

Vrede Solar PV Facility

Free State Province

Social Impact Assessment (SIA) Scoping Report

November 2020

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Prepared for:

South Africa Mainstream Renewable Power Developments (Pty) Ltd



PROJECT DETAILS

Title	:	Social Impact Assessment (SIA) Scoping Report for the Vrede Solar PV Facility near Kroonstad, in the Free State Province
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Client	:	South Africa Mainstream Renewable Power Developments (Pty) Ltd
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SPECIALIST DECLARATION OF INTEREST

I, Lisa Opperman, 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.

Lisa Opperman

Name

November 2020

Date



Signature

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ACRONYMS

DEFF	Department of Environment, Forestry and Fisheries
DMRE	Department of Mineral Resources and Energy
DM	District Municipality
EAP	Economically Active Population
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GNR	Government Notice
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IFC	International Finance Corporation
IPP	Independent Power Producer
km	Kilometre
kV	Kilovolt
LED	Local Economic Development
LM	Local Municipality
MW	Mega Watt
NEMA	National Environmental Management Act (No. 107 of 1998)
NC	Northern Cape
PGDS	Provincial Growth and Development Strategy
PSDF	Provincial Spatial Development Framework
PV	Photovoltaic
RE	Renewable Energy
DESTEA	Department of Economic, Small Business Development, Tourism and Environmental Affairs
REIPPP	Renewable Energy Independent Power Producer Procurement
S&EIA	Scoping and Environmental Impact Assessment
SDF	Spatial Development Framework
SIA	Social Impact Assessment

1. INTRODUCTION

South Africa Mainstream Renewable Power Developments (Pty) Ltd proposes the development of the Vrede Solar PV Facility, a PV solar energy facility and associated infrastructure on a site near Kroonstad, in the Free State Province. The proposed project comprises a commercial solar energy facility, and is intended to form part of the Department of Mineral Resources and Energy's (DMRE's) Renewable Energy Independent Power Producer Procurement (REIPPP) Programme. The REIPPP Programme aims to secure new generation capacity from renewable energy sources, while simultaneously diversifying South Africa's electricity mix, and positively contributing towards socio-economic and environmentally sustainable growth.

The proposed development requires Environmental Authorisation (EA) from the National Department of Environment, Forestry and Fisheries (DEFF) in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), and the 2014 Environmental Impact Assessment (EIA) Regulations (GNR 326) subject to the completion of a full Scoping and EIA Process.

Lisa Opperman 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 undertaken for the project.

1.1 Project Description

PV technology is proposed to be utilised for the generation of electricity, and the Vrede Solar PV Facility will have a contracted capacity of up to 100MW_{AC}. Infrastructure associated with the solar PV facility will include the following:

- » Solar PV array comprising PV modules and mounting structures.
- » Inverters and transformers.
- » Cabling between the project components.
- » On-site facility substation to facilitate the connection between the solar PV facility and the Eskom electricity grid.
- » Battery Energy Storage System (BESS).
- » Site offices and maintenance buildings, including workshop areas for maintenance and storage.
- » Laydown areas.
- » Access roads, internal distribution roads and fencing around the development area.

The facility will be located within the Remaining extent of the Farm Vrede No. 1152, and Portion 1 of the farm Uitval No. 1104. The Vrede Solar PV facility will be connected to the grid via a separately authorised grid connection solution¹, which will consist of a 132kV distribution line from the on-site 33/132kV Eskom substation via a loop in loop out into the Eskom 132kV Kroonstad Municipality – Theseus 1 switching station power line.

¹ The grid connection solution for the Vrede Solar PV facility forms part of a separate application for environmental authorisation subject to a Basic Assessment.

The project is located ~14km south-west of Kroonstad which is located within Ward 7 of the Mphaka Local Municipality and the Fezile Dabi District Municipality (refer to **Figure 1.1**). The site can be readily accessed via an existing gravel access road (the S172).

Table 1.1 provides information regarding the proposed project site identified for the Vrede Solar PV Facility.

Table 1.1: A description of the project site identified for the Vrede Solar PV Facility.

Province	Free State Province
District Municipality	Fezile Dabi District Municipality
Local Municipality	Mphaka Local Municipality
Ward Number(s)	Ward 7
Nearest Town(s)	Kroonstad (approximately 14km north-east of the project site) Henneman (approximately 28km south-west of the project site) Welkom (approximately 49km south-west of the project site)
Farm Portion(s), Name(s) and Number(s)	» Remaining extent of the farm Vrede No. 1152; and » Portion 1 of the farm Uitval No. 1104.
SG 21 Digit Code (s)	» F0200000000011520000 (Vrede) » F0200000000011040001 (Uitval)
Current Zoning	Agriculture
Current land use	The properties both currently lie fallow, having been used historically for agriculture
Site Extent	~ 609 ha

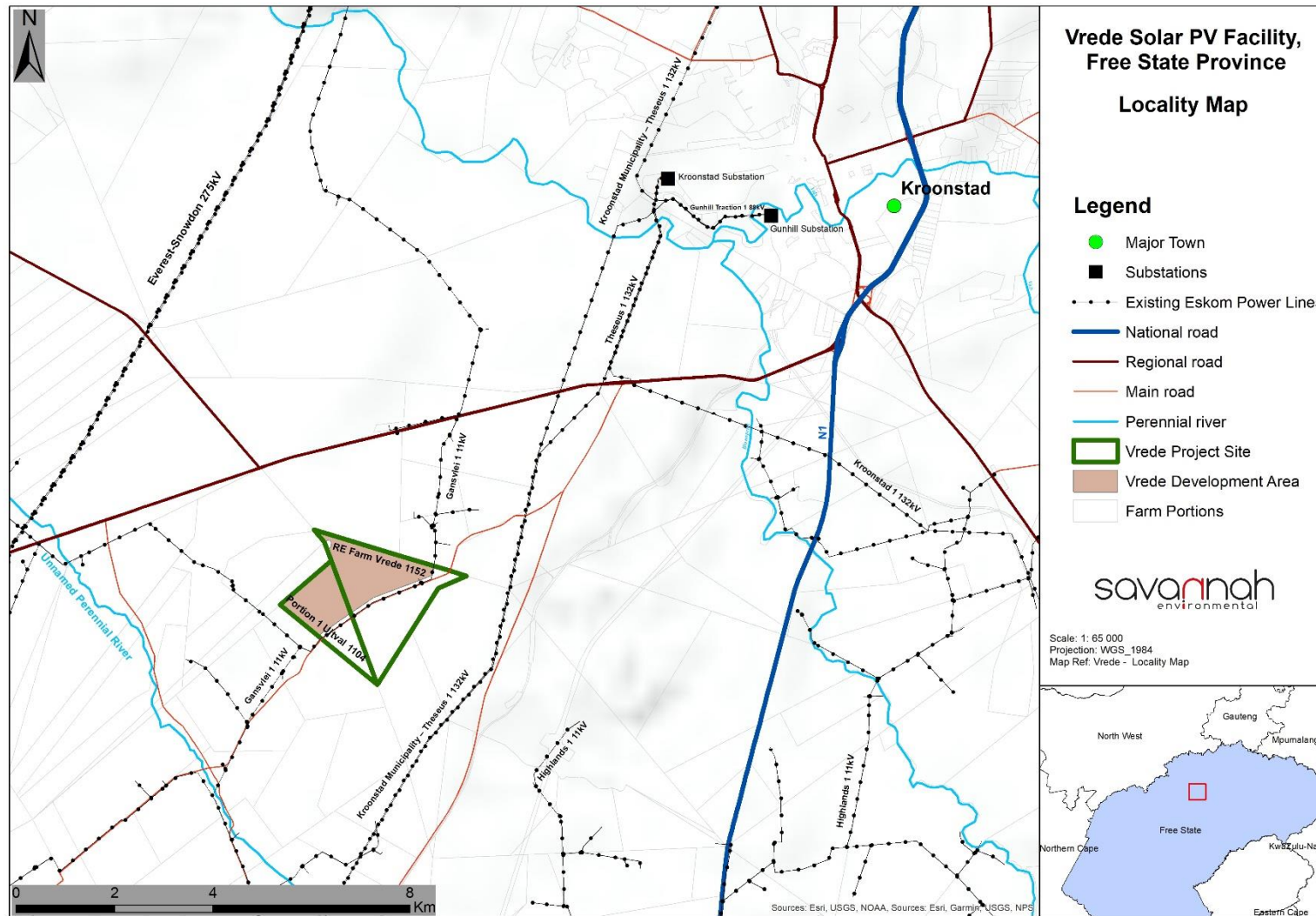


Figure 1.1: Locality map for the Vrede Solar PV Facility.

1.2 Objective of the Scoping Process

This SIA Scoping Report has been prepared as part of the Scoping Process being undertaken for the Vrede Solar PV Facility. The purpose of this SIA Scoping Report is to provide details on the nature and extent of the proposed development, and the potential social impacts associated with the construction, operation, and decommissioning of the 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 Scoping 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.
- » Identify suitable measures to avoid, manage or mitigate identified social impacts and determine the extent of residual risks that need to be managed and monitored.

1.3 Details of the Independent Specialist

This SIA has been undertaken by Lisa Opperman of Savannah Environmental.

- » **Lisa Opperman** – holds a Bachelor degree with Honours in Environmental Management and has five years of experience in the environmental field. Her key focus is on environmental and social impact assessments, public participation, environmental management plans and programmes, as well as mapping using ArcGIS for a variety of environmental projects.

1.4 Structure of this SIA Scoping Report

This SIA Scoping Report has been structured as follows:

- » **Chapter 1** provides an overview of the proposed project, including a project description and a description of the project location.
- » **Chapter 2** provides an overview of the methodology and approach utilised in preparing this SIA Scoping Report.
- » **Chapter 3** provides an overview of the legislative and policy environment within which Vrede Solar PV Facility is proposed.
- » **Chapter 4** provides the socio-economic profile of the Moqhaka Local Municipality, Fezile Dabi District Municipality, Free State Province, and South Africa as a whole.
- » **Chapter 5** describes the potential social impacts which have been identified for the project and which will be assessed in more detail as part of the EIA.
- » **Chapter 6** provides the conclusion of the scoping study and recommendations for further study to be incorporated into the Plan of Study for EIA to be approved by DEFF.

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 Scoping 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 development.
- » Identify, describe and assess possible social risks/fatal flaws and social impacts that may arise as a result of the proposed development (in terms of the detailed design and construction, operation, and decommissioning phases of the project).
- » Suggest 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 Scoping Report provides a snapshot of the current social setting within which the Vrede Solar PV 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 on by the construction, operation and decommissioning of the project; as well as the manner in which the social environment is likely to impact the development itself.

The SIA Scoping process completed to date comprised the following:

- » Collection and review of existing information, including 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.
- » Preparation of a SIA Scoping Report for inclusion in the Scoping Report to be prepared for the project.

2.2.1. Collection and Review of Existing Information

Existing desktop information which 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 project (as provided by the project proponent).
- » Census data (2011).
- » 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 energy facilities and associated infrastructure.

2.3. Limitations and Assumptions

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

- » Data derived from the 2011 Census, Free State Provincial Spatial Development Framework (PSDF) - Executive Summary (Inception Report), Fezile Dabi District Municipality Integrated Development Plan (IDP) 2020/2021 (Draft), Fezile Dabi District Municipality Climate Change Vulnerability Assessment and Response Plan (2016), Moqhaka Local Municipality Integrated Development Plan IDP (2017 – 2022) and Moqhaka Local Municipality Spatial Development Framework (SDF) (2019/2020) was used to generate the majority of information provided in the baseline profile of the study area. The possibility therefore exists that the data utilised may be out of date and may not provide an accurate reflection of the current status quo.
- » This SIA Scoping Report is intended to provide an overview of the current social environmental and assist in the identification of potential social impacts which require further investigation as part of the EIA phase. As a result, no consultation has been conducted with key stakeholders as part of the Scoping process to date.
- » This SIA Scoping Report was prepared based on information which 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.

- » Some of the project projections reflected in this SIA Scoping Report (i.e. with regards to job creation and local content) 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 Scoping 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)
- » White Paper on the Renewable Energy Policy of the Republic of South Africa (2003)
- » National Energy Act (No. 34 of 2008)
- » Electricity Regulation Act (2006)
- » Integrated Energy Plan (IEP) (2016)
- » Integrated Resource Plan for Electricity (IRP) 2010-2030 (2019)
- » National Development Plan (NDP) 2030 (2012)
- » Strategic Infrastructure Projects (SIPs)
- » National Climate Change Response Policy, 2011
- » Climate Change Bill, 2018

Provincial Policy and Planning Context:

- » Free State Provincial Growth and Development Strategy (FSGDS) (2005 – 2014)
- » Free State Provincial Growth and Development Strategy (FSGDS), Revised October 2007
- » Free State Provincial Spatial Development Framework (PSDF) - Executive Summary (Inception Report)
- » Free State Green Economy Strategy (2014)
- » Free State Investment Prospectus (2019)

Local Policy and Planning Context:

- » Fezile Dabi District Municipality Integrated Development Plan (IDP) 2020/2021 (Draft)
- » Fezile Dabi District Municipality Climate Change Vulnerability Assessment and Response Plan (2016)
- » Moqhaka Local Municipality Integrated Development Plan IDP (2017 – 2022)
- » Moqhaka Local Municipality Spatial Development Framework (SDF) (2019/2020)

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 increased utilisation of Renewable Energy (RE) sources is considered integral to reducing South Africa's carbon footprint, diversifying the national economy, and contributing towards social upliftment and economic development. As the project comprises a RE project and would contribute RE supply to provincial

and national targets set out and supported within these national policies, it is considered that the project fits within the national policy framework.

A brief review of the most relevant national legislation and policies is provided below.

Relevant legislation or policy	Relevance to the Vrede Solar PV Facility
Constitution of the Republic of South Africa, 1996	<p>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.</p> <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>
National Environmental Management Act (No. 107 of 1998) (NEMA)	<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>
White Paper on the Energy Policy of the Republic of South Africa (1998)	<p>The White Paper on Energy Policy places emphasis on the expansion of energy supply options to enhance South Africa's energy security. This can be achieved through increased use of RE and encouraging new entries into the generation market.</p> <p>The policy states that the advantages of RE include, minimal environmental impacts during operation in comparison with traditional supply technologies, 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. Nonetheless, renewable resources generally operate from an unlimited resource base and, as such, can increasingly contribute towards a long-term sustainable energy future.</p>
White Paper on the Renewable Energy Policy of the Republic of South Africa (2003)	<p>The White Paper on Renewable Energy Policy supplements Government's predominant policy on energy as set out in the White Paper on the Energy Policy of the Republic of South Africa (DME, 1998). The policy recognises the potential of RE and aims to create the necessary conditions for the development and commercial implementation of RE technologies.</p> <p>The White Paper on RE sets out Government's vision, policy principles, strategic goals, and objectives for promoting and implementing RE in South Africa. The country relies</p>

Relevant legislation or policy	Relevance to the Vrede Solar PV Facility
	<p>heavily on coal to meet its energy needs due to its abundant, and fairly accessible and affordable coal resources. However, massive RE resources that can be sustainable alternatives to fossil fuels, have so far remained largely untapped.</p> <p>The White Paper on Renewable Energy of 2003 set a target of 10 000GWh to be generated from RE by 2013 to be produced mainly from biomass, wind, solar and small-scale hydro. The target was subsequently reviewed in 2009 during the RE summit of 2009. The policy supports the investment in RE facilities as they contribute towards ensuring energy security through the diversification of energy supply, reducing GHG emissions and the promotion of RE sources.</p>
National Energy Act (No. 34 of 2008)	<p>The purpose of the National Energy Act (No. 34 of 2008) is 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, while taking environmental management requirements into account. In addition, the Act also provides for energy planning, and increased generation and consumption of Renewable Energies (REs).</p> <p>The Act provides the legal framework which supports the development of RE facilities for the greater environmental and social good and provides the backdrop against which South Africa's strategic planning regarding future electricity provision and supply takes place.</p>
The Electricity Regulation Act (No. of 2006)	<p>The Electricity Regulation Act of 2006, replaced the Electricity Act (No. 41 of 1987), as amended, with the exception of Section 5B, which provides funds for the energy regulator for the purpose of regulating the electricity industry. The Act establishes a national regulatory framework for the electricity supply industry and introduces the National Energy Regulator (NERSA) as the custodian and enforcer of the National Electricity Regulatory Framework. The Act also provides for licences and registration as the manner in which the generation, transmission, distribution, trading, and import and export of electricity are regulated.</p>
Integrated Energy Plan (IEP), 2015	<p>The Integrated Energy Plan (IEP) (which was developed under the National Energy Act (No. 34 of 2008)), recognises that energy is essential to many human activities, and is critical to the social and economic development of a country. The purpose of the IEP is essentially to ensure the availability of energy resources, and access to energy services in an affordable and sustainable manner, while minimising associated adverse environmental impacts. Energy planning therefore needs to balance the need for continued economic growth with social needs, and the need to protect the natural environment.</p>
Integrated Resource Plan for Electricity (IRP) 2010-2030 (2019)	<p>The Integrated Resource Plan (IRP) for Electricity 2010 – 2030 is a subset of the IEP and constitutes South Africa's National electricity plan. The primary objective of the IRP is to determine the long-term electricity demand and detail how this demand should be met in terms of generating capacity, type, timing and cost. The IRP also serves as input to other planning functions, including amongst others, economic development and funding, and environmental and social policy formulation.</p> <p>On 27 August 2018, the then Minister of Energy published a draft IRP which was issued for public comment. The lengthy public participation and consultation process has culminated in the issue of the overdue IRP 2019 which updates the energy forecast from the current period to the year 2030. Since the promulgated IRP 2010, the following capacity developments have taken place:</p>

Relevant legislation or policy	Relevance to the Vrede Solar PV Facility
	<ul style="list-style-type: none"> » A total of 6 422MW has been procured thus far under the REIPPP Programme, with 3 876MW being currently operational and made available to the grid. In addition, IPPs have commissioned 1 005MW from two (2) Open Cycle Gas Turbines (OCGT) peaking plants; and » Under the Eskom Build Programme, 1 332MW has been procured from the Ingula Pumped Storage Project, 1 588MW and 800MW from the Medupi and Kusile power stations and 100MW from the Sere Wind Farm. <p>Provision has been made for the following new capacity by 2030:</p> <ul style="list-style-type: none"> » 1 500MW of coal; » 2 500MW of hydro; » 6 000MW of solar PV; » 14 400MW of wind; » 1 860MW of nuclear; » 2 088MW of storage; » 3 000MW of gas/diesel; and » 4 000MW from other distributed generation, co-generation, biomass and landfill technologies. <p>Based on the IRP 2019, 1 474MW has been installed for solar PV facilities, whereas, 814MW has already been procured. In addition, 1 000MW has been allocated for solar PV facilities from 2022 to 2030. This will bring the total installed capacity of solar PV facilities by 2030 to 8 288MW. Therefore, the development of the Vrede Solar PV Facility is supported by the IRP 2019.</p>
National Development Plan 2030 (2012)	<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 Sectors 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. The development of the Vrede Solar PV Facility supports the NDP through the development of energy-generating infrastructure which will not lead to the generation of GHGs and will result in economic development and growth of the area surrounding the development area.</p>
Strategic Integrated Projects (SIPs)	<p>The Presidential Infrastructure Coordinating Commission (PICC) is integrating and phasing investment plans across 18 Strategic Integrated Projects (SIPs) which have 5 core functions, including to unlock opportunity, transform the economic landscape, create new jobs, strengthen the delivery of basic services and support the integration of African economies.</p>

Relevant legislation or policy	Relevance to the Vrede Solar PV Facility
	<p>SIP 8 of the energy SIPs supports the development of RE projects as follows: Green energy in support of the South African economy: Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP 2010) and supports bio-fuel production facilities.</p> <p>The development of the Vrede Solar PV Facility is aligned with SIP 8 as it constitutes a green energy initiative that would contribute clean energy in accordance with the IRP 2010 – 2030.</p>
<p>National Climate Change Response Policy, 2011</p>	<p>The Conference of the Parties (COP) 21 was held in Paris from 30 November to 12 December 2015. From this conference, an agreement to tackle global warming was reached between 195 countries. This Agreement is open for signature and subject to ratification, acceptance or approval by States and regional economic integration organisations that are Parties to the Convention from 22 April 2016 to 21 April 2017. Thereafter, this Agreement shall be open for accession from the day following the date on which it is closed for signature. The agreement can only be sanctioned once it has been ratified by 55 countries, representing at least 55% of emissions.</p> <p>South Africa signed the Agreement in April 2016 and ratified the agreement on 01 November 2016. The Agreement was assented to by the National Council of Provinces on 27 October 2016, and the National Assembly on 1 November 2016. The Agreement was promulgated on 04 November 2016, thirty days after the date on which at least 55 Parties to the Convention, which account for at least 55% of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary.</p> <p>South Africa's National Climate Change Response Policy (NCCRP) establishes South Africa's approach to addressing climate change, including adaptation and mitigation responses. The NCCRP formalises Government's vision for a transition to a low carbon economy, through the adoption of the 'Peak, Plateau and Decline' (PPD) GHG emissions trajectory whereby South Africa's emissions should peak between 2020 and 2025, plateau for approximately a decade, and then decline in absolute terms thereafter, and based on this the country has pledged to reduce emissions by 34% and 42% below Business As Usual (BAU) emissions in 2020 and 2025, respectively.</p> <p>The policy provides support for the Vrede Solar PV Facility, which will contribute to managing climate change impacts, supporting the emergency response capacity, as well as assist in reducing GHG emissions in a sustainable manner.</p>
<p>Climate Change Bill, 2018</p>	<p>On 08 June 2018, the Minister of Environmental Affairs published the Climate Change Bill ("the Bill") for public comment. The Bill provides a framework for climate change regulation in South Africa aimed at governing South Africa's sustainable transition to a climate resilient, low carbon economy and society. The Bill provides a procedural outline that will be developed through the creation of frameworks and plans.</p> <p>The Vrede Solar PV Facility consists of a renewable energy generation facility and would not result in the generation or release of emissions during its operation.</p>

3.2. Provincial Policies

This section provides an overview of the most relevant provincial policies. Vrede Solar PV Facility is considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

Relevant policy	Relevance to the Vrede Solar PV Facility
<p>Free State Provincial Growth and Development Strategy (FSGDS) (2005 – 2014)</p>	<p>The overarching goal of the Free State Growth and Development Strategy (FSGDS) is to align the provincial and national policies and programmes and to guide development in terms of effective and efficient management and governance to achieve growth and development. The strategy is a living document that uses the latest business planning and evaluation tools in order to maximise the effect of all spending.</p> <p>Based on the social and economic development challenges of the province, the Strategy identifies a few primary objectives, including stimulating economic development and developing and enhancing the infrastructure for economic growth and social development, poverty alleviation through human and social development, ensuring a safe and secure environment for all and the promotion of effective and efficient governance and administration.</p> <p>The development of the Vrede Solar PV Facility supports the overall objective of stimulating economic development and infrastructure investment towards growth and social development, by contributing to the energy mix, supply and infrastructure of the province. The development of the facility will also contribute (albeit limited) to the alleviation of poverty through the creation of direct and indirect employment opportunities and well as skills development.</p>
<p>Free State Provincial Growth and Development Strategy (FSGDS), Revised October 2007</p>	<p>The revised FSGDS refers to specific imperatives which sets the tone and pace for shared growth and development in the Province. These include:</p> <ul style="list-style-type: none"> » The need to effectively use scarce resources within the Province, whilst addressing the real causes of development challenges. » The need to accelerate service delivery based on a common provincial development agenda as the basis for provincial strategic direction. » The need to identify investment opportunities and provide an environment of certainty critical for private-sector investment. » The need to promote intergovernmental coordination between the three spheres of government. » The need to facilitate facilitates the implementation of the People's Contract within the Province. » The need to provide a common vision as the basis for common action amongst all stakeholders, both inside and outside government. » The need to provide a framework for budgets, implementation, performance management and spatial development. <p>The development of the Vrede Solar PV Facility will assist with the need to effectively use scarce resources and the need to identify investment opportunities, including private sector-investment. The development of a solar facility reduces the need to make use of</p>

Relevant policy	Relevance to the Vrede Solar PV Facility
	<p>non-renewable resources for the generation of electricity and opens up the Province to further future solar energy development.</p>
<p>Free State Provincial Spatial Development Framework (PSDF) - Executive Summary (Inception Report)</p>	<p>The Free State PSDF is a provincial spatial and strategic planning policy that responds to and complies with, in particular, the National Development Plan Vision 2030 and the National Spatial Development Perspective (NSDP). The latter encourages all spheres of government to prepare spatial development plans and frameworks (such as the PSDF) that promote a developmental state in accordance with the principles of global sustainability as is advocated by, among others, the South African Constitution and the enabling legislation.</p> <p>The Free State Provincial Growth and Development Strategy states that sustainable economic development is the only effective means by which the most significant challenge of the Free State, namely poverty, can be addressed is. The PSDF gives practical effect to sustainable development, which is defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.</p> <p>The PSDF is prepared in accordance with bioregional planning principles that were adapted to suit the site-specific requirements of the Free State. It incorporates and complies with the relevant protocols, conventions, agreements, legislation and policy at all applicable levels of planning, ranging from the international to the local.</p> <p>The Vrede Solar PV Facility will contribute to sustainable and economic development goals of the Free State PSDF, once completed and formally adopted.</p>
<p>Free State Green Economy Strategy (2014)</p>	<p>This green economy strategy for Free State Province (FSGES) was developed in alignment with the national green economy strategy elaborated in the National Green Economy Framework and Green Economy Accord, as well the Free State Provincial Growth and Development Strategy. The development process was spearheaded by the Department of Economic Development, Tourism and Environmental Affairs (DETEA).</p> <p>The objective was to develop a green economy strategy to assist the province to, amongst others, improve environmental quality and economic growth, and to develop green industries and energy efficiency within the province.</p> <p>The Vrede Solar PV Facility will contribute to the aim of energy efficiency and green industry whilst promoting economic growth, and is therefore consistent with this strategy.</p>
<p>Free State Investment Prospectus (2019)</p>	<p>The Premier of the Free State considers providing access to individual investors' to accurate and pertinent information makes it easier for investors to glean investor ready opportunities that are currently available in the Free State.</p> <p>Opportunity of the development of renewable energy is considered in the key sectors overview. The prospectus states that opportunities are opening up in the Province for the energy sector, including renewable energy. Rezoning for the development of multiple solar energy facilities has already been undertaken in the province. The development of a Solar Park in the Xhariep region is seen as a driver of growth along the banks of the Orange River.</p> <p>Considering the future opportunities available for the development of renewable energy facilities (including solar PV facilities) the development of the Vrede Solar PV Facility is considered to be in-line with the Investment Prospectus of the Province.</p>

3.3. District and Local Municipalities Policies

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

Relevant policy	Relevance to the Vrede Solar PV Facility
<p>Fezile Dabi District Municipality Integrated Development Plan (IDP) 2020/2021 (Draft)</p>	<p>The Vision of the Municipality is “Improving the lives of citizens and progressively meeting their basic, social and economic needs, thereby restoring the community confidence and trust in government”. The Mission of the Municipality is to “...strive to be a more responsive and accountable municipality towards sustainable development.”</p> <p>The IDP identifies Local Economic Development as a Key Performance Area (KPA4).</p> <p>Based on the fact that the proposed development is considered to be sustainable with little resource use required and that the development will encourage local economic development it is considered that the Vrede Solar Facility is in-line with the objectives of the IDP.</p>
<p>Fezile Dabi District Municipality Climate Change Vulnerability Assessment and Response Plan (2016)</p>	<p>The Vrede Solar PV Facility indirectly contributes to the overall climate change response plan of the district municipality by providing energy without reliance on fossil fuels and therefore exacerbating climate change at a provincial and national level.</p>
<p>Moqhaka Local Municipality Integrated Development Plan IDP (2017 – 2022)</p>	<p>The Moqhaka Local Municipality IDP has, under the local economic development goal, the following aims:</p> <ul style="list-style-type: none"> » Create an environment that promotes the development of the local economy and facilitate job creation » To expand the electrification programme to any remaining areas and roll out solar energy in any identified areas at prescribes standards. <p>In addition, the IDP also indicates that an Energy Master Plan is currently being developed, with the primary aim of ensuring enough energy is available to support existing and developmental needs.</p> <p>The Vrede Solar PV Facility development thus directly addresses various aims of the Moqhaka Local Municipality IDP.</p>
<p>Moqhaka Local Municipality Spatial Development Framework (SDF) (2019/2020)</p>	<p>The SDF identifies ten spatial related directives and objectives. Directive number 8 refers to Surface Infrastructure. The objectives of this directive specifically refers to the promotion of development of renewable energy supply schemes. The SDF also identifies the need for new bulk transmission lines based on the envisaged new development in the area.</p> <p>Considering the above, the development of the Vrede Solar Facility is in line with the SDF.</p>

3.4. Conclusion

The review of relevant legislation, policies and documentation pertaining to the energy sector indicate that renewable or green energy (i.e. energy generated by naturally occurring renewable resources) and therefore the establishment of Vrede Solar PV Facility 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. Specifically, those relating to employment creation, social and economic development and upliftment, and an increase in RE and electricity supply which has the potential to further improve individuals' standard of living.

4. SOCIO-ECONOMIC PROFILE

The Vrede Solar PV Facility will be located within the Remaining extent of the Farm Vrede No. 1152, and Portion 1 of the farm Uitval No. 1104 which is located ~14km south-west of Kroonstad in Ward 7 of the Mqphaka Local Municipality and the Fezile Dabi District Municipality (refer to **Table 4.1**).

Table 4.1: Spatial Context of the Proposed Project Site.

Province	Free State Province
District Municipality	Fezile Dabi District Municipality
Local Municipality	Mqphaka Local Municipality
Ward Number(s)	Ward 7
Nearest Town(s)	Kroonstad (approximately 14km north-east of the project site) Henneman (approximately 28km south-west of the project site) Welkom (approximately 49km south-west of the project site)
Farm Portion(s), Name(s) and Number(s)	» Remaining extent of the farm Vrede No. 1152; and » Portion 1 of the farm Uitval No. 1104.
Current Zoning	Agriculture
Current land use	The properties both currently lie fallow, having been used historically for agriculture
Access	The site can be readily accessed via an existing gravel access road (the S172).

This Chapter provides an overview of the socio-economic environment within which the Vrede Solar PV Facility is proposed for development, and provides the socio-economic basis against which potential issues can be identified.

4.1. Free State Province

The Free State Province lies in the centre of South Africa, located between the Vaal River in the north and the Orange River in the south. The region is one of flat, rolling grassland and fields of crops, rising to mountains in the north-east.

The province is the granary of South Africa, with agriculture central to its economy, while mining in the goldfield reefs is its largest employer.

Economic towns include Welkom, Kroonstad, Parys, QwaQwa, and Bethlehem. The Free State is the third-largest Province in South Africa, but it has the second-smallest population and the second-lowest population density. The culture is centred on traditional cultures but built on the influences of the early European settlers.

Close to 2.8-million people live in the Free State, with two-thirds speaking Sesotho, followed by Afrikaans, Zulu, Tswana, Xhosa and English.

The Free State is strategically placed to take advantage of the national transport infrastructure. Two corridors are of particular importance: the Harrismith node on the N3 corridor between Gauteng and KwaZulu-Natal, and the N8. The N1 connects Gauteng to the Western Cape. Bram Fischer International

Airport in Bloemfontein handles about 250 000 passengers and 221 000 tons of cargo a year. Manufacturing also features in the provincial economic profile. This sector makes up 14% of the provincial output, with petrochemicals (via Sasol) accounting for more than 85% of the output.

The Free State Province comprises four (4) Districts, namely Fezile Dabi, Lejweleputswa, Thabo Mofutsanyana and Xhariep (refer to **Figure 4.1**).

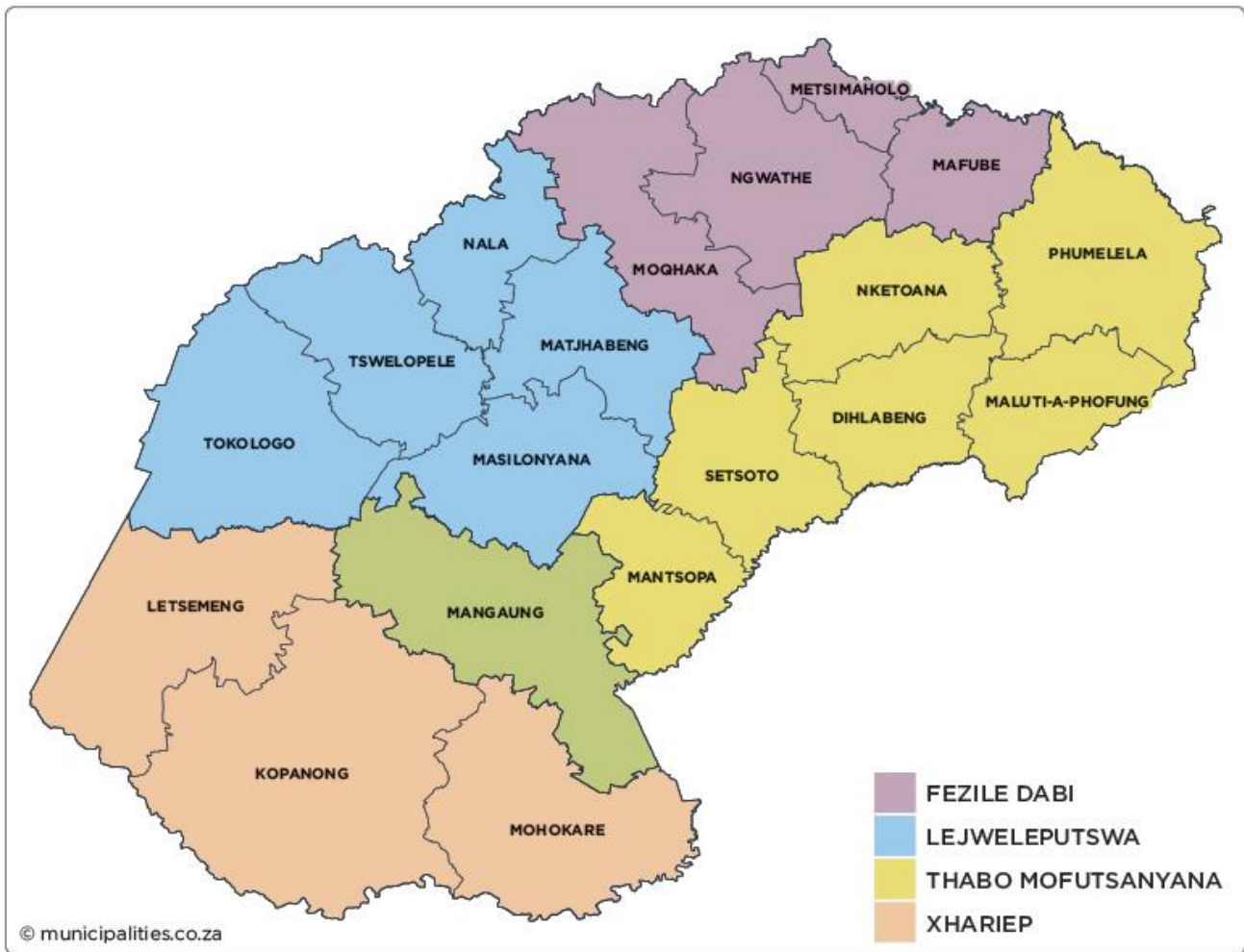


Figure 4.1: Districts of the Free State Province (Source: Municipalities of South Africa).

4.2. Fezile Dabi District

The Fezile Dabi District Municipality is a Category C municipality, formerly known as the Northern Free State District Municipality, situated in the north of the Free State. It is bordered by the North West, Gauteng and Mpumalanga Provinces to the north, Thabo Mofutsanyana District to the south, and Lejweleputswa District to the west. The municipality is the smallest district in the province, making up 16% of its geographical area. The main attraction site, the Vredefort Dome, being the third-largest meteorite site in the world, is located within the district.

Various towns are situated within the municipal area which includes Cornelia, Deneysville, Edenville, Frankfort, Heilbron, Koppies, Kragbron, Kroonstad, Oranjeville, Parys, Renovaal, Sasolburg, Steynsrus, Tweeling, Vierfontein, Viljoenskroon, Villiers and Vredefort.

The main economic sectors of the area includes trade (22%), community services (20%), manufacturing (13%), households (13%), agriculture (12%), finance (7%), construction (6%) and transport (5%).

Fezile Dabi District comprises four Local Municipalities (LMs) namely, Moqhaka, Metsimaholo, Ngwathe and Mafube LMs (refer to **Figure 4.2**).



Figure 4.2: Local Municipalities of Fezile Dabi District (Source: Municipalities of South Africa).

4.3. Moqhaka Local Municipality

The Moqhaka Local Municipality is a Category B municipality situated within the southern part of the Fezile Dabi District in the Free State Province. It is the largest of four municipalities in the district, making up over a third of its geographical area. The former Kroonstad, Steynsrus and Viljoenskroon Transitional Local Councils and sections of the Riemland, Kroonkop and Koepel Transitional Rural Councils are included in the municipality. The seat of local government is Kroonstad.

The Greater Kroonstad area is the centre of a large agricultural community that plays an important role in the economy of the district. Subsequently, industrial activities contribute significantly to the district's economy. The Department of Correctional Services and the School of Engineers military bases are situated

in the town. Kroonstad has recently become a distinguished holiday destination due to the ultra-modern and popular holiday resort of Kroonpark, adjacent to the Vals River. The urban area is situated adjacent to the N1 National Road and located adjacent to one of the largest and most important four-way railway junctions in South Africa.

The Viljoenskroon/Rammulotsi urban area is located within an area of extreme agricultural significance. The urban area plays a significant role in providing residential opportunities to the adjacent goldfields and mining activities in the North West province. The Provincial Roads P15/1 and P15/2 from Kroonstad to Klerksdorp in the North West province extend through the area from north to south and plays a significant role.

The Steynsrus/Matlwangtlwang urban area is situated approximately 45km east of Kroonstad and 92km west of Bethlehem. The major link road between Bethlehem and Kroonstad stretches adjacent to the urban area.

The main economic sectors in the area include Agriculture, commercial transport, business services and mining.

4.4. Project Site

The Vrede Solar PV Facility project site is located ~14km south-west of Kroonstad. Kroonstad is the closest town to the project site. Kroonstad with its strong service character and prominent commercial and industrial components is considered to be the main town in the municipal area and growth point of the region. The town provides various services to the surrounding smaller towns and rural areas.

The main industry of Kroonstad is agriculture. It is the centre of a rich agricultural district, producing maize, wheat, dairy and meat products and wool. The Bloemhoek Dam lies just east of the town and supplies much of its water needs. A caravan park and many more camp sites on the banks of the Vals River (Valsrivier) are frequented by anglers and watersport enthusiasts. Leisure opportunities in Kroonstad includes a golf course, lion tours and interaction with lion and tiger cubs at the Boskoppie Lion and Tiger Park, fishing in the Vals River or on the Bloemhoek Dam and boating on the Serfontein Dam. Horseriding, gliding and hiking trails are also available.

The Lion Tourism Route is located to the north of the Project Site and runs through the towns of Deneysville, Sasolburg, Parys, Vredefort and Kroonstad. This route includes scenery from a cultural, natural and historical perspective. The tourism route does not pass by the site and is therefore not affected by the project.

The project site proposed for the development is located in an area mainly used for agricultural purposes, outside of the Kroonstad urban edge. The affected properties of the project was previously utilised for cultivation/crop production and grazing, however it is understood that these agricultural activities were undertaken more than 10 years ago. The project site is now considered to be fallow land with no specific land use activities being undertaken within the site.

The surrounding areas of the project site are also mainly used for agricultural purposes, with no areas of major development present within the directly adjacent areas. The project site is located between the Regional road, R34 to the north west and the national road, N1 to the south east.

4.5. Baseline Description of the Social Environment

Table 4.2 provides a baseline of the social environment of the Moqhaka Local Municipality within which the Vrede Solar PV Facility is proposed. In order to provide context against which the Local Municipality's socio-economic profile can be compared, the socio-economic profiles of the Fezile Dabi District, Free State Province, and South Africa as a whole have also been provided where applicable.

Table 4.2: Baseline description of the socio-economic characteristics of the area proposed for the Vrede Solar PV Facility

Location characteristics
<ul style="list-style-type: none"> » The project is proposed within the Free State Province, which is the third-largest province in South Africa, and has the second-smallest population and the second-lowest population density. » The project is proposed within the Moqhaka LM and the Fezile Dabi DM. » The Moqhaka LM covers an area of land 7 925km² in extent.
Population characteristics
<ul style="list-style-type: none"> » The Moqhaka LM has a total population of 154 735, with a total of 53 601 households. » In terms of the age structure 24.5% of the population is under 15 years of age, 67.8% of the population falls between 15 and 64, with 7.7% of the population being over 65. » The Moqhaka LM is female dominated, with females comprising approximately 50.49% of the LM population, while the Fezile Dabi DM is comprised of 50% males and 50% females. » Africans are 87.19% and Coloured 2.865 of the total population. Indian/Asian are 0.33% and whites make out 9.32% of the total population of the Moqhaka LM. » The most spoken language is Setsotho, followed by Afrikaans, Isixhosa, Isizulu, English and Setswana. » The Moqhaka LM, Fezile Dabi DM, Free State provincial, and South African national population age structures are all youth dominated. A considerable proportion of the respective populations therefore comprise individuals within the economically active population between the ages of 15 and 64 years of age.
Economic, education and household characteristics
<ul style="list-style-type: none"> » The Moqhaka LM has a dependency ratio of 47.6, which correlates to some extent with the Fezile Dabi DM (48.1). » Education levels within the Moqhaka LM are low with approximately 31.5% of the population over 20 years of age not having completed Grade 12 / Matric. This means that the majority of the population can be expected to have a relatively low-skill level and would either require employment in low-skill sectors, or skills development opportunities in order to improve the skills level of the area. » The unemployment rate of the Moqhaka LM is high (35.2%) which places strain on the municipal services delivery as people cannot afford to pay for municipal services. The unemployment rate of the Fezile Dabi DM is 33.9%. » The Moqhaka LM has approximately 39.5% females as household heads. » The primary economic activities within the Moqhaka LM comprise agriculture, commercial transport, business services and mining. » The majority of households within the Moqhaka LM comprise formal dwellings (85.9%) and the average household size is 2.9.
Services
<ul style="list-style-type: none"> » Two hospitals are available within the Moqhaka LM, which includes the Boitumelo Hospital and the Kroon Private Hospital. Ten clinics are available within the municipal area. » The majority of households within the Moqhaka LM are well serviced with regards to flush toilets connected to sewage, refuse removal and electricity. However, only 48.6% of households have piped water inside the dwelling.

5. IDENTIFICATION OF POTENTIAL SOCIAL IMPACTS

This Chapter provides an overview of the potential social impacts that have been identified, which may be associated with the development of Vrede Solar PV Facility. Potential impacts have been identified based on the current understanding of the project and the socio-economic environment within which it is proposed. The potential social impacts identified for the project will be investigated further during the EIA phase.

5.1. Detailed Design and Construction Phase

Potential impacts associated with the detailed design and construction phase of a project are usually of a short duration (i.e. 12 to 18 months; equivalent to the length of the construction phase) and temporary in nature, but could have long-term effects on the social environment if not planned or managed appropriately. It is necessary, for example, that the detailed design phase be conducted in such a manner so as not to result in permanent impacts associated with the ill-placement of project components or associated infrastructure.

5.1.1. Construction Phase Impacts

<p>Impact Creation of direct and indirect employment opportunities and skills development.</p>			
<p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
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 area and aid in skills development of communities in the area.	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 and regional.	None identified.
<p>Description of expected significance of impact At its peak, the construction is likely to result in the creation of approximately 500 employment opportunities. The employment will comprise of low skilled semi-skilled and skilled workers. Skills developed through experience in the construction of the 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</p>			
<p>Gaps in knowledge and recommendations for further study » Information on the exact direct and indirect employment opportunities and skills development opportunities likely to be created during construction.</p>			

<p>Impact Economic multiplier effects.</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
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 of development.	The impact will occur at a local, and regional level.	None identified.
<p>Description of expected significance of impact Economic multiplier effects from the use of local goods and services opportunities 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.</p>			
<p>Gaps in knowledge and recommendations for further study » Information on capital expenditure to be spent on local goods and services.</p>			

<p>Impact In-migration of people (non-local workforce and jobseekers).</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
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.	None identified.
<p>Description of expected significance of impact The in-migration of people to the area as either non-local workforce and / or jobseekers could result in increased pressure being placed on infrastructure and basic services on the local population (rise in social conflicts). An influx of people into the area, could lead to a temporary increase in crime levels, cause social disruption, and put pressure on basic services. An influx of people looking for economic opportunities could result in pressure on the local population such as rise in social conflicts and change in social dynamics, increase in social ills. Adverse impacts could occur if a large in-migrant workforce, which is culturally different from the local population, is brought in during</p>			

construction. The impact is likely to be negative, local in extent, short-term², and of medium significance due to the number of jobs expected to be created.

Gaps in knowledge and recommendations for further study

- » Information on the exact number of employment opportunities likely to accrue to the local labour force, versus the number of employment opportunities likely to accrue to the non-local workforce and jobseekers.
- » Mechanisms for employment of local labour and minimisation of in-migration.

Impact

Safety and security impacts.

Desktop Sensitivity Analysis of the Site:

No sensitivity identified.

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.	None identified. No workers should be allowed to reside on-site during construction.

Description of expected significance of impact

The perception exists that an influx of jobseekers, and / or construction workers to an area is a contributor to increased criminal activities in an area; such as increased safety and security risk for neighbouring properties and damage to property, increased risk of veld fire, stock theft, and crime etc. The impact is likely to be negative, local in extent, short-term, and of medium significance due to the number of jobs expected to accrue to the non-local workforce.

Gaps in knowledge and recommendations for further study

- » Mechanisms for employment of local labour and minimisation of in-migration.

Impact

Impacts on daily living and movement patterns.

Desktop Sensitivity Analysis of the Site:

No sensitivity identified.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Temporary increase in traffic disruptions and movement patterns during construction.	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.	None identified.

Description of expected significance of impact

² While the extent of the impact may be short-term (i.e. people are only likely to move into the area in search of employment prior to and possibly during construction), the implications thereof may be long-term, as people are likely to have settled in the area, and are unlikely to leave immediately after the completion of construction.

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.

Gaps in knowledge and recommendations for further study

- » Number of vehicle trips anticipated during construction.

Impact

Nuisance impacts (noise and dust).

Desktop Sensitivity Analysis of the Site:

No sensitivity identified.

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.	None identified.

Description of expected significance of impact

Impacts associated with construction related activities include noise, dust and disruption or damage to adjacent properties. Site clearing activities increase the risk of dust and noise being generated, which can in turn negatively impact on adjacent properties. The impact is likely to be negative, local in extent, short-term, and of low significance.

Gaps in knowledge and recommendations for further study

- » Impact of noise and dust on surrounding landowners.

Impact

Visual and sense of place impacts.

Desktop Sensitivity Analysis of the Site:

No sensitivity identified.

Issue	Nature of Impact	Extent of Impact	No-Go Areas
Intrusion impacts from construction activities will have an impact on the area's "sense of place".	Negative – The project could alter the area's sense of place which could negatively impact on sensitive receptors.	The impact will occur at a local level.	None identified.

Description of expected significance of impact

Intrusion impacts such as aesthetic pollution (i.e. building materials, construction vehicles, etc.), noise and light pollution, and impacts could impact the "sense of place" for the local community. The impact is likely to be negative, local in extent, short-term, and of medium significance.

Gaps in knowledge and recommendations for further study

- » Potential sensitive visual receptors need to be identified.
- » Visual Impact Assessment to inform the impact on the sense of place.

5.1.2. Operation Phase Impacts

Potential impacts associated with the operation phase are anticipated to be of a long-term duration (i.e. 20 years equivalent to the operational lifespan of the project).

<p>Impact Direct and indirect employment and skills development opportunities.</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
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 local and regional.	None identified.
<p>Description of expected significance of impact During operation 90 direct full time employment opportunities will be created which will include low-skilled, semi-skilled skilled opportunities. Employment opportunities include safety and security staff, operation and monitoring; 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 energy facility. The impact is likely to be positive, local to national in extent, long-term, and of medium significance.</p>			
<p>Gaps in knowledge and recommendations for further study » Information on exact direct and indirect employment opportunities and skills development programmes likely to be created during operation.</p>			

<p>Impact Development of non-polluting, renewable energy infrastructure.</p> <p>Desktop Sensitivity Analysis of the Site: No sensitivity identified.</p>			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Development of non-polluting, renewable energy infrastructure.	Positive – Increasing the contribution of the RE sector to the local economy would contribute to the diversification of the local economy and provide greater economic stability.	The impact will occur at local, regional, and national levels.	None identified.
<p>Description of expected significance of impact The generation of renewable energy will contribute to South Africa's electricity market and may contribute to the diversification of the local economy. The growth in the RE sector as a whole could introduce new skills and development into the area. The impact is likely to be positive, local to national in extent, long-term, and of medium significance.</p>			
<p>Gaps in knowledge and recommendations for further study » Information on the proposed project's contribution towards diversifying the local economy.</p>			

<p>Impact Contribution to local economic development and social upliftment.</p> <p>Desktop Sensitivity Analysis of the Site:</p>			
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No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Benefits to the local area from Socio-Economic Development (SED) / Enterprise Development (ED) programmes	Positive – The creation of employment opportunities, skills development, and the contributions to local economic development will assist to an extent in both alleviating unemployment levels within the area, and improving the quality of life.	The impact will occur at local, regional, and national levels.	None identified.
Description of expected significance of impact Under the REIPPP Programme renewable energy projects are required to contribute to local economic development in the area. Awarded projects are required to spend a certain amount of their generated revenue (as defined in the agreement with DoE) on Socio-Economic Development (SED) and Enterprise Development (ED) and share ownership in the project company with local communities. The impact is likely to be positive, local to national in extent, long-term, and of high significance.			
Gaps in knowledge and recommendations for further study » Information on the project's proposed contributions to SED and ED.			

Impact Visual and sense of place impacts.			
Desktop Sensitivity Analysis of the Site: No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
Sense of place impacts from a social perspective associated with the operation phase of the solar energy facility and associated infrastructure.	Negative – The project could alter the areas sense of place which could negatively impact on sensitive receptors.	The impact will occur at a local level.	None identified.
Description of expected significance of impact The presence of the solar energy facility could impact the "sense of place" for the local community. The impact is likely to be negative, local in extent, long-term, and of low significance based on the current use of the project site.			
Gaps in knowledge and recommendations for further study » Potential sensitive visual receptors need to be identified. » Visual Impact Assessment to inform impact on sense of place.			

Impact Impacts associated with the loss of agricultural land.			
Desktop Sensitivity Analysis of the Site: No sensitivity identified.			
Issue	Nature of Impact	Extent of Impact	No-Go Areas
The development footprint on which the solar energy facility will be developed	Negative – Impacts associated with loss of agricultural land due to	The impact will occur at a local level.	None identified.

will be removed from agricultural production.	occupation of land by the solar energy facility.		
Description of expected significance of impact			
The development of the proposed project on an agricultural property would result in the area of land required to support the development footprint being removed from potential agricultural production, however the projects site has been left derelict for more than 10 years with no future prospects of re-undertaking agricultural activities. . The impact is likely to be negative, local in extent, long-term, and of very low significance.			
Gaps in knowledge and recommendations for further study			
» The current land use and agricultural potential of the area likely to be removed from agricultural production needs to be determined. » Soils and Agricultural Potential Impact Assessment to inform impact associated with the loss of agricultural land.			

6. CONCLUSION AND RECOMMENDATIONS

This SIA Scoping Report focused on the collection of available secondary information in order to provide a social baseline against which potential social impacts which may be associated with the development of the Vrede Solar PV Facility could be identified. A summary of the potential positive and negative impacts identified for the detailed design and construction, and operation phase are presented in **Table 6.1** and **Table 6.2**.

Table 6.1: Summary of potential social impacts identified for the detailed design and construction phase.

Impact	Status	Significance
Creation of direct and indirect employment and skills development opportunities.	Positive	Medium
Economic multiplier effects	Positive	Medium
In-migration of people (non-local workforce and jobseekers).	Negative	Medium
Safety and security impacts	Negative	Medium
Impacts on daily living and movement patterns	Negative	Low
Nuisance impact (noise and dust)	Negative	Low
Visual and sense of place impacts	Negative	Medium

Table 6.2: Summary of potential social impacts identified for the operation phase.

Impact	Status	Significance
Direct and indirect employment and skills development opportunities	Positive	Medium
Development of non-polluting, renewable energy infrastructure	Positive	Medium
Contribution to Local Economic Development and Social Upliftment	Positive	High
Visual and sense of place impacts	Negative	Low
Impacts associated with the loss of agricultural land.	Negative	Very Low

The potential social impacts identified for the project and listed in **Table 6.1** and **Table 6.2** have been identified based on an assessment of available information and the current understanding of the proposed project; and are not exhaustive. The possibility therefore exists that additional impacts may be identified as part of the public review period, or during the collection of primary data as part of the EIA level SIA. All potential social impacts identified as part of the SIA process will be assessed in detail during the EIA Phase.

6.1. Conclusion

A number of potential positive and negative social impacts have been identified for the project, which require further investigation as part of the EIA phase. Based on the findings of this SIA Scoping Report, no red flags or fatal flaws have been identified from a social perspective from a desktop level which could preclude the development of the Vrede Solar PV Facility, pending the successful completion of the EIA and

the receipt of Environmental Authorisation (EA) from the Department of Environment, Forestry and Fisheries (DEFF).

6.1.1. Recommendations for Further Study (Plan of Study for EIA)

It is recommended that a full EIA level Social Impact Assessment (SIA) be conducted as part of the EIA phase. The following activities should be undertaken as part of this process:

- » 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 Department of Environment, Forestry and Fisheries (DEFF) 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). Where interviews can be held telephonically or through a virtual platform (i.e. Zoom or Microsoft Teams) these will be undertaken accordingly.
- » Update the baseline information with information received during the site visit and/or interviews, as well as any additional information received from the client, 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. Cumulative impacts will also be assessed.
- » 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 project.
- » Subject the SIA Report prepared for the project for inclusion in the EIA Report to external peer review.

7. REFERENCES

- Department of Energy (DoE). (2008). National Energy Act (No. 34 of 2008). Republic of South Africa.
- Department of Energy (DoE). (2011). National Integrated Resource Plan for Electricity 2010-2030. Republic of South Africa.
- Department of Energy (DoE). (2003). White Paper on Renewable Energy. Republic of South Africa.
- Department of Environmental Affairs (DEA). (1998). National Environmental Management Act 107 of 1998 (No. 107 of 1998). Republic of South Africa.
- Department of Environmental Affairs (DEA). (2010). National Climate Change Response Green Paper. Republic of South Africa.
- Department of Justice (DoJ). (1996). The Constitution of the Republic of South Africa (Act 108 of 1996). ISBN 978-0-621-39063-6. Republic of South Africa.
- Department of Minerals and Energy (DME). (1998). White Paper on Energy Policy of the Republic of South Africa. Republic of South Africa.
- Fezile Dabi District Municipality, Integrated Development Plan (IDP) 2020/2021 (Draft)
- Fezile Dabi District Municipality, Climate Change Vulnerability Assessment and Response Plan (2016)
- International Finance Corporation (IFC). (2007). Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets. International Finance Corporation: Washington.
- Interorganizational Committee on Principles and Guidelines for Social Impact Assessment. US Principles and Guidelines – Principals and guidelines for social impact assessment in the USA. Impact Assessment and Project Appraisal, 21 (3): 231-250.
- Moqhaka Local Municipality, Integrated Development Plan IDP (2017 – 2022)
- Moqhaka Local Municipality, Spatial Development Framework (SDF) (2019/2020)
- National Development Agency (NDA). (2014). Beyond 10 years of unlocking potential. Available from: http://www.nda.org.za/?option=3&id=1&com_id=198&parent_id=186&com_task=1
- National Planning Commission. (2012). National Development Plan 2030. ISBN: 978-0-621-41180-5. Republic of South Africa.
- Statistics South Africa. (2011). Census 2011 Community Profiles Database. Pretoria.
- United Nations Environment Programme (UNEP). (2002). EIA Training Resource Manual. 2nd Ed. UNEP.

United Nations Economic and Social Commission for Asia and the Pacific (UN). (2001). Guidelines for Stakeholders: Participation in Strategic Environmental Management. New York, NY: United Nations.

Vanclay, F. (2003). Conceptual and methodological advances in Social Impact Assessment. In Vanclay, F. & Becker, H.A. 2003. The International Handbook for Social Impact Assessment. Cheltenham: Edward Elgar Publishing Limited.