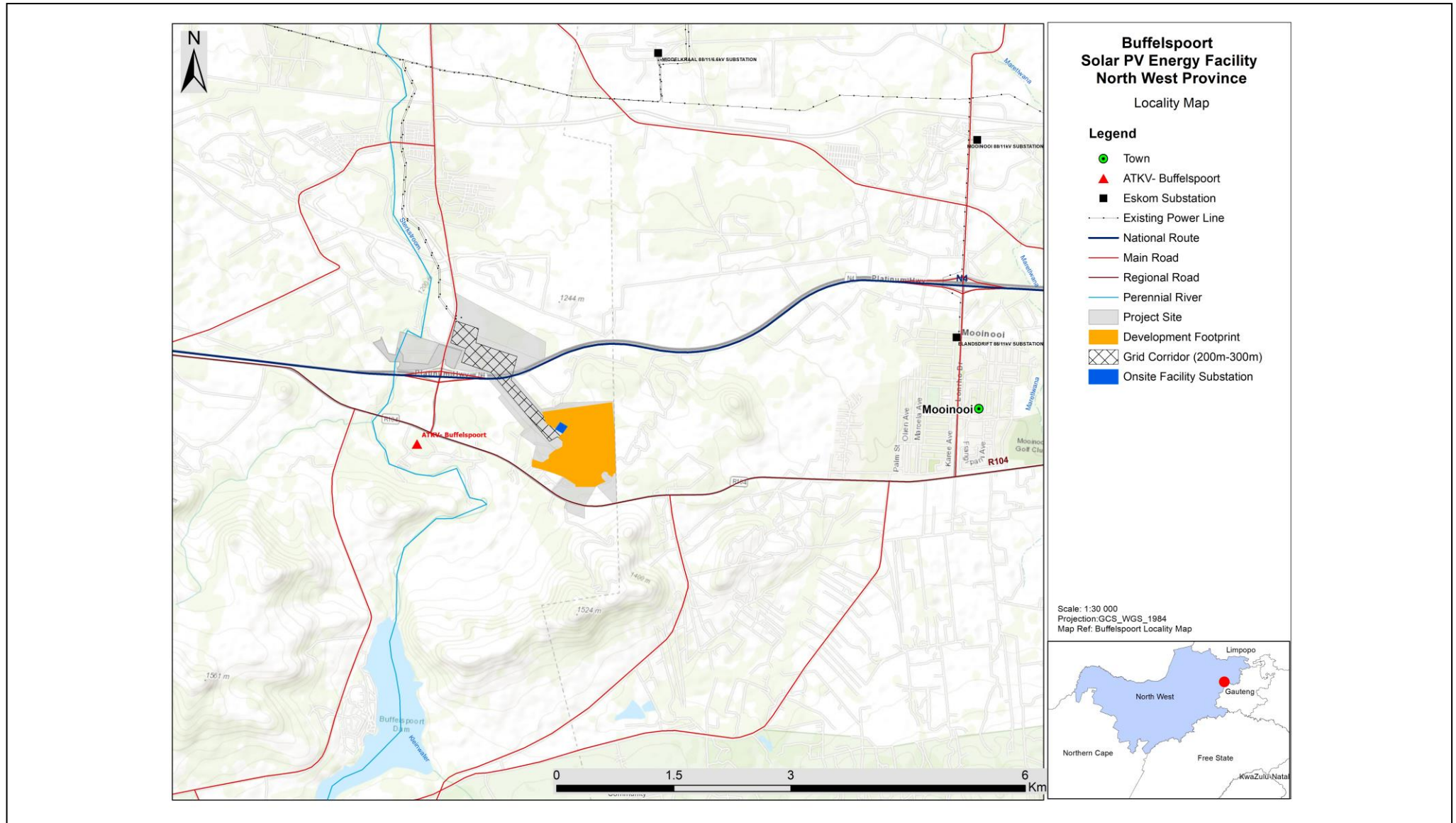


Figure 1.1: Locality map illustrating the location of the Buffelspoort Solar PV Energy Facility, North West Province.

1.4. Structure of the SIA Report

This SIA Report has been prepared in accordance with the requirements of Appendix 6 of the 2014 EIA Regulations, as amended. An overview of the contents of this SIA Report, as prescribed by Appendix 6 of the 2014 EIA Regulations (GNR 326), and where the corresponding information can be found within the report is provided in **Table 1.1**.

Table 1.1: Summary of where the requirements of Appendix 6 of the 2014 NEMA EIA Regulations (GNR 326), as amended, are provided within this Specialist Report.

Requirement	Location in Report
(a) Details of – (i) The specialist who prepared the report. (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae.	Section 1
(b) A declaration that the specialist is independent in a form as may be specified by the competent authority.	Specialist Declaration of Interest
(c) An indication of the scope of, and the purpose for which, the report was prepared.	Section 2
(cA) An indication of the quality and age of base data used for the specialist report.	Section 4
(cB) A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change.	Section 5
(d) The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment.	Section 2
(e) A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used.	Section 2
(f) Details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives.	Section 4 Section 5
(g) An identification of any areas to be avoided, including buffers.	N/A
(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	N/A
(i) A description of any assumptions made and any uncertainties or gaps in knowledge.	Section 2
(j) A description of the findings and potential implications of such findings on the impact of the proposed activity or activities.	Section 5
(k) Any mitigation measures for inclusion in the EMPr.	Appendix A
(l) A description of any consultation process that was undertaken during the course of preparing the specialist report.	Section 2
(m) A summary and copies of any comments received during any consultation process and where applicable all responses thereto.	N/A
(n) Any other information requested by the competent authority.	N/A
2. Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	N/A

2. METHODOLOGY AND APPROACH

2.1. Purpose of the Study

The International Principles for Social Impact Assessment define SIA as:

"The processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions".

The International Principles for Social Impact Assessment define social impacts as changes to one or more of the following:

- » People's way of life – that is, how they live, work, play and interact with one another on a day-to-day basis.
- » Their culture – that is, their shared beliefs, customs, values and language or dialect.
- » Their community – its cohesion, stability, character, services and facilities.
- » Their political systems – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose.
- » Their environment – the quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.
- » Their health and wellbeing – health is a state of complete physical, mental, social and spiritual wellbeing and 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 liberties.
- » Their fears and aspirations – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

The purpose of this SIA Report is therefore to:

- » Provide baseline information describing the social environment within which the project is proposed, and which may be impacted (both positively and negatively) as a result of the proposed Project.
- » Identify, describe and assess possible social risks / fatal flaws and social impacts that may arise as a result of the proposed Project (in terms of the detailed design and construction, operation, and decommissioning phases of the Proposed project).
- » Recommend ways in which negative impacts can be avoided, minimised, or their significance reduced, and positive impacts maximised or enhanced.

2.2. Approach to the Study

This SIA Report provides a snapshot of the current social setting within which the Buffelspoort Solar PV Energy Facility is proposed. It provides an overview of the manner and degree to which the current status quo is likely to change or be impacted by the construction, operation and decommissioning of the project, as well as the manner in which the social environment is likely to impact on the development itself.

The SIA process comprised the following:

- » Collection and review of existing information, including national, provincial, district, and local plans, policies, programmes, census data, and available literature from previous studies conducted within the area. Project specific information was obtained from the project proponent.
- » Identification of potential direct, indirect and cumulative impacts likely to be associated with the construction, operation, and decommissioning of the proposed project. Impacts associated with construction can also be expected to be associated with the decommissioning phase (however, to a lesser extent as the project site would have previously undergone transformation and disturbance during construction).
- » Preparation of a SIA Report for inclusion in the Scoping Report to be prepared for the proposed Project.

2.2.1. Collection and Review of Existing Information

Existing desktop information that has relevance to the proposed project, project area and / or surrounds was collected and reviewed. The following information was examined as part of this process:

- » Project maps
- » Google Earth imagery.
- » A description of the proposed Project (as provided by the project proponent i.e. developer).
- » Census Data (2011), and the Local Government Handbook (2019).
- » Planning documentation such as Provincial Growth and Development Strategies (PGDSs), Local and District Municipality Integrated Development Plans (IDPs), Spatial Development Frameworks (SDFs), and development goals and objectives.
- » Relevant legislation, guidelines, policies, plans, and frameworks.
- » Available literature pertaining to social issues associated with the development and operation of solar PV power plants and associated infrastructure.

2.3. Limitations and Assumptions

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

- » Data derived from the 2011 Census, , North West Provincial Development Plan (PDP), 2030 (2013), North West Provincial Growth and Development Strategy (PGDS) (2004 – 2014), Renewable Energy Strategy for the North West Province (2012), North West Provincial Spatial Development Framework (2017), Rustenburg Municipality Spatial Development Framework-Draft (2018), Rustenburg Municipality Integrated Development Plan (2021/22) review was used to generate the majority of information provided in the baseline profile of the broader study area and the grid connection corridor. The possibility exists that some of the data utilised may be out of date and may not provide an accurate reflection of the current status quo.
- » This SIA Report was prepared based on information that was available to the specialist at the time of preparing the report. The sources consulted are not exhaustive, and the possibility exists that additional information which might strengthen arguments, contradict information in this report, and / or identify additional information might exist. Additional information available from the public participation undertaken during the Scoping process will be included and considered within the final report, where relevant.
- » Some of the project projections reflected in this SIA Report may be subject to change, and therefore may be higher or lower than those estimated by the project proponent.

- » It is assumed that the motivation for, and planning and feasibility study of the project were undertaken with integrity, and that information provided by the project proponent was accurate and true at the time of preparing this SIA Report.

3. LEGISLATION AND POLICY REVIEW

The legislative and policy context applicable to a project plays an important role in identifying and assessing the potential social impacts associated with the development. In this regard a key component of the SIA process is to assess a proposed development in terms of its suitability with regards to key planning and policy documents.

The following key pieces of documentation were reviewed as part of this legislation and policy review process:

National Policy and Planning Context:

- » Constitution of the Republic of South Africa, 1996
- » National Environmental Management Act (No. 107 of 1998) (NEMA)
- » White Paper on the Energy Policy of the Republic of South Africa (1998)
- » National Energy Act (No. 34 of 2008)
- » Integrated Energy Plan (IEP) (2016)
- » National Development Plan (NDP) 2030 (2012)

Provincial Policy and Planning Context:

- » North West Provincial Growth and Development Strategy (2004-2014)
- » North West Provincial Renewable Energy Strategy (2012).

Local Policy and Planning Context:

- » Rustenburg Municipality Spatial Development Framework-Draft (2018).
- » Rustenburg Municipality Integrated Development Plan (2021/22).
- » Bojanala Platinum District Integrated Development Plan (2021/22).

3.1. National Policy and Planning Context

Any project which contributes positively towards the objectives mentioned within national policies could be considered strategically important for the country. A review of the national policy environment suggests that the connection infrastructure is considered integral to contributing towards social upliftment and economic development, even if only limited in extent.

A brief review of the most relevant national legislation and policies is provided in table format (**Table 3.1**) below.

Table 3.1: Relevant national legislation and policies for the Buffelspoort Solar PV Energy Facility

Relevant legislation or policy	Relevance to the proposed project
Constitution of the Republic of South Africa, 1996	Section 24 of the Constitution pertains specifically to the environment. It states that Everyone has the right to an environment that is not harmful to their health or well-being, and 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.

Relevant legislation or policy	Relevance to the proposed project
	<p>The Constitution outlines the need to promote social and economic development. Section 24 of the Constitution therefore requires that development be conducted in such a manner that it does not infringe on an individual's environmental rights, health, or well-being. This is especially significant for previously disadvantaged individuals who are most at risk to environmental impacts.</p>
<p>National Environmental Management Act (No. 107 of 1998) (NEMA)</p>	<p>This piece of legislation is South Africa's key piece of environmental legislation, and sets the framework for environmental management in South Africa. NEMA is founded on the principle that everyone has the right to an environment that is not harmful to their health or well-being as contained within the Bill of Rights.</p> <p>The national environmental management principles state that 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.</p> <p>The need for responsible and informed decision-making by government on the acceptability of environmental impacts is therefore enshrined within NEMA.</p>
<p>National Development Plan 2030 (2012)</p>	<p>The National Development Plan (NDP) 2030 is a plan prepared by the National Planning Commission in consultation with the South African public which is aimed at eliminating poverty and reducing inequality by 2030.</p> <p>In terms of the Energy Sector's role in empowering South Africa, the NDP envisages that, by 2030, South Africa will have an energy sector that promotes:</p> <ul style="list-style-type: none"> » Economic growth and development through adequate investment in energy infrastructure. The sector should provide reliable and efficient energy service at competitive rates, while supporting economic growth through job creation. » Social equity through expanded access to energy at affordable tariffs and through targeted, sustainable subsidies for needy households. » Environmental sustainability through efforts to reduce pollution and mitigate the effects of climate change. <p>The NDP aims to provide a supportive environment for growth and development, while promoting a more labour-absorbing economy.</p> <p>The development of the Solar PV Energy Facility and associated infrastructure is considered to be relevant to the NDP due to the need of the infrastructure for economic growth within the Rustenburg Local Municipality.</p>
<p>National Energy Act (Act No 43 of 2008)</p>	<p>The National Energy Act was promulgated in 2008 (Act No 34 of 2008). One of the objectives of the Act was to promote diversity of supply of energy and its sources. In this regard, the preamble makes direct reference to renewable resources, including solar and wind:</p> <p>"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..."(Preamble).</p>
<p>White Paper on the Energy Policy of the</p>	<p>Investment in renewable energy initiatives, such as the proposed Solar PV Energy Facility, is supported by the White Paper on Energy Policy for South Africa (December 1998). In this regard, the document notes:</p>

Relevant legislation or policy	Relevance to the proposed project
<p>Republic of South Africa.</p>	<p>“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”.</p> <p>“Renewable resources generally operate from an unlimited resource base and, as such, can increasingly contribute towards a long-term sustainable energy future”.</p> <p>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 least cost energy service in many cases; more so when social and environmental costs are taken into account.</p> <p>Government policy on renewable energy is thus concerned with meeting the following challenges:</p> <ul style="list-style-type: none"> » 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. <p>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.</p> <p>The White Paper also notes that renewable energy applications have specific characteristics that need to be considered. Advantages include:</p> <ul style="list-style-type: none"> » Minimal environmental impacts in operation in comparison with traditional supply technologies; and » Generally lower running costs, and high labour intensities. <p>Disadvantages include:</p> <ul style="list-style-type: none"> » Higher capital costs in some cases. » Lower energy densities. » Lower levels of availability, depending on specific conditions, especially with sun and wind-based systems.
<p>Integrated Energy Plan (IEP) (2016)</p>	<p>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 No. 34 of 2008), the Minister of Energy is mandated to develop and, on an annual basis, review 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.</p> <p>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</p>

Relevant legislation or policy	Relevance to the proposed project
	<p>price. As part of the Integrated Energy Planning process, eight key objectives were identified, namely:</p> <ul style="list-style-type: none"> » 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. » Objective 8: Increase access to modern energy. <p>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.</p> <p>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.</p> <p>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.</p> <p>Solar</p> <ul style="list-style-type: none"> » Solar should play a much more significant role in the electricity generation mix than it has done historically and constitutes the greatest share of primary energy (in terms of total installed capacity) by 2050. The contribution of solar in the energy mix comprises both CSP and solar PV. » Investments should be made to upgrade the grid in order to accommodate increasing solar and other renewable energy contributions.

3.2. Provincial Policies

This section provides a brief review of the most relevant provincial policies. The proposed Buffelspoort Solar PV Energy Facility considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

A brief review of the most relevant provincial policies is provided in table format (**Table 3.2**) below.

Table 3.2: Relevant provincial policies for the Buffelspoort Solar PV Energy Facility

Relevant policy	Relevance to the proposed project
<p>North-West Provincial Growth and Development Strategy (2004-2014)</p>	<p>The NWP Provincial Growth and Development Strategy (PGDS) was drafted in 2004 and aims to provide a framework for the 10-year period up to 2014. The PGDS is aligned with amongst others, the United Nations endorsed Millennium Development Goals and Objectives 2015, and the 2003 National Spatial Perspective. The PGDS largely relies on Census 2001 for demographic and other statistical data and is therefore dated. An up-dated version does not appear to be available.</p> <p>The PGDS notes that the NWP is a medium-size province, covering ~10% of the total national surface area, accounting for ~ 8% of the national population, and contributing ~ 7% to the national economy. Except for the mining sector (~23.5% of provincial Gross Domestic Product (IDP) in 2002), private sector activity in the NWP is very modest. Other development challenges include low population densities (largely rural province); inadequate infrastructure, and enormous service delivery backlogs; a predominantly poor population with high levels of illiteracy and dependency; great inequalities between rich and poor, and disparities between urban and rural; and the HIV/Aids pandemic.</p> <p>Both the primary immediate and long-term objectives of the PGDS are therefore to address poverty and unemployment, while simultaneously improving the low level of expertise and skills.</p> <p>The following cross-supporting economic development pillars support the NWP's economic growth and development strategy up to 2014:</p> <ul style="list-style-type: none"> » Growth and Investment. » Agricultural and Rural Development. » Mining and Energy » Manufacturing » Tourism » Construction and Infrastructure » Small Medium Micro Enterprise (SMME) » Training and Skills Development <p>SMME development is identified as key vehicle for meeting the dual challenges of growth and equitability, with an envisaged added potential for job creation, albeit currently often in the informal sector. The PGDS envisages that 60-80% of all future economic activities in provincial agriculture, mining, manufacturing, trade, and tourism should be SMME focused, but indicates that policy would ultimately be aligned with evolving national policy.</p> <p>Skills development and training are identified as key enabling factors for labour market access. It is envisaged that skills development should constitute part of a broader, integrated effort at promoting job creation, and that the focus should be on growing skills and vocational training, mainly in the services and financial sectors. Companies would be encouraged to promote employee development through on-the-job learning and learner ships. The development of a focused Adult Basic Education and Training (ABET) strategy is envisaged to address high illiteracy levels, and to facilitate further education and training (FET).</p>
<p>North-West Provincial</p>	<p>The Renewable Energy Strategy (RES) (2012) notes that the North West Province is the fourth largest electricity consuming province in South Africa (12%). The bulk of electricity is currently obtained from conventional coal-fired plants in Mpumalanga. Approximately 63% of the</p>

Relevant policy	Relevance to the proposed project
<p>Renewable Energy Strategy (2012).</p>	<p>electricity supplied to the NWP is consumed in its mining sector. Many rural communities within the NWP are affected by energy poverty – a legacy of historic neglect and underdevelopment – and make use of wood fuel, with impacts on the environment and health. At the same time, the emerging renewables sector holds potential for employment creation, green manufacturing, and commercial energy generation (linked to the IPP). The key objectives of the RES are therefore to:</p> <ul style="list-style-type: none"> » Reduce the North West Province's contribution to climate change » Alleviate energy poverty; and » Promote economic development and job creation in the province by developing a green economy <p>Various renewable energy source options were investigated in the RES. Solar (photovoltaic as well as solar water heaters), Municipal Solid Waste, hydrogen and fuel cell technologies, biomass, and energy efficiency were identified as sub-sectors/ sources which hold the greatest competitive potential in the NWP.</p> <p>With regard to solar, the RES notes that the NWP has a very good potential with daily average solar radiation rates of greater than 8 000 MJ/m². Only the Northern Cape Province (NCP) receives more radiation than the NWP.</p> <p>During the status quo assessment no barriers to the generation and use of solar PV systems within the NWP were identified, except for the only slightly lower levels of solar irradiation levels compared to the NCP and parts of Limpopo. The RES notes that this could potentially be offset by sufficient economies of scale. The NWP has sufficient land area available, and the electricity grid infrastructure is good in the areas of high economic activity and in the proximity of the numerous mines and related large industries concentrated in certain areas of the NWP. The infrastructure in the NWP is also generally good in the same areas. This implies that, although the NWP is not a preferred destination for Solar PV projects, it can be made one if some of the general barriers are removed for project developers by the Province.</p>

3.3. District and Local Municipalities Policies

The strategic policies at a district and local level have similar objectives for the respective areas, namely to accelerate economic growth, create jobs, and uplift communities. The proposed Buffelspoort Solar PV Energy Facility is considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

A brief review of the most relevant district and local municipal policies is provided in table format (**Table 3.3**) below.

Table 3.3: Relevant district and local municipal policies for the Buffelspoort Solar PV Energy Facility

Relevant policy	Relevance to the proposed project
<p>Rustenburg Municipality Spatial Development Framework-Draft (2018).</p>	<p>The Draft SDF (2018) notes that the development of the of the urban landscape has also been driven by the development of the municipality's mobility routes linking the North-West province with Gauteng province. Development within the municipality has grown along the N4 transit corridor. The development of the mining industry within the municipality has also played a key role in terms of the evolution of the spatial development patterns. In this regard the development of Rustenburg over the past 20 – 25 years is closely linked with the development</p>

Relevant policy	Relevance to the proposed project
	<p>of platinum mining in the region. The Rustenburg Local Municipality ("RLM") benefitted significantly from the increase in platinum output between 1994 and 2009, which grew by 67%. This resulted in Rustenburg having the third fastest growing economy of metropolitan cities in South Africa prior to 2012, outperformed only by Johannesburg and Ekurhuleni (Euconomix, 2016).</p> <p>Section 4, spatial proposals, outlines the land use proposals for the RLM. Mining related land uses are of relevance to the proposed Project. The SDF notes that mining in the RLM predominantly occurs in a belt which runs north of and parallel to the Magaliesberg and extends from Pilanesberg in the north, past Rustenburg towards Marikana. These mining activities are not only the corner stone of the local economy of Rustenburg, but also largely within the North West Province.</p> <p>The SDF notes that it is important that the necessary infrastructure is created and maintained to ensure the continued optimal operation of these mining activities. This would include energy related infrastructure, such as the proposed Project. The SDF also notes that mining activities and infrastructure can have a significant impact on the current and future spatial structure of the urban area through the physical constraints it poses. These negative potential interactions between the mining activities and proposed future urban development should therefore be minimised as far as possible.</p>
<p>Rustenburg Municipality Integrated Development Plan (2021/22)</p>	<p>The vision for the RLM is "A world class city where all communities enjoy a high quality of life and diversity". The mission statement associated with the vision is "To continuously improve the quality of life. Economic growth and eradicate poverty through best practice, sustainability and inclusive governance".</p> <p>The IDP lists seven strategic priorities, namely:</p> <ul style="list-style-type: none"> » Ensure a sustainable municipal financial viability and management. » Efficient provision of quality basic services and Infrastructure within a well-planned spatial structure. » Drive diversified economic growth and job creation. » Maintain, a clean, green, safe, and healthy environment for all. » Transform and maintain vibrant and sustainable rural development. » Uphold good governance and public participation principles. » Drive optimal municipal institutional development, transformation, and capacity building. <p>Diversified growth, job creation and the promotion of clean and green environment are of specific relevance to the proposed development. The strategic priorities are underpinned by eleven municipal goals, of which the following are relevant to the proposed Project:</p> <ul style="list-style-type: none"> » Goal 3: A well designed, habitable, clean, and green city » Goal 5: A new post mining world city. » Goal 6: A smart prosperous city. » Goal 7: A vibrant, creative, and innovative city. » Goal 11: City of sustainable and efficient resource management. <p>The IDP also identifies five strategic local economic development goals. The following are relevant to the proposed development:</p> <ul style="list-style-type: none"> » An enabling and conducive business environment to enhance RLM competitiveness as a destination of choice for tourism, investment, and trade.

Relevant policy	Relevance to the proposed project
	<p>» Accelerated and shared economic growth through skills development and enterprise development to promote an entrepreneurial culture that will contribute towards improving the livelihoods of the RLM communities.</p> <p>Section 3.3.4.3, Greenhouse gasses and climate change, refers to the risks posed to the RLM by climate change. The initiatives identified to address the risks that are relevant to the development include:</p> <p>» Decarbonization of Electricity –transition from coal powered electricity to renewable energy.</p> <p>» Decarbonization of Economy-transition to Green Economy projects (LED).</p> <p>A SWOT analysis was undertaken as part of the IDP process. The following are relevant:</p> <p>Strengths</p> <ul style="list-style-type: none"> • Mining Town <p>Weaknesses</p> <ul style="list-style-type: none"> • Limited access to strategically located land • High rate of losses in water and electricity (due to issues such as slow to purchase electricity and affordability of Eskom) <p>Opportunities</p> <p>Opportunities for green energy/alternative sources</p> <ul style="list-style-type: none"> • Municipality strategically located along the N4 corridor • Potential for agricultural, tourism and mining related sectors. <p>Threats</p> <ul style="list-style-type: none"> • Declining mining economy • Ageing and failing Infrastructure. • Low levels of skills and education. • High dependency rate (Growing indigent register) • Undiversified economy • High unemployment rate • Low level of household income • Influx of migrant workers • Vandalism and theft from infrastructure network
<p>Bojanala Platinum District IDP (2021/22).</p>	<p>The Bojanala District Municipality is the highest order of the five municipalities that are within its jurisdiction and therefore within its IDP it is important to have massive programmes to build economic and social infrastructure i.e. 'continuing with to build, revamp and maintain electricity infrastructure, including generation, distribution and reticulation to ensure sufficiency and sustainability of supply and development of alternative energy sources''</p> <p>The proposed Project will increase the supply of electricity to the North West province, it will further ensure that jobs are created during the construction phase of the project, as well as increase energy to support industry at competitive prices i.e agriculture, mining etc. As the IDP of the District speaks to the development contributing to infrastructure development i.e electricity etc, this proposed Project is a key focus in the municipalities strategic objectives amongst others.</p>

3.4. Conclusion

The review of relevant legislation, policies and documentation pertaining to the proposed development indicates that the establishment of the Solar PV Energy Facility and associated grid connection infrastructure is supported at a national, provincial, and local level, and that the proposed project will contribute positively towards a number of targets and policy aims.

4. SOCIAL PROFILE

Buffelspoort Solar Project (Pty) Ltd is proposing to develop a Solar Photovoltaic (PV) Energy Facility and associated infrastructure on Portions 75 and 134 of the Farm Buffelspoort 343JQ, located approximately 6 km west of Mooinooi, within the jurisdiction of the Rustenburg Local Municipality and the Bojanala Platinum District Municipality in the North-West Province.

The purpose of the facility will be to supply power to a private offtake through connecting to an existing 88kV Substation via a newly proposed ~ 2.5 km long 88kV single circuit overhead power line that will be routed over privately-owned properties from the onsite facility substation to the point of interconnection, north of the N4 (refer to **Table 4.1**).

Table 4.1: Spatial Context of the study area for the development of the Buffelspoort Solar PV Energy Facility

Province	North-West Province
District Municipality	Bojanala Platinum District Municipality
Local Municipality	Rustenburg Local Municipality
Ward number(s)	32
Nearest town(s)	Buffelspoort, Mooinooi (~6 km east of the project site)
Preferred access	N4 national and R104 arterial road

This Chapter provides an overview of the socio-economic environment of the province, DM, and LM within which the Buffelspoort Solar PV Energy Facility is proposed and provides the socio-economic basis against which potential issues can be identified.

Table 4.2 provides a baseline summary of the socio-economic profile of the Rustenburg LM within which the Buffelspoort Solar PV Energy Facility is located. In order to provide context against which the LM's socio-economic profile can be compared, the socio-economic profiles of the Bojanala DM, North West Province, and South Africa as a whole have also been considered. The data presented in this section have been derived from the 2011 Census, the Local Government Handbook South Africa 2019, the North West Provincial Spatial Development Framework (PSDF), and the Bojanala DM and Bojanala LM IDPs.

Table 4.2: Baseline description of the socio-economic characteristics of the area within which the Buffelspoort Solar PV Energy Facility is proposed

Location characteristics
<ul style="list-style-type: none"> » The project is proposed within the North West Province, which is South Africa's largest, but least populated Province. » The project is proposed within the Rustenburg LM of the Bojanala DM. » The Rustenburg LM is approximately 3 422.8 km² in extent.
Population characteristics
<ul style="list-style-type: none"> » In 2016 the Rustenburg LM has a population of 626 522 people which is about two-fifths of the figure in Bojanala (1 657 149). » In terms of race groups, Black Africans made up 93.1% of the population on the RLM, followed by Whites, 6.1% and Coloureds, 0.6%. The main first language spoken in the RLM and was Setswana, 63.9% followed by Isixhosa (10.1%) and Afrikaans (5.6%).
Economic, education and household characteristics
<ul style="list-style-type: none"> » The dependency ratios for the RLM in 2016 was 58.7%.

- » The relatively low dependency ratio compared to other LMs reflects the employment and economic opportunities associated with the mining sector in the area.
- » The GDP of the RLM was R 72.9 billion in 2020 (up from R 37.4 billion in 2010). This made up 47.04% of the total GDP of the BDM in 2020, an increase from 43.74% in 2010.
- » In terms of the North West economy, the RLM contributed 24.65% to the GDP of North-West Province in 2020.
- » The RLM is therefore a key contributor to both the district and provincial economy.
- » The primary sector, specifically mining, contributed 77.2% towards the GVA of the RLM in 2020
- » Based on the data from the 2011 Census, 17.6% of the households in the RLM had no formal income, 2.8% earned less than R 4 800, 4.2% earned between R 5 000 and R 10 000 per annum, 11.2% between R 10 000 and R 20 000 per annum and 17.4% between R 20 000 and R 40 000 per annum.
- » The official unemployment rate in the RLM in 2016 was 17.7%, while 49.2% were employed, and 30.3% were regarded as not economically active.
- » The unemployment rates for the RLM are lower than the Provincial rate of 17.1% and the District rate of 18.8%.
- » In terms of education levels, the percentage of the population over 20 years of age in the RLM with no schooling was 4.8% (2016), compared to 8.7% and 5.5% for the North West Province and BDM in 2016 respectively.

Services

- » Based on 2016 survey, 84.6% of households in the RLM had access to electricity, while 11.2% had no access to electricity. Of the households that had access to electricity, 76.7% had in house pre-paid meters, and 7.9% had conventional meters.
- » Based on the 2016 survey information, 95.2% of households in the RLM were supplied by a local or regional service provider, while 4.8% relied on their own sources.
- » Of the households supplied by service providers, 54.5% had piped water in their yards and 31% had piped water in their houses, while 9.3% relied on community stands or taps.
- » The relatively low number of households with piped water in their houses reflects the high percentage of shacks (29%) in the RLM.
- » 59.3% of the households in the RLM had access to flush toilets (2016), while 36.1% relied on pit toilets and 1.9% did not have access to formal sanitation.
- » 72.6% of the households in the RLM had access to regular refuse removal service, while 12.2% disposed of their waste at their own dump and 4.4% had no access to refuse services (2016).

4.1. Proposed Project Site

The study area (geographical area of approximately 154km²) is situated within the Bojanala Platinum District, so called due to the predominantly platinum and chrome mining activities within the region. The region historically had a stronger agricultural economy (in the 1960s) with tobacco, maize, soya, and sunflower amongst some of the major crops produced. In the 1970s mining was introduced and grew to become the main economic driver of the area. The mining activities have since then greatly influenced the settlement patterns and socio-economic structure of the region.

The proposed Project Site is located in between the N4 national and R104 arterial roads. The N4 national road very much divides the study area (geographical area of approximately 154km²) into two distinct land use categories, with the area north of this road predominantly given to large scale mining, and the southern section with a more agricultural and natural character. The topography of the region is similarly divided into two distinct classes, where the northern parts are described as plains and undulating plains, and the southern parts consist of mountains and tall hills.

These mountains are the northern foothills of the Magaliesberg Mountains, located further south of the study area. The Sterkstream River traverses the study area (from the south (from the Buffelspoort Dam), to the north

towards the Beestekraal Dam, located north of the study area. Other than this river there are a number of non-perennial streams and farm or mining dams within the study area.

The most prominent (and visible) land use within the region is the mining activities, mining infrastructure, tailings dams and waste rock dumps. Interspersed with these mining activities are agricultural land uses, ranging from irrigated agriculture, dryland agriculture and citrus farming (orchards) predominantly to the south. Agricultural activities include the production of maize, wheat and sunflower crops, as well as cattle farming. The farmers working these fields predominantly reside at homesteads or farm residences scattered throughout the study area. Homesteads located in closer proximity to the proposed Buffelspoort Solar PV Energy Facility site include Buffelspoort, Mizpah, Maakiesaakie, Dassieklip and Elandsdrift.

5. OVERVIEW OF SOCIAL ISSUES

This Chapter provides a detailed description and assessment of the potential social impacts that have been identified for the detailed design and construction, operation, and decommissioning phases, of the proposed Buffelspoort Solar PV Energy Facility.

Through the undertaking of this SIA for the development of the Solar PV Energy Facility and associated infrastructure, the current *status quo* of the area from a social and land use perspective was considered in order to provide an indication of the positive and negative social impacts expected to occur. This assessment considered the following points:

- » The nature, extent and significance of the features within the social landscape being considered.
- » The existing disturbance already present within the social landscape (i.e. mining activities and other industrial developments/infrastructure).

5.1. Social Impacts during the Construction Phase

The majority of social impacts associated with the proposed Project are anticipated to occur during the construction phase and are typical of the type of social impacts generally associated with construction activities. These impacts will be temporary and short-term (~12 months) but could have long-term effects on the surrounding social environment if not planned or managed appropriately. It is therefore necessary that the detailed design phase be conducted in such a manner so as not to result in permanent social impacts associated with the ill-placement of project components or associated infrastructure or result in the mismanagement of the construction phase activities.

The positive and negative social impacts identified and assessed for the construction phase includes:

- » Direct and indirect employment opportunities.
- » Economic multiplier effects.
- » Influx of jobseekers and change in population.
- » Safety and security impacts.
- » Impacts on daily living and movement patterns.
- » Nuisance impacts, including noise and dust.

Table 5.1: Impact assessment on direct and indirect employment opportunities

Impact			
Creation of direct and indirect employment opportunities and skills development			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Construction of the project will result in the creation of a number of direct and indirect employment opportunities, which will assist in addressing unemployment levels within the	Positive – the creation of employment opportunities will assist to an extent in alleviating unemployment levels within the area.	The impact will occur at a local, regional and national level.	N/A

area and aid in skills development of communities in the area.			
Description of expected significance of impact During the construction the creation of permanent employment will be provided and opportunities will be provided to the local community surrounding the project area. Skills developed through experience in the construction of the Solar PV Energy Facility will be retained by the community members involved. The impact is likely to be positive, local to national in extent, short-term, and of medium significance.			
Gaps in knowledge & recommendations for further study <ul style="list-style-type: none">» Collection of information on exact direct and indirect employment opportunities and skills development opportunities.» Collection of information on local renewable energy developments Recommendations with regards to general field surveys <ul style="list-style-type: none">» Site visit and interviews with representatives from the local municipality, and the renewable energy developments.» Site visit and interviews with the local farmers within the project site..			

Table 5.2: Economic multiplier effects

Impact Economic multiplier effects			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Economic multiplier effects from the use of local goods and services during the construction phase.	Positive – There are likely to be opportunities for local businesses to provide goods and services during the construction phase.	The impact will occur at a local and regional scale.	N/A
Description of expected significance of impact Economic multiplier effects from the use of local goods and services include, but are not limited to, the provision of construction materials and equipment, and workforce essentials such as services, safety equipment, ablution, accommodation, transportation and other goods. The increase in demand for goods and services may stimulate local business and local economic development (however locally sourced materials and services may be limited due to availability). There is likely to be a direct increase in industry and indirect increase in secondary businesses. The impact is likely to be positive, local to regional in extent, short-term, and of medium significance.			
Gaps in knowledge & recommendations for further study <ul style="list-style-type: none"> » Collection of information from IDP's , SDP's and other industry data available for employment in the area » Collection of information on local hospitality and services sector. Recommendations with regards to general field surveys <ul style="list-style-type: none"> » Site visit and interviews with representatives from the local municipality, and the renewable energy developments. » Site visit and interviews with the local chamber of commerce. 			

Table 5.3: Assessment of impacts from an influx of jobseekers and change in population

Impact Influx of jobseekers and change in population			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Increased pressure on infrastructure and basic services, and social conflicts during construction as a result of in-migration of people.	Negative – The in-migration of job seekers to the area could result in increased pressure being placed on infrastructure and basic services, and a rise in social conflicts.	The impact will occur at a local level.	N/A
Description of expected significance of impact An influx of people looking for employment or other economic opportunities could result in increased pressure being placed on economic and social infrastructure, and a change in the local population. Population change refers to the size, structure, density as well as demographic profile of the local community. An influx of jobseekers into an area, could lead to a temporary increase in the level of crime, cause social disruption and put pressure on basic services. It could also potentially create conflict between locals and outsiders due to potential differences in racial, cultural and ethnic composition. A further negative impact that could result due to an influx of jobseekers into an area is an increase in unemployment levels due to an oversupply of available workforce, particularly with respect to semi- and unskilled workers.			
Gaps in knowledge & recommendations for further study <ul style="list-style-type: none"> » Collection of information on existing community challenges and needs. Recommendations with regards to general field surveys <ul style="list-style-type: none"> » Site visit and interviews with representatives from the local municipality and community representatives. 			

Table 5.4: Assessment of safety and security impacts

Impact Safety and security impacts			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Temporary increase in safety and security concerns associated with the influx of people during the construction phase.	Negative – The in-migration of job seekers to the area could be perceived to result in increased criminal activity.	The impact will occur at a local level.	N/A
Description of expected significance of impact The commencement of construction activities can be associated with an increase in crime within an area. The perceived loss of security during the construction phase of a project due to an influx of workers and / or outsiders to the area (as in-migration of newcomers, construction workers or jobseekers are usually associated with an increase in crime), may have indirect effects such as increased safety and security concerns for neighbouring properties, damage to property, increased risk of veld fire, stock theft, poaching, crime and so forth. There will be no labour force residing within the construction site.			
Gaps in knowledge & recommendations for further study <ul style="list-style-type: none"> » Information on existing crime levels within the area. » Mechanisms for employment of local labour and minimisation of in-migration. Recommendations with regards to general field surveys <ul style="list-style-type: none"> » Site visit and interviews with similar mining houses within the area. 			

Table 5.5: Assessment of impacts on daily living and movement patterns.

Impact Impacts on daily living and movement patterns			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Temporary increase in traffic disruptions and movement patterns during the construction phase.	Negative – An increase in traffic due to construction vehicles and heavy vehicles could create short-term disruptions and safety hazards for current road users.	The impact will occur at a local level.	N/A
Description of expected significance of impact Increased traffic due to construction vehicles and heavy vehicles could cause disruptions to road users and increase safety hazards. The use of local roads and transport systems may cause road deterioration and congestion. The impact is likely to be negative, local in extent, short-term, and of low significance given the proximity of the proposed project to existing mining operations within the area.			
Gaps in knowledge & recommendations for further study Gaps in Knowledge <ul style="list-style-type: none"> » Number of vehicle trips anticipated during construction. Recommendations with regards to general field surveys <ul style="list-style-type: none"> » Site visit and interviews with local farmers and representatives from local farming associations etc and local business along the R104. 			

Table 5.6: Assessment of nuisance impacts (noise and dust)

Impact Nuisance impacts (noise and dust)			
Issue	Nature of Impact	Extent of Impact	No-Go Areas

Nuisance impacts in terms of temporary increase in noise and dust, and wear and tear on access roads to the site.	Negative – The impact will negatively impact sensitive receptors and could cause disruptions for neighbouring properties.	The impact will occur at a local level.	N/A
<p>Description of expected significance of impact</p> <p>Nuisance impacts associated with construction related activities include noise, dust, and possible disruption to adjacent properties (for example increase in traffic during that construction period). Site clearing activities increase the risk of dust and noise being generated, which can in turn negatively impact on adjacent properties. The movement of heavy construction vehicles and construction activities and equipment also have the potential to create noise, as well as impacts on travellers travelling along the R104 arterial road, and gravel access roads. The primary sources of noise during construction would be from construction equipment, vehicle and truck traffic. Noise levels can be audible over a large distance although are generally short in duration. Dust would be generated from construction activities as well as trucks / vehicles driving on gravel access roads. This impact will negatively impact sensitive receptors. The impact of noise and dust on sensitive receptors can be reduced through the application of appropriate mitigation measures.</p>			
<p>Gaps in knowledge & recommendations for further study</p> <ul style="list-style-type: none"> » Impact of noise and dust on surrounding landowners. <p>Recommendations with regards to general field surveys</p> <ul style="list-style-type: none"> » Site visit and interviews with local farmers and representatives from local farming associations etc and local business along the R104. 			

Table 5.7: Assessment of visual impacts and impacts on the sense of place

<p>Impact</p> <p>Visual and sense of place impacts</p>			
<p>Issue</p> <p>Intrusion impacts from construction activities will have an impact on the area's "sense of place".</p>	<p>Nature of Impact</p> <p>Negative – The proposed project could alter the area's sense of place which could negatively impact on sensitive receptors.</p>	<p>Extent of Impact</p> <p>The impact will occur at a local level.</p>	<p>No-Go Areas</p> <p>N/A</p>
<p>Description of expected significance of impact</p> <p>Intrusion impacts such as aesthetic pollution (i.e. building materials, construction vehicles, etc.), noise and light pollution will impact the "sense of place" for the farmers within the area. Construction related activities have the potential to negatively impact a local area's "sense of place". Such an impact is likely to be present during the construction phase. There is an existing power line there impacts will only affect areas and receptors that have already been exposed to other existing grid connection infrastructure (i.e. power lines and substations) and other industrial infrastructure, specifically mining related infrastructure (i.e. for which the sense of place has already been altered).</p>			
<p>Gaps in knowledge & recommendations for further study</p> <ul style="list-style-type: none"> » Collection of information on location of existing farming and local businesses within close proximity of the site. <p>Recommendations with regards to general field surveys</p> <ul style="list-style-type: none"> » Site visit and interviews with local farmers and representatives from the local municipality and farming and hospitality association etc. 			

5.2. Potential Social impacts during the Operation Phase

It is anticipated that the Buffelspoort Solar PV Energy Facility will operate for approximately 15 years, with the option to extend its operation should the offtaker require it.

The potential positive and negative social impacts that could arise because of the operation of the proposed project include the following:

- » Direct and indirect employment opportunities.
- » Visual impact and sense of place impacts.

Table 5.8: Employment opportunities and skills development

Impact			
Direct and indirect employment opportunities and skills development			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Creation of direct and indirect employment and skills development opportunities and skills development as a result of the operation of the project.	Positive – The creation of employment opportunities and skills development will assist to an extent in alleviating unemployment levels within the area.	The impact will occur at a local, regional and national level.	N/A
Description of expected significance of impact			
During operation, a number of direct full time employment opportunities will be created. Of those employment opportunities created low-skilled worker opportunities will be provided, those semi-skilled will also be included whilst a certain percentage will comprise of skilled workers. Employment opportunities include safety and security staff, operation and maintenance crew. Maintenance activities will be carried out throughout the lifespan of the Project, and will include washing of solar panels, vegetation control, and general maintenance around the Solar PV Energy Facility. The impact is likely to be positive, local to national in extent, long-term, and of medium significance.			
Gaps in knowledge & recommendations for further study			
<ul style="list-style-type: none"> » Information on the exact direct and indirect employment opportunities and skills development opportunities likely to be created during the operational phase. 			
Recommendations with regards to general field surveys			
<ul style="list-style-type: none"> » Information on exact direct and indirect employment opportunities and skills development programmes likely to be created during operation » Labour should be sourced from the local labour pool where possible. If the necessary skills are unavailable, labour should be sourced from (in order of preference) the greater Rustenburg LM, John Bojanala Platinum District Municipality DM, North- West Province, South Africa, or elsewhere. Where required, training and skills development programmes should be initiated prior to the commencement of the construction phase. » Labour force suppliers should as far as possible be sourced locally. » Where feasible, local suppliers and contractors that are compliant with the Broad-Based Black Economic Empowerment (B-BBEE) criteria, should be used as far as possible to ensure that the benefits resulting from the project accrue, as far as possible, to the local communities which are also likely to be most significantly impacted / affected by the project. » The recruitment selection process should seek to promote gender equality and the employment of women wherever possible. » Proof of skills development must be provided to the upskilled individuals 			

Table 5.9: Assessment of the visual impact and impacts on sense of place

Impact			
Visual and sense of place impacts			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Sense of place impacts from a social perspective associated	Negative – The proposed Project could alter the area's sense of place which	The impact will occur at a local level.	N/A

with the operation phase of the solar energy facility and associated infrastructure.	could negatively impact on sensitive receptors.		
<p>Description of expected significance of impact</p> <p>An area's sense of place is created through the interaction of various characteristics of the environment, including atmosphere, visual resources, aesthetics, climate, lifestyle, culture, and heritage. An area's sense of place is however subjective and largely dependent on the demographics of the population residing within the area and their perceptions regarding trade-offs. For example, while some individuals may prefer not to see any form of infrastructure development, others may be interested in large-scale infrastructure, or engineering projects and consider the impact to be less significant. Such a scenario may be true given that one of the main economic sectors within the area is mining which has altered the landscape from natural to industrial.</p>			
<p>Gaps in knowledge & recommendations for further study</p> <p><u>Gaps in Knowledge</u></p> <ul style="list-style-type: none"> » Potential sensitive visual receptors need to be identified. » Visual Impact Assessment to inform impact on sense of place. <p>Recommendations with regards to general field surveys</p> <ul style="list-style-type: none"> » Site visit and interviews with local farmers and representatives from the local municipality and farming and Local business within the proximity of the project. 			

6. PLAN OF STUDY FOR THE EIA PHASE

This SIA focused on the collection of data to provide an understanding of the current social environment associated with the Buffelspoort Solar PV Energy Facility and grid connection corridor that is proposed and identifying social issues and potential social impacts associated with the development of such a nature.

It is recommended that a detailed SIA be conducted as part of the EIA phase. Based on the findings of the SIA, the following approach to the EIA phase study is proposed:

- » Review comments pertaining to social impacts received from members of the public, key stakeholders, and any organ of state during the public review of the Scoping Report. Where applicable, comments received from the DEDECT on the Final Scoping Report (FSR), which may pertain to social impacts or have relevance to the SIA, will also be reviewed.
- » Collect primary data during a site visit. Interview directly affected and adjacent landowners, and key stakeholders to obtain primary information related to the Project Site, social environment, and to gain their inputs on the proposed Project and its perceived social impact (positive and /or negative).
- » Update the baseline information with information received during the site visit, as well as any additional information received from the project proponent or updates to the Project description.
- » Assess impacts identified for the Project in terms of their nature, extent, duration, magnitude, probability, status, and significance; as well as the degree to which the impact can be reversed, may cause irreplaceable loss of resources, and can be mitigated.
- » Identify mitigation measures with which to reduce negative impacts and enhance positive impacts for inclusion in the Environmental Management Programme (EMPr). As far as possible the mitigation hierarchy of "avoid, minimise, and reduce" will be followed in the mitigation of potential negative impacts.
- » Identify any conditions for inclusion in the Environmental Authorisation (EA).
- » Identify any monitoring requirements for inclusion in the EMPr or EA.
- » Provide a reasoned opinion regarding the acceptability of the Project, and whether the proposed Project should be authorised.
- » Prepare a SIA Report for inclusion in the EIA Report to be prepared for the proposed Project.
- » Subject the SIA Report prepared for the proposed Project for inclusion in the EIA Report to external peer review.

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