BECRUX SOLAR PHOTOVOLTAIC (PV) ENEGRY FACILITY

Mpumalanga Province

Social Assessment - Baseline Report

January 2022

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REPORT DETAILS

Title	:	Social Impact Assessment (SIA) Scoping Report: Becrux Solar Photovoltaic (PV) Energy Facility
Authors	:	Savannah Environmental (Pty) Ltd Nondumiso Bulunga
Client	:	Becrux Solar PV Project One (Pty)Ltd
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Date	:	January 2022

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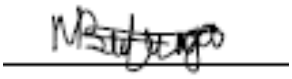
SPECIALIST DECLARATION OF INTEREST

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

Signature

November 2021
Date

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FIGURES

ACRONYMS

B-BBEE	Broad-Based Black Economic Empowerment
CLO	Community Liaison Officer
CTL	Coal-to-liquids
DFFE	Department of Forestry Fisheries and the Environment
DMRE	Department of Mineral Resources and Energy
DM	District Municipality
EA	Environmental Authorisation
ECA	Environment Conservation Act (No. 73 of 1989)
ECO	Environmental Control Officer
EMPr	Environmental Management Programme
EP	Equator Principles
EPC	Engineering, Procurement and Construction
GDP	Gross Domestic Product
GDP-R	Gross Domestic Product per Region
GGP	Gross Geographic Product
GHG	Greenhous Gas
GNP	Gross National Product
GNR	Government Notice
HDI	Historically Disadvantaged Individuals
I&AP	Interested and Affected Party
IDC	Industrial Development Corporation
IDP	Integrated Development Plan
IEP	Integrated Energy Plan
IFC	International Finance Corporation
IPP	Independent Power Producers (IPPs)
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
PGDS	Provincial Growth and Development Strategy
PICC	Presidential Infrastructure Coordinating Committee
PSDF	Provincial Spatial Development Framework
PV	Photovoltaic
SDF	Spatial Development Framework
SIA	Social Impact Assessment
SIP	Strategic Infrastructure Project

1. INTRODUCTION AND PROJECT DESCRIPTION

Becrux Solar PV Project One (Pty) Ltd is proposing the development of a Solar Photovoltaic (PV) Energy Facility and associated infrastructure on Portion 6 of the Farm Goedehoop No. 290, located ~7km south-east of Secunda and 15km east of Embalenhle. The project site falls within jurisdiction of the Govan Mbeki Local Municipality, which forms part of the Gert Sibande District Municipality in the Mpumalanga Province.

The Solar PV Facility will have a contracted capacity of 19.99MW$_{ac}$ and will use bi-facial panels with fixed or single axis tracking mounting structures to harness the solar resource on the project site. The purpose of the facility will be to generate electricity for exclusive use by Sasol's Secunda (coal-to-liquids) CTL Plant. The construction of the PV Facility aims to reduce Sasol's dependence on direct supply from Eskom's national grid for operation purposes and demonstrate Sasol's move towards a greener future through procurement of renewable energy from Independent Power Producers (IPPs).

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 Basic Assessment (BA) process being conducted for the project.

1.1. Project Description

The Becrux Solar PV Facility, including its associated grid connection infrastructure, is located on Portion 6 of the Farm Goedehoop No. 290, located ~7km south-east of Secunda and 15km east of Embalenhle. The project site falls within jurisdiction of the Govan Mbeki Local Municipality, which forms part of the Gert Sibande District Municipality in the Mpumalanga Province.

The Solar PV Facility will have a contracted capacity of 19.99MW$_{ac}$ and will use bi-facial panels with fixed or single axis tracking mounting structures to harness the solar resource on the project site. The purpose of the facility will be to generate electricity for exclusive use by Sasol's Secunda (coal-to-liquids) CTL Plant. The construction of the PV Facility aims to reduce Sasol's dependence on direct supply from Eskom's national grid for operation purposes and demonstrate Sasol's move towards a greener future through procurement of renewable energy from Independent Power Producers (IPPs).

To evacuate the generated power to Sasol's Secunda CTL Plant, a 11kV overhead power line will be established to connect the 11kV E-house containerized substation to the existing Goedehoop Substation. The overhead power line will run ~300m from the Solar PV Facility to the Goedehoop Substation. A 170m wide and 400m long grid connection corridor has been identified for the assessment and placement of the overhead power line. The assessment of a 170m wide and 400m long grid connection corridor allows for the avoidance of environmental sensitivities and suitable placement within the identified corridor.

To avoid areas of potential sensitivity and to ensure that potential detrimental environmental impacts are minimised as far as possible, the developer will identify a suitable development footprint within which the infrastructure of Becrux Solar PV and its associated infrastructure is proposed to be located and fully assessed during the BA Phase.

1.2. Objective of the Basic Assessment Process

This SIA has been prepared as part of the BA Process being undertaken for the Becrux Solar PV Facility and associated infrastructure. The purpose of this SIA is to provide details on the nature and extent of Becrux Solar PV Facility and associated infrastructure, and the potential social impacts associated with the construction, operation, and decommissioning of the project. The inputs contained within this SIA 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 have been addressed in detail as part of the BA process specialist investigations.

The objective of this SIA 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 project phase.
- 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 Nondumiso Bulunga of Savannah Environmental.

- **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.

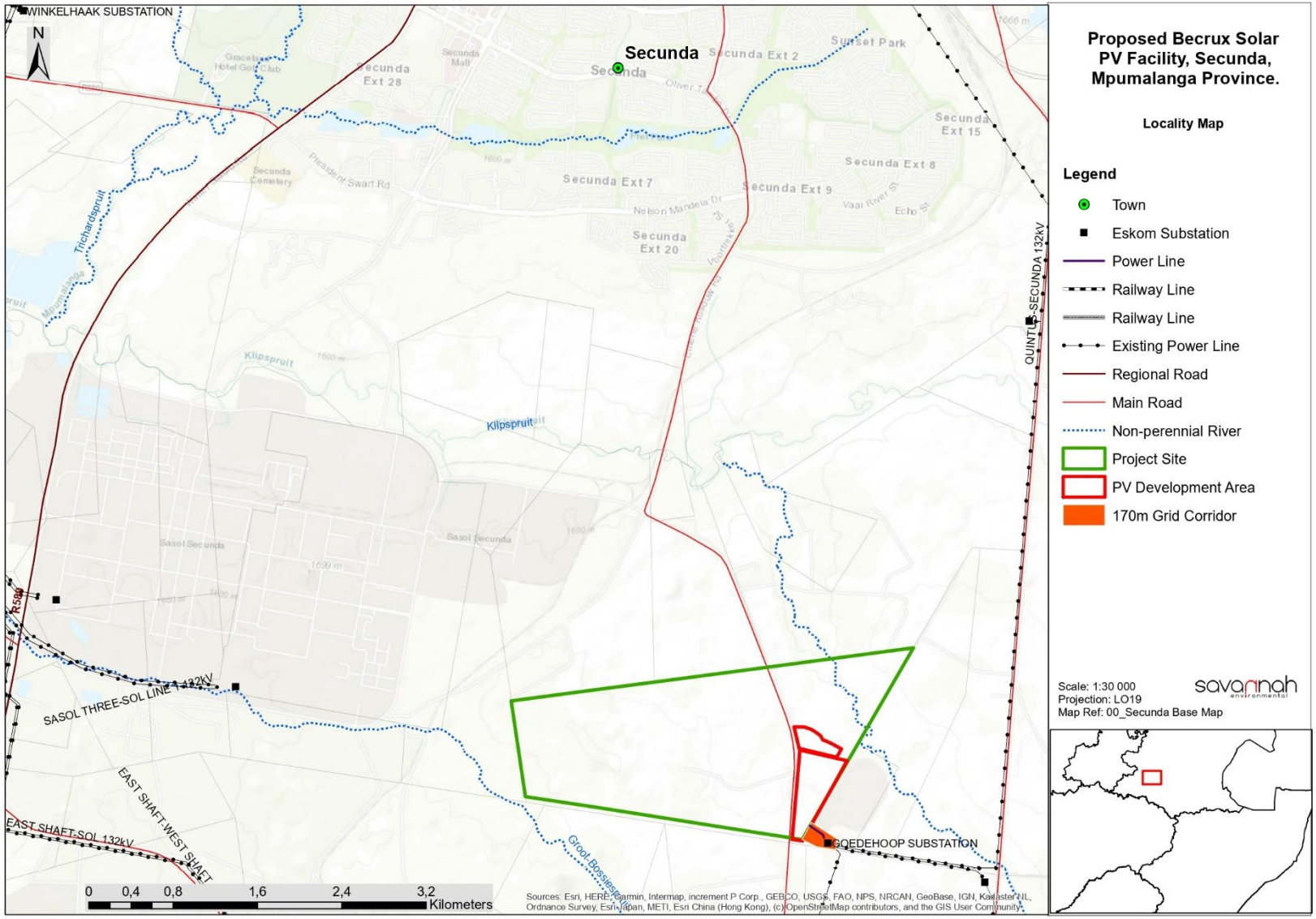

Figure 1-1: Locality map illustrating the location of the Becrux Solar PV facility development area

1.4. Structure of the SIA Report

This SIA has been structured as follows:

- **Chapter 1** provides the introduction to the proposed project and the project description.
- **Chapter 2** provides an overview of the methodology and approach utilised in preparing this SIA.
- **Chapter 3** provides an overview of the legislative and policy environmental within which Becrux PV Energy Facility is proposed.
- **Chapter 4** provides the socio-economic profile of the Govan Mbeki Local Municipality, Gert Sibande District, Municipality and South Africa as a whole.
- **Chapter 5** describes the potential social impacts which have been identified for the project.
- **Chapter 6** provides the conclusion of the SIA and recommendations.

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 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).
- 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 Becrux Solar Photovoltaic (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 way the social environment is likely to impact on the development itself.

An overview of the assessment methodology utilised as part of this SIA is provided in Section Error! Reference source not found.
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 BA Report to be prepared for the 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 and layouts.
- Google Earth imagery.
- A description of the project (as provided by the project proponent).
- Responses to questions posed to the project proponent regarding employment and social upliftment and local economic development opportunities (as provided by the project proponent).
- 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

- Data derived from the 2011 Census, documents from Mpumalanga Province, Gert Sibande District Municipality and Govan Mbeki Local Municipality 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 Report is intended to provide an overview of the current social environmental and assist in the identification of potential social impacts.
- This SIA 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 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 Report.

2.4. Assessment of Impacts

Direct, indirect, and cumulative impacts associated with the projects must be assessed in terms of the following criteria:

» The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.

» The **extent,** wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):

» The **duration**, wherein it will be indicated whether:
* the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
* the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
* medium-term (5–15 years) – assigned a score of 3;
* long term (> 15 years) - assigned a score of 4; or
* permanent - assigned a score of 5;

» The **magnitude**, quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.

» The **probability** of *occurrence,* which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen),

2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).

» the **significance,** which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and

» the **status**, which will be described as either positive, negative or neutral.
» the degree to which the impact can be reversed.
» the degree to which the impact may cause irreplaceable loss of resources.
» the degree to which the impact can be mitigated.

The **significance** is calculated by combining the criteria in the following formula:

S=(E+D+M)P

S = Significance weighting
E = Extent
D = Duration
M=Magnitude
P=Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e., where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e., where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e., where the impact must have an influence on the decision process to develop in the area).

The summarizing of assessment impacts in a prescribed table format including the rating values as per above criteria.

Measures for inclusion in the Environmental Management Programme.

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:
- Mpumalanga Provincial Growth and Development Strategy (PDGS) (2015-2020)
- Mpumalanga Economic Growth and Development Path (2011)
- Mpumalanga Vision 2030

Local Policy and Planning Context:
- Gert Sibande District Municipality Spatial Development Framework (2014)
- Gert Sibande District Municipality Integrated Development Plan (2019-2020)
- Govan Mbeki Local Municipality Integrated Development Plan (IDP) (2021-2022)

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 in table format (**Table 3.1**) below.

Table 3.1: Relevant national legislation and policies for the Becrux 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

Relevant legislation or policy	Relevance to the proposed project
	reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. The 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.
National Environmental Management Act (No. 107 of 1998) (NEMA)	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. 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. The need for responsible and informed decision-making by government on the acceptability of environmental impacts is therefore enshrined within NEMA.
White Paper on the Energy Policy of the Republic of South Africa (1998)	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. South Africa has an attractive range of cost effective renewable resources, taking into consideration social and environmental costs. Government policy RE is thus concerned with meeting the following challenges: » Ensuring that economically feasible technologies and applications are implemented. » Ensuring that an equitable level of national resources is invested in renewable technologies, given their potential and compared to investments in other energy supply options. » Addressing constraints on the development of the renewable industry. The policy states that the advantages of renewable energy 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. The White Paper on Energy Policy therefore supports the advancement of renewable energy sources and ensuring energy security through the diversification of supply.
National Energy Act (No.34 of 2008)	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). The objectives of the Act, are to amongst other things, to:

Relevant legislation or policy	Relevance to the proposed project
	» Ensure uninterrupted supply of energy to the Republic. » Promote diversity of supply of energy and its sources. » Facilitate energy access for improvement of the quality of life of the people of the Republic. » Contribute to the sustainable development of South Africa's economy. The National Energy Act therefore recognises the significant role which electricity plays growing the economy while improving citizens' quality of life. 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. It also provides the legal framework which supports the development of RE facilities for the greater environmental and social good.
Integrated Energy Plan (IEP) (2016)	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. The IEP is a multi-faceted, long-term energy framework which has multiple aims, some of which include: » To guide the development of energy policies and, where relevant, set the framework for regulations in the energy sector. » To guide the selection of appropriate technologies to meet energy demand (i.e. the types and sizes of new power plants and refineries to be built and the prices that should be charged for fuels). » To guide investment in and the development of energy infrastructure in South Africa. » To propose alternative energy strategies which are informed by testing the potential impacts of various factors such as proposed policies, introduction of new technologies, and effects of exogenous macro- economic factors.
National Development Plan 2030 (2012)	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. 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: » 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. The NDP aims to provide a supportive environment for growth and development, while promoting a more labour-absorbing economy.

Relevant legislation or policy	Relevance to the proposed project
	The development of the grid connection infrastructure is considered to be relevant to the plan due to the need of the infrastructure for economic growth within the Govan Mbeki Local Municipality municipal area.

3.2. Provincial Policies

This section provides a brief review of the most relevant provincial policies. The proposed Becrux Solar PV Energy Facility and associated infrastructure 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 provincial policies is provided in table format (**Table 3.2**) below.

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

Relevant policy	Relevance to the proposed project
Mpumalanga Provincial Growth and Development Strategy (PDGS) (2015-2020)	The PGDS 2015-2020 is the fundamental policy framework for the Mpumalanga Provincial Government. As a policy framework it sets the tone and pace for growth and development in the province. The new PGDS addresses the key and most fundamental issues of development spanning the social, economic and the political environment and was developed for the purpose of aligning the policies and strategies of all spheres of Government. The province has identified six priority areas of intervention. These priority areas have been identified primarily based on the social, economic and developmental needs of the province, namely; » Economic Development: o Enhance provincial economic development to improve the quality of life for all o Prioritise the advancement of the second economy to address poverty and unemployment » Development Infrastructure. o The development of multi-faceted infrastructure to address basic needs and improve the quality of life » Social Development. o Attain high levels of social development that will ensure a well- educated citizenry that is healthy, safe and has access to sufficient recreational facilities » Sustainable Environmental Development: o To ensure sustainable development and environmental management » Good Governance: o Enhance and develop the institutional capacity of the public sector to ensure effective and efficient service delivery o Promote and enhance cooperative governance for integrated service delivery o Promote a culture of accountability and transparency in the public sector o Improved integrated service deliver through innovative and proactive practices o Strengthening of social partnership and community participation in development and service delivery » Human Resource Development: o Invest in peoples skills to promote service delivery, economic growth and development

Relevant policy	Relevance to the proposed project
	o To position higher education institutions to meet the skills demand of the province o Improve access to and ensure quality education The Mpumalanga PGDS emphasises the provinces priorities, some of which are aligned with the proposed development such as the need for economic development, addressing poverty, unemployment and human resource development. The proposed development will contribute towards economic growth; provide employment opportunities as well as skills development through the construction and operation phases of the development.
Mpumalanga Economic Growth and Development Path (2011)	The primary objective of the Mpumalanga Economic Growth and Development Path (MEGDP) is to foster economic growth that creates jobs, reduce poverty and inequality in the Province. The Mpumalanga economic growth and development path has provided the following goals for the next ten years. » According to the latest statistics, the unemployment rate in Mpumalanga is standing at approximately 28%. The Mpumalanga province is aiming at reducing the unemployment rate to 15% by 2020. This means that the province has to create approximately 719 000 jobs over a period of ten years. » With regard to poverty, the province aims to increase the income level of 620 000 individuals above the poverty line by 2020. » Increase the Human Development Index (HDI) from the current level of 0.50 to a higher level over the next ten years. The Province will increase the literacy level from the current 40 000 per annum individuals to 63 000 individuals per annum, increase the percentage of life expectancy from 51 years to 62 years. » Relating to inequality, the Province will reduce the Gini-coefficient from 0.65 to 0.55 by 2020. » For the province to realise these broad targets indicated above, the provincial economy has to grow at the rate of between 5 and 7 percent per annum. The main economic sectors have been identified as key to spur economic growth and employment creation. The following job drivers will be utilised to secure a strong and sustainable growth in the next decade. Main economic drivers to support economic growth and employment creation are as follows: a. Agriculture and forestry o The contribution of the agricultural sector to GDP by Mpumalanga has been declining in the past ten years or so and consequently shedding jobs in the process. This sector can grow through research to improved farming techniques, improved cultivars, higher productivity, and skills development, increase value adding and agro-processing. b. Mining and energy: o Mining industry remains one of the important economic sectors in the Province for economic growth and job creation. o The generation of electricity through coal-fired power stations in South Africa takes place primarily in Mpumalanga. Eleven of the currently operational coal-fired power stations in the country are situated in Mpumalanga and contribute roughly 76% of the total electricity generated in South Africa. In

Relevant policy	Relevance to the proposed project
	addition, the three Eskom return-to-service (RTS) coal-fired power stations are also situated in Mpumalanga. This industry is also contributing directly and indirectly to economic growth and job creation. c. Manufacturing and beneficiation o The manufacturing sector is also one of the largest contributors to the economy of Mpumalanga and is projected to remain the largest earner in the economy, followed by mining and quarrying and, community and government services, trade and finance. o Given the mineral resources that the Province is endowed with, investment in the manufacturing sector could increase its current capacity and contribute to economic growth and job creation, particularly if more focus could be given to beneficiation and agro-processing. d. Tourism and cultural industries o These industries contribute meaningfully towards economic growth and job creation. The wealth of natural and cultural resources that Mpumalanga possesses provides it with a base upon which to develop a sustainable industry. This will include attractions such as the world renowned Kruger National Park with its diversity of wildlife, the world's 3rd largest canyon – Blyde River Canyon, the Bulembu Mountains, a diversity of flora and the worlds' oldest exposed rocks in Barberton, Wetlands and much more. New economies: With regard to the province as far as new economies are concerned, focus is placed on the green economy and Information, Communication and Technology. » The Green Economy: The use of coal for energy production results in both the primary environmental impacts associated with the mining and removal of coal for use in coal fired power stations in the province, as well as the secondary impacts resulting from the burning of this coal for energy production. Coal intensive activities contribute to large-scale water and air pollution, including significant carbon dioxide emissions, which contribute to global warming. While energy is crucial for the socio-economic developmental objectives of the province, it is obvious that there has not been enough focus on renewable energy development as a key aspect of this developmental agenda. In order to adequately address the information gaps and to allow the province to meet its integrated energy needs for sustainable socio-economic development, there is a need for research to be conducted on a number of key areas with a view of developing an Integrated Renewable Energy Plan for the Province. This will include research work in areas such solar energy; biomass (bagasse; wood-waste (saw-dust, wood off-cuts, etc.) and putrescible waste (including municipal solid waste, abattoir waste) and Hydro-power. The work on Bio-fuels in the Province has already set the scene for extensive research for other sources of renewable energy. The Mpumalanga economic growth and development path also discusses climate change and the green economy as one of the focus areas where government will a prioritise effort to support employment creation. A commitment must be made on procurement that favours the local industry. A higher level of skills will also be needed. Small business policies and regulation of the building industry will need to be considered.

Relevant policy	Relevance to the proposed project
	The proposed development falls directly in line with the Mpumalanga provincial growth path with regards to employment creation in the renewable energy industry, the benefits it will bring to the local community as well as contributing towards diversifying the local economy towards a greener economy.
Mpumalanga Vision 2030	The Mpumalanga Vision 2030 is the direct implementation response to the National Development Plan (NDP) (Vision 2030). It is the province's approach to realising the objectives of the NDP in the provincial context (refer Figure 3-1). It builds on and informs past & existing sectorial and related planning interventions in Mpumalanga (MP). It further sets high level provincial targets, facilitates decision making and prioritisation and informs choices and trade-offs.

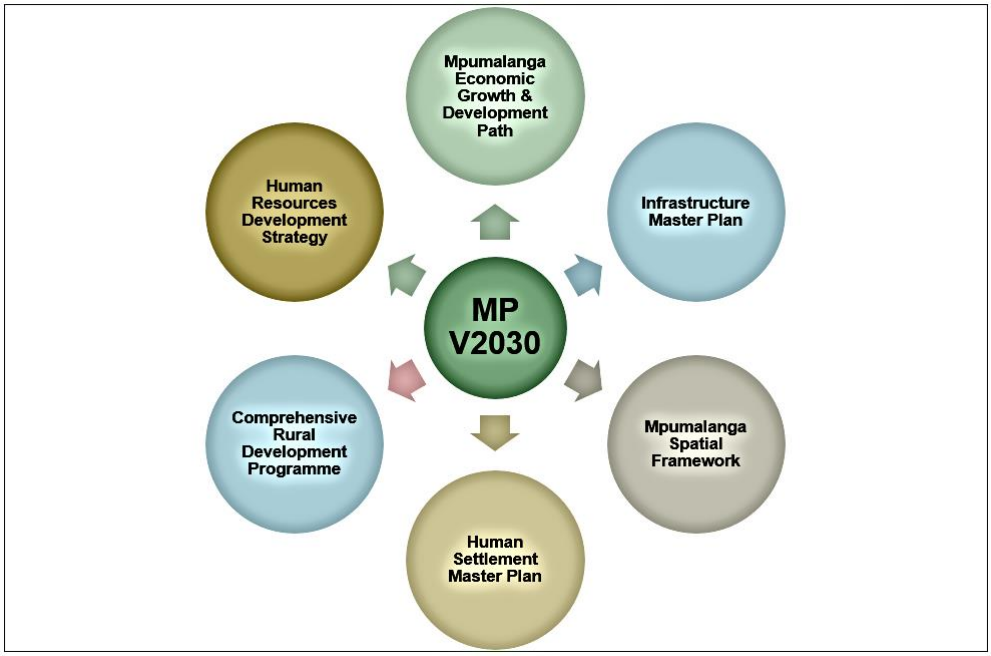

Figure 3-1 Provincial planning and landscape and linkages

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 Becrux 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 Becrux Solar PV Facility

Relevant policy	Relevance to the proposed project
Gert Sibande District Municipality Spatial Development Framework (2014)	SDF firstly seeks to encourage rural – urban migration by providing subsidised services in key selected areas / nodes / economic clusters. Secondly, the SDF seeks to strengthen and supplement the functional economic strips / corridors characterising the District's space-economy, as well as developing industry specific economic clusters / activity areas. The

Relevant policy	Relevance to the proposed project
	following are the development principles to be achieved as part of the Spatial Development Framework for the Gert Sibande District Municipality (GSDM): 1. To actively protect, enhance and manage the natural environmental resources of the District, in order to ensure a sustainable equilibrium between biodiversity conservation, mining, manufacturing and industrial activities, agriculture, forestry, and tourism related activities within the District. 2. To optimally capitalize on the strategic location of the District and its five key economic strips / corridors, and to functionally link all towns and settlements to one another through establishing and maintaining a strategic road and rail network comprising internal and external linkages. 3. To utilise the existing natural environmental, cultural-historic and man-made activity areas within the District as Tourism Anchors and Nodes; and to develop and promote the eastern parts of the District (around route R33) as a Primary Tourism Corridor linking the Lowveld Tourism Precinct to the north (in Ehlanzeni), to the St Lucia Tourism Precinct located to the south of the District. 4. To promote forestry within and along the identified Primary Tourism Corridor. 5. To promote intensive and extensive commercial farming activities throughout the District, and to facilitate and concentrate subsistence farming activities within certain rural communities. 6. To unlock the development potential of existing towns through developing industry specific Special Economic Zones / Economic Clusters throughout the District, in line with the MPISF and the provincial LED Strategy and in accordance with the following sectors: a. Agricultural Cluster b. Forestry Cluster c. Industrial Cluster 7. To facilitate and accommodate mining in the District in a sustainable manner in order to support local electricity generation and industrial development. 8. To establish a functional hierarchy of towns and settlements in the District, and to ensure equitable access to social infrastructure and the promotion of local economic development by way of Thusong Centres (Multi-Purpose Community Centres (MPCCs)). 9. To ensure that all communities have access to at least the minimum levels of service as enshrined in the Constitution. 10. To consolidate the urban structure of the District around the highest order centres by way of infill development and densification in Strategic Development Areas (SDAs). Development Principles 1 to 9 highlighted the proposed future spatial structure of the District Municipality, as well as the major activity nodes/centres to be promoted as such. Issues and trends affecting the district include the occurrence of environmental degradation, a great deal of conflict also exists between mining, agricultural and tourism activities, over the use of land. More often than not the conflict results in the loss of valuable agricultural land, and land featuring high biodiversity and/or eco- tourism / conservation potential.

Relevant policy	Relevance to the proposed project
	The proposed development is located in an agricultural area. The development could comprise on agricultural land however this impact can be mitigated through other various means (i.e. rezone to grazing land for animals).
Gert Sibande District Municipality Integrated Development Plan (2020-2021)	The vision of the District Municipality is as follows - Striving to Excel in Good Governance and Quality Infrastructure. The developmental objectives and strategies are presented by Key Performance Area (KPA) as listed below. Key Performance Areas include: » KPA 1: Municipal Transformation and institutional Organizational Development » KPA 2: Basic Service Delivery and Infrastructure Development » KPA 3: Local Economic Development » KPA 4: Municipal Financial Viability and Management » KPA 5: Intergovernmental Relations, Good Governance and Public Participation » KPA 6: Spatial Rationale and Municipal Planning Alignment The GSDM and its constituent local municipalities face a number of backlog and developmental challenges. Over and above the infrastructural backlog, the District is faced with a high unemployment and poverty rate. Local economic development is seen as one of the most important ways of decreasing poverty. The proposed development will stimulate local economic growth through job creations, diversifying the local industry and skills development which is in line with the IDP KPA 3.
Govan Mbeki Local Municipality Integrated Development Plan (IDP) (2021-2022)	Key priorities of the current council include: » To enhance revenue and secure financial sustainability » To provide sustainable services, optimise operations and improve customer care » To facilitate and create an enabling environment for diversified local economic development, social cohesion and job creation » To enhance the capacity of human capital and deliver institutional transformation » To develop spatially integrated, safe communities and a protected environment » To promote good corporate governance and effective stakeholder engagement. The Gert Sibande District municipal goals are to: » Provide equitable, consistent and sustainable services to the community » Improve Socio-economic Growth » Achieve and Sustain Financial Viability within all 8 Municipalities » Strengthen Municipal capability The spatial development framework for the local municipality are: Strategic Objective 1: Economic development and job creation supporting and guiding development The integration of regional and sub regional spatial development initiatives, with the aim of leveraging investments to have an overall greater regional impact. Within Govan Mbeki the objectives of these initiatives add to sustainable economic development. The objectives thereof form the broad framework for spatial development within Govan Mbeki . Strategic Objective 2: Promoting education, training and innovation The provision of the full spectrum of educational facilities within Govan Mbeki providing for the local as well as regional needs, including: » The development of Govan Mbeki as Tertiary Educational Hub building on the Mpumalanga Math, Science and Technology Academy by providing: o A Provincial Skills Hub o An Engineering faculty for Mpumalanga University

Relevant policy	Relevance to the proposed project
	o A Science Centre o ITC Centres » Reasonable access to educational facilities and the equitable and optimal distribution of pre-primary, primary, secondary and ABET facilities in all neighbourhoods of Govan Mbeki providing for an efficient and effective pre primary, primary and secondary educational network » The rationalisation of the distribution and number of schools in accordance with acceptable standards Strategic Objective 3: Accommodating urbanisation and transforming human settlement. The provision of a Spatial Development Concept providing for an integrated system of development and activity nodes and corridors to accommodate regional and sub-regional growth **Spatial Development Concept** The Spatial Development Concept was formulated as a first step towards a spatial development strategy for Govan Mbeki. This Spatial Development Concept models spatial direction and context to future developments. This Development Concept promotes, clarifies and refines the spatial development principles and development priorities supported by relevant policies and legislation and define the desired spatial form of Govan Mbeki. The Spatial Development Concept is, by its very nature, broad and seeks to interpret the various development principles and objectives in a concise way. The concept provides a rational framework within which future development can be optimised by promoting a system of activity nodes, corridors and functional areas. Strategic Objective 4: Promote the development of rural areas within Govan Mbeki that can support sustainable economic, social and engineering infrastructure, Govan Mbeki needs to ensure sustainable use and development of its rural areas based on the following: A rural economic base, particularly agriculture and mining, which strengthens, offering opportunities for economic empowerment, and adopts sustainable business practices. Strategic Objective 5: Protect biodiversity, water and agricultural resources The protection of the biodiversity, water and agricultural resources involves the following actions: » The Mpumalanga Biodiversity Sector Plan Guidelines should be made applicable to all land use zones » Safeguard the protected, critical biodiversity areas and ecological support areas against mining, agriculture and urban development » The protection of high potential and unique agriculture land against development » Minimise the conflict between agricultural resources and coal mining and ensure food security » Minimise the consumption of scarce environmental resources, particularly water, fuel, building materials, mineral resources, electricity and land. In the latter case especially pristine and other rural land » Address water backlogs within communities and provide sufficient water to manufacturing, agriculture needs » Address the scarcity of water and emerging negative water balances within the catchment areas attending to the following actions: o Increase return flows through treatment of urban and mining effluent and desalination o Water conservation o Recycling Strategic Objectives 6:

Relevant policy	Relevance to the proposed project
	Infrastructure Investment To maintain a balance between investment aimed at meeting social needs of communities, and investment at promoting economic development and job creation and to reduce investment aimed at social upliftment over time.

Implementation of the Becrux Solar Photovoltaic (PV) Energy Facility would contribute towards addressing the Gert Sibande key issues regarding high levels of poverty and unemployment, skills shortage, and inequality through the creation of employment opportunities, the provision of skills training opportunities, and local economic growth, including growth in personal income levels of those community members who would be employed during the construction, operation and decommissioning phases of the project.

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 Becrux Solar Photovoltaic (PV) Energy 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 renewable energy and electricity supply which has the potential to further improve individuals' standard of living.

4. SOCIAL PROFILE

The Becrux Solar PV Energy Facility, including its associated infrastructure is proposed on Portion 6 of the Farm Goedehoop No. 290, located ~7km south-east of Secunda and 15km east of Embalenhle. The project site falls within jurisdiction of the Govan Mbeki Local Municipality, which forms part of the Gert Sibande District Municipality in the Mpumalanga Province (refer to **Table 4-1**).

Table 4-1: Spatial Context of the study area for the development of the Becrux Solar PV Energy Facility and associated infrastructure

Province	Mpumalanga Province
District Municipality	Gert Sibande District Municipality
Local Municipality	Govan Mbeki Local Municipality
Ward number	5
Nearest town(s)	Secunda
Preferred access	The site is accessible via an existing gravel road which provides access to the development area off the N17, located west of the development area.

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

4.1. Mpumalanga Province

The Mpumalanga Province is bordered by Mozambique and Swaziland to the east and the Gauteng Province to the west. In the eastern region lies the southern half of the Kruger National Park. Mpumalanga is highly accessible, with a network of roads and railway connections, as well as a number of small airports, including the Kruger Mpumalanga International Airport. The Maputo Corridor links the province with Gauteng and Maputo in Mozambique.

Nelspruit (also known as Mbombela) is the capital, and the administrative and business hub of the Lowveld. Witbank (also known as eMalahleni) is the centre of the local coal-mining industry; Standerton in the south, is known for its large dairy industry; and Piet Retief in the southeast is a production area for tropical fruit and sugar.

Mpumalanga is rich in coal reserves and is home to South Africa's major coal- fired power stations – three of which are the biggest in the southern hemisphere. Witbank, the biggest coal producer in Africa, is home to the country's two oil- from-coal plants. Mpumalanga produces about 80% of the country's coal and remains the largest production region for forestry and agriculture. The best- performing sectors in the province include mining, manufacturing and services. Tourism and agro-processing are potential growth sectors.

In 2016, the population in Mpumalanga was estimated at 4 335 963 people or approximately 8% of South Africa's population. A population density of 56.6 people per km^2 is indicative of the relatively rural nature of the province.

The Mpumalanga Province is subjected to high levels of immigration (both legal and illegal) from adjoining countries - especially Mozambique. The close proximity of Swaziland and the strong cultural ties between it

and the Swazi's semi-independent homeland of KaNgwane (now absorbed into Mpumalanga) creates extensive opportunities for double counting during census surveys, as these people might be counted as part of the Mpumalanga population and Swazi immigrants. Labour migration on a weekly and monthly basis is prevalent between the province and neighbouring Gauteng. Even with the vast number of people from other cities and adjacent countries, the provincial population growth was at 1.8% for the period 2001-2011. This is not much higher from the 1996-2001 population growth figure, which stood at 1.5%.

In line with the principles of the NDP, V2030 highlights the following socio-economic outcomes as priorities:

- Employment & Economic Growth;
- Education and Training;
- Health care for all; and
- Social Protection.

These priorities do not imply that the "normal business of government" should be deferred, but rather aim to focus the activities and decisions of the Province on key areas leveraging high impact for improved and sustainable long-term socio-economic development in Mpumalanga. According to a presentation given by the Provincial Treasury: Mpumalanga Province, in Cape Town 2015, the chief socio-economic challenges faced by the Province are depicted in the image below.

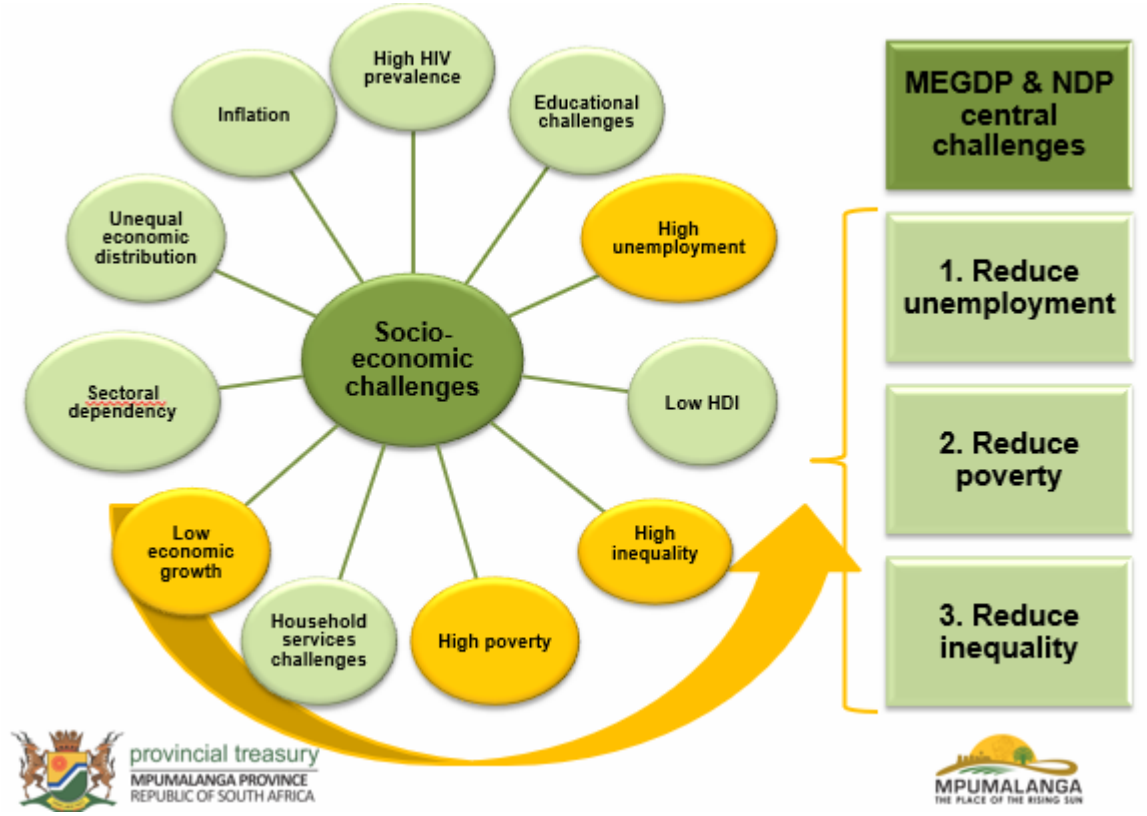

Figure 4-1 Socio-economic challenges of Mpumalanga

4.2. Gert Sibande DM

Gert Sibande District Municipality (GSDM) is one of the three district municipalities in Mpumalanga. It is bounded by Gauteng Province to the west, Nkangala DM to the north, Swaziland and Ehlanzeni DM to the east, and Free State and KwaZulu-Natal to the south. Highways that pass through Gert Sibande District

Municipality include the N11, which goes through to the N2 in KwaZulu- Natal, the N17 from Gauteng passing through to Swaziland, and the N3 from Gauteng to KwaZulu-Natal. There are over 120 towns and villages in the district, which comprises seven local municipalities:

- Albert Luthuli LM
- Dipaleseng LM
- Govan Mbeki LM
- Lekwa LM
- Mkhondo LM
- Msukaligwa LM
- Pixley ka Seme LM

Energy production (fuel and electricity) is the most significant economic activity. Food and timber production, as well as the tourism and recreation industries, are also important. An abundance of raw materials, suitable and available land for various developments, and a willing labour force create numerous opportunities for investment and growth.

Gert Sibande DM faces the challenge of a fragmented development pattern which is the result of past planning and the uneven distribution of mineral resources. The seven local municipalities also face the challenge of achieving an integrated development plan in a district of this size and complexity. The provision of adequate housing, clinics, schools and government services is hindered by the spatial nature of the area, low payment rates for services, the small tax base and little economic activity. Furthermore, people residing in rural areas do not own the land on which they live, which means they do not qualify to receive housing subsidies, which come with proper services.

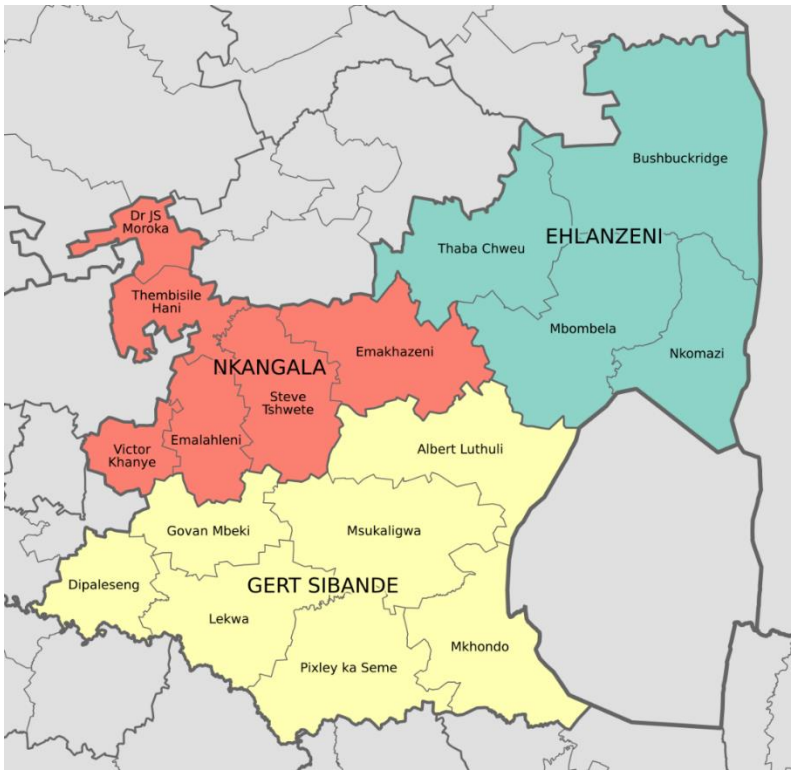

Figure 4-2 Municipalities in Mpumalanga Province

4.3. Govan Mbeki Local Municipality (LM)

Govan Mbeki Local Municipality has the largest underground coal mining complex in the world which makes it an important strategic area within the national context. It is situated in the south-eastern part of Mpumalanga Province, abutting Gauteng Province in the south-west; approximately 150km east of Johannesburg and 300km south-west of Nelspruit (capital city of Mpumalanga). It is one of the 7 local municipalities under the jurisdiction of Gert Sibande District (the other districts being Ehlanzeni and Nkangala) and one of the 18 local municipalities within Mpumalanga.

Govan Mbeki Local Municipality is a primarily rural area with a number of towns situated within it:

- Leandra/Lebohang (Leslie, Eendracht and Lebohang) is situated on the western edge of the municipal area north of the N17.
- A conglomeration of towns are situated in the central part of the study area, namely Secunda, Trichardt, eMbalenhle, Evander and Kinross.
- Bethal/eMzinoni is situated on the eastern edge of the study area, abutting the N17.

4.4. Project Site

The Becrux Solar PV Energy Facility is proposed on Portion 6 of the Farm Goedehoop No. 290, located ~7km south-east of Secunda and 15km east of Embalenhle within Ward 5 of the Govan Mbeki Local Municipality, of the Gert Sibande District. The closest major town to the project site is Secunda. Secunda is the most important urban centre in the municipal area, with Embalenhle being the largest settlement. Secunda was established in 1975 when Sasol East and West plants were commissioned during the oil crisis in the seventies. The establishment of Secunda was a direct result of the presence of the Sasol Secunda Industrial Complex (SSIC) and associated coal mining activities.

Commercial agriculture is the most dominant land use in the district (although the petrochemical industry is the main contributor to municipal output). Mining, particularly coal mining, is also an important land use, with Secunda being the most active business hub in the municipality. The expansion of industrial activity and mining, while promoting economic growth, has led to the encroachment of agricultural land.

The most dominant land is agriculture, including several commercial maize and soya farms and a variety of livestock and game farming. Livestock kept is mostly cattle, with some sheet and goat farming; game farming is mostly limited to springbuck, blesbuck, ostrich and gnu. Livestock is usually sold at auctions, whereas game is hunted on the farms. Residential land use is limited to several landowning families, farm-workers and tenants occupying homesteads located within the rural sections of the study area. It is estimated that at least a few farm workers live on the rural properties in the primary study area. This includes labourers, contractors as well as their spouses and children. Informal discussions during field investigations highlighted the family arrangements.

4.5. Baseline Description of the Social Environment

Table 4.2 provides a baseline summary of the socio-economic profile of the Govan Mbeki Local Municipality within which Becrux Solar PV Facility is proposed. To provide context against which the Local Municipality's socio-economic profile can be compared, the socio-economic profiles of the Gert Sibande District, Mpumalanga Province, and South Africa as a whole have also been provided where applicable. The data presented in this section have been derived from the 2011 Census, Mpumalanga Provincial Growth and

Development Strategy (PDGS) (2015-2020)), and the Govan Mbeki Local Municipality Integrated Development Plan (IDP) (2021-2022).

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

Location characteristics
» The project is proposed within the Mpumalanga Province, which is bordered by Mozambique and Swaziland to the east and the Gauteng Province to the west. » The project is proposed within the Govan Mbeki LM of the Gert Sibande DM. » The Govan Mbeki LM is approximately 2 960.1 km² in extent.
Population characteristics
» Govan Mbeki LM has a population of 340 091, which is about one-third of the figure in Gert Sibande, 1 135, 409. » The LM occupies an area of land approximately 2 960.1 km² which is 114.9 people per square kilometre. » Between 2001 and 2011 the LM experienced a positive population growth of 3% per year. » According to Census 2011, the significant majority of 86% of the Govan Mbeki LM population are Black African, followed secondly by 12% which are White, 1% which are Coloured, and Indian / Asian. This population structure corresponds to that of the Gert Sibande DM, and Mpumalanga Province. » The Govan Mbeki LM is slightly male dominated with males making up just over half (52%) of the municipal population, and females the remaining 48% of the population. This correlates with the Provincial population which is also slightly female dominated (comprising 49% males, and 51% females), but differs from the District and National populations which are both females dominated. » When assessing five-year age groups, the largest proportion of the population are between the ages of 20 to 29 years old, with the proportion decreasing uniformly as age increases. There are no significant outliers within any one age group. The age structure of the Mpumalanga Province and South African national populations are similar to one another, but differ somewhat from that of the Govan Mbeki LM and Gert Sibande DM. » The dependent portion of the population typically comprises youth below 15 years of age which are yet to enter the workforce, and individuals 65 years and older which would typically already have retired from the workforce. » The Govan Mbeki LM has a dependency ratio per 100 of 44, which is slightly lower than the Gert Sibande DM (51.9).
Economic, education and household characteristics
» Of population aged 20 years and older, 3,9% completed primary school, 33,9% have some secondary education, 31,4% completed matric, and 12,6% have some form of higher education. The percentage of those aged 20 years and older with no form of schooling is 7,9%. » A large proportion of the population is expected to either be unskilled or have a low-skill level due to the fact that more than 1.5 times the rate of in Gert Sibande (35.9%) education by those who have completed matric or higher in the Govan Mbeki LM (63.5%) » The Govan Mbeki LM has an unemployment rate at 63.6% » Of the Govan Mbeki labour force (i.e. individuals ages between 15 and 64 years of age), the majority of (32.4%)are not economically active. » The economically inactive proportion of the Govan Mbeki LM's labour force is slightly lower than the DM (39.4%. » Approximately 3.6% of the Govan Mbeki LM's labour force is unemployed. » The average annual income in the Govan Mbeki LM is R225 000, which is more than double the amount in Gert Sibande (R30 000). » The mining sector (39%) and manufacturing sector (24%) contributes the most in terms of GDP, and as a result, the economy is concentrated. » The latest official figures for Govan Mbeki LM indicate that the unemployment rate was at 26.2% in 2011. The rate for women was 34.9%, 20.1% and 34.4% for men and youth, respectively.
Services

- There are 83 874 households in the local municipality, with an average household size of 3,4 persons per household. Of the households, 56,5% have access to piped water and 38% have water in their yard.
- Only 1,1% of households do not have access to piped water.
- Home-ownership indicates that in the Govan Mbeki LM, more than 28% of households are renting, either from private individuals or government agencies.
- Over half of households (56.5%) either own or have fully paid off their homes, or are in the process of doing so. The Govan Mbeki LM rate is lower than the Gert Sibande DM (59.52%) and provincial rate (68.6%).

5. IDENTIFCIATION 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 Becrux 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.

Social impacts are expected to occur during both the construction and operation phases of the associated infrastructure. The status of the impacts will either be positive or negative and either mitigation or enhancement measures are recommended for the management of the impacts depending on the status of the impacts.

5.1. Potential Social Impacts during the Construction Phase

The majority of social impacts associated with the project are anticipated to occur during the construction phase of the development and are typical of the type of social impacts generally associated with construction activities. These impacts will be temporary and short-term (~9 - 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 mis-management of the construction phase activities.

The positive and negative social impacts identified that will be assessed for the construction phase include:

- Direct 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
- Visual impacts and impacts on the sense of place

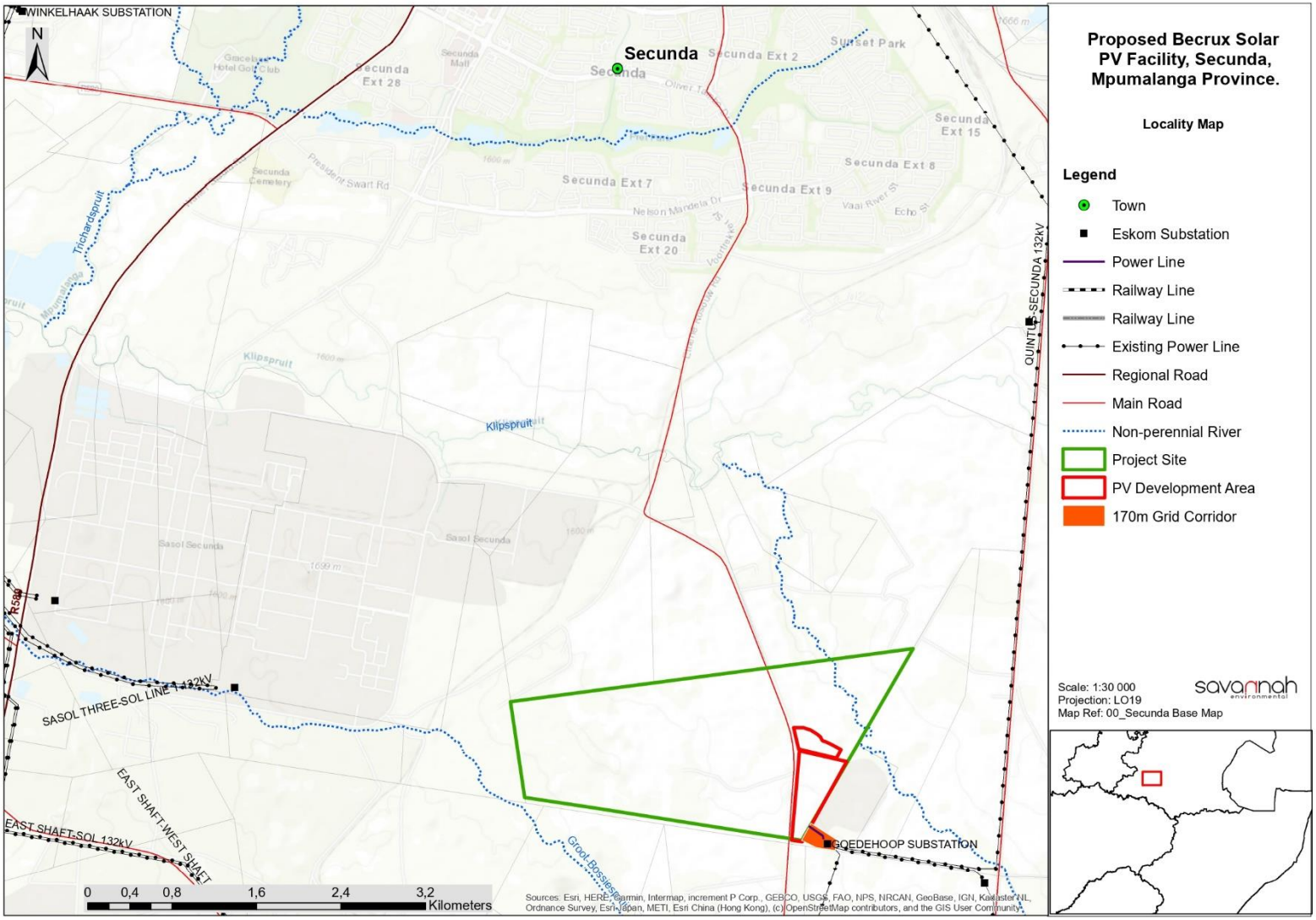

Figure 5.1: Layout of the Becrux Solar PV Energy Facility

Table 5.5-1: Impact assessment on direct employment opportunities

Nature: **Employment opportunities and skills development**			
Impact description: The creation of employment opportunities and skills development opportunities during the construction phase for the country and local economy			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Short-term (1)	The construction period will last for one year at most	**Low Positive (30)**
Extent	Local – Regional (5)	The impact will occur at a local, regional and national level	
Magnitude	Low (4)	The creation of employment opportunities will assist to an extent in alleviating unemployment levels within the area	
Probability	Probable (3)	Construction of the project will result in the creation of a number of direct employment opportunities, which will assist in addressing unemployment levels within the area and aid in skills development of communities in the area	
Enhancement Measures			
Enhancement measures: To enhance local employment, skills development and business opportunities associated with the construction phase the following measures should be implemented: » It is recommended that the local employment policy be adopted where possible to maximise the opportunities made available to the local labour force. Becrux Solar PV Project One (Pty) Ltd should make it a requirement for contractors to implement a 'locals first' policy, especially for semi and low skilled job categories., if this is not possible, then the broader focus areas should be considered for sourcing workers. » Employment opportunities will be for the immediate local area, Govan Mbeki Local Municipality, if this is not possible, then the broader focus areas should be considered for sourcing employees. » During the recruitment selection process, consideration must be given to women. » It is recommended that realistic local recruitment targets be set for the construction phase. » Training and skills development programmes should be initiated prior to the commencement of the construction phase.			
Post Mitigation			
Duration	Short-term (1)	The construction period will last one year at most	**Medium Positive (55)**
Extent	Regional (4)	The impact will occur at a local, regional and national level	
Magnitude	Moderate (6)	The creation of employment opportunities will assist to an extent in alleviating unemployment levels within the area	
Probability	Definite (5)	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	
Residual Impact: Improved pool of skills and experience in the local area			

Nature: **Multiplier effects on the local economy**			
Impact description: Significance of the impact from the economic multiplier effects from the use of local goods and services			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Long-term (4)	Will continue for the duration of the project due to legal obligation to pay taxes.	**Medium Positive (36)**
Extent	Local – Regional (4)	Will include mostly local and some regional impacts	
Magnitude	Low (4)	Will derive from increased cash flow from wages, local procurement, economic growth, taxes and LED and HRD initiatives.	
Probability	Probable (3)	Will depend on proportion of local spending by employees; capacity of local enterprises to supply; effectiveness of LED and HRD initiatives; and contributions to local government.	
Enhancement Measures			
Enhancement measures: » It is recommended that a local procurement policy is adopted by the developer to maximise the benefit to the local economy, where feasible (Govan Mbeki Local Municipality). » Becrux Solar PV Project One (Pty) Ltd should develop a database of local companies, specifically Historically Disadvantaged (HD) companies, which qualify as potential service providers (e.g. construction companies, catering companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction contractors. These companies should be notified of the tender process and invited to bid for project-related work, where applicable. » It is a requirement to source as much goods and services as possible from the local area. » Engage with local authorities and business organisations to investigate the possibility of procurement of construction materials, goods and products from local suppliers, where feasible.			
Post Mitigation			
Duration	Long-term (4)	As for pre-enhancement	**Medium Positive (60)**
Extent	Local – Regional (4)	SMME capacity building will limit procurement from outside the local municipality	
Magnitude	Low (4)	Mitigation will likely increase intensity of multiplier effects as it will concentrate impact to local area, sustainability of initiatives will also be increased if aligned with other those of other institutions	
Probability	Definite (5)	Increased local employment and procurement as well as skilled SMME's skill enhance likelihood of benefits to local economy	
Residual Impact: Improved local service sector and growth in local business			

Nature: **Safety and security**

Impact description: Temporary increase in safety and security concerns associated with the influx of people during the construction phase			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Short-term (2)	Will be limited to the construction phase which is one year at most.	**Low Negative (27)**
Extent	Local – Regional (3)	Will affect road users from nearby communities	
Magnitude	Low (4)	Could place the lives of neighbouring community members at risk.	
Probability	Probable (3)	Traffic would need to be considered in the area	
Mitigation Measures			
Mitigation: » Access in and out of the construction area should be strictly controlled by a security company. » The appointed EPC contractor must appoint a security company and appropriate security procedures are to be implemented. » The contractor must ensure that open fires on the site for heating, smoking or cooking are not allowed except in designated areas. » Contractor must provide adequate firefighting equipment on site and provide firefighting training to selected construction staff. » A comprehensive employee induction programme which covers land access protocols, fire management and road safety should be prepared. » A Community Liaison Officer should be appointed as a grievance mechanism. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.			
Post Mitigation			
Duration	Short-term (2)	As for pre-mitigation	**Low Negative (16)**
Extent	Local (2)	Safety measures will likely restrict impacts on road users	
Magnitude	Low (4)	Appropriate mitigation will reduce the risk of this project	
Probability	Improbable (2)	As for pre-mitigation	
Residual Impact: None anticipated.			

Nature: **Disruption of daily living and movement patterns**			
Impact description: Temporary increase in traffic disruptions and movement patterns during the construction phase			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Short-term (2)	Will be limited to the construction phase which is one year at most.	**Medium Negative (40)**
Extent	Local (2)	Will affect road users from nearby communities	
Magnitude	Moderate (6)	Will affect the quality of life of neighbouring communities	
Probability	Highly probable (4)	Traffic would need to be considered in the area	

Mitigation Measures			
Mitigation: » All vehicles must be road worthy and drivers must be qualified, obey traffic rules, follow speed limits and be made aware of the potential road safety issues. » Heavy vehicles should be inspected regularly to ensure their road safety worthiness. » Implement penalties for reckless driving for the drivers of heavy vehicles as a way to enforce compliance to traffic rules. » Avoid heavy vehicle activity during 'peak' hours (when people are driving to and from work). » The developer and engineering, procurement and construction (EPC) contractors must ensure that any damage / wear and tear caused by construction related traffic to the roads is repaired. » A comprehensive employee induction programme which covers land access protocols and road safety should be prepared. » A Community Liaison Officer should be appointed. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.			
Post Mitigation			
Duration	Short-term (2)	As for pre-mitigation	**Low Negative (16)**
Extent	Local (2)	Safety measures will likely restrict impacts on road users	
Magnitude	Low (4)	Appropriate mitigation will reduce the risk of this project	
Probability	Improbable (2)	As for pre-mitigation	
Residual Impact: None anticipated.			

Nature: **Increased pressure on local services/resources**			
Impact description: Added pressure on economic and social infrastructure during construction as a result of in-migration of people			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Short-term (2)	Influx related pressure on services will start during construction and continue during the operational phase	**Medium Negative (30)**
Extent	Local (2)	May affect resource management on local district municipal level	
Magnitude	Moderate (6)	Intensify existing service delivery and resource problems and backlogs, especially sewerage and road networks	
Probability	Probable (3)	Population influx will affect the ability of the local municipality to meet increased demand	
Mitigation Measures			
Mitigation: » A Community Liaison Officer should be appointed. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process			
Post Mitigation			
Duration	Short-term (2)	As for pre-mitigation	**Low Negative (16)**

Extent	Local (2)	Project resources to managed during the construction of this project	
Magnitude	Low (4)	Appropriate mitigation will reduce the risk of this project	
Probability	Improbable (2)	As for pre-mitigation	
Residual Impact: Possibility of outside workers remaining in the area after construction is completed and subsequent pressure on local infrastructure.			

Nature: **Nuisance impacts (noise& dust)**			
Impact description: Nuisance impacts in terms of temporary increase in noise and dust, and the wear and tear on private farm roads for access to the site			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Short-term (2)	Dust generated from site clearance and noise during construction from equipment and other source of noise include vehicle traffic during the construction phase	**Medium Negative (44)**
Extent	Local (1)	This will remain within the project extent from construction activities.	
Magnitude	High (8)	Dust impacts and noise nuisance from construction activities	
Probability	Highly probable (4)	Movement of heavy construction vehicles during the construction phase has a potential to create noise, damage to roads and dust.	
Mitigation Measures			
Mitigation: » The movement of heavy vehicles associated with the construction phase should be timed to avoid weekends, public holidays and holiday periods where feasible. » Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers. » Ensure all vehicles are road worthy, drivers are qualified and are made aware of the potential noise and dust issues. » A CLO should be appointed. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.			
Post Mitigation			
Duration	Short-term (2)	As for pre-mitigation	**Low Negative (18)**
Extent	Local (1)	Mitigation measures will assist with increasing the impact.	
Magnitude	Moderate (6)	Appropriate mitigation will reduce the risk of this project	
Probability	Improbable (2)	As for pre-mitigation	
Residual Impact: None anticipated			

5.2. Potential Social impacts during the Operation Phase

It is anticipated that the Becrux Solar PV Energy Facility will operate for up to 25 years (which is equivalent to the operational lifespan of the project).

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

» Direct employment opportunities
» Development of clean, renewable energy infrastructure
» Visual impact and impact on sense of place
» Impacts associated with the loss of agricultural land

Nature: **Job creation during operation**			
Impact description: The creation of employment opportunities and skills development opportunities during the operation phase for the country and local economy			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Long term (4)	Project will be for up to 25 years	**Medium Positive (33)**
Extent	Regional (3)	Any new positions are likely to be filled by persons living in the local municipal area	
Magnitude	Low (4)	It is anticipated that ~109 jobs will be generated during the operation phase. A number of highly skilled personnel may need to be recruited from outside the local municipal area	
Probability	Probable (3)	Employment opportunities will be created during the operation phase	
Enhancement Measures			
Enhancement measures: » It is recommended that a local employment policy is adopted by the developer to maximise the project opportunities being made available to the local community. » Enhance employment opportunities for the immediate local area, Govan Mbeki Local Municipality, if this is not possible, then the broader focus areas should be considered for sourcing employees. » The recruitment selection process should seek to promote gender equality and the employment of women wherever possible. » The developer should establish vocational training programs for the local employees to promote the development of skills.			
Post Enhancement			
Duration	Long-term (4)	As for pre-enhancement	**Medium Positive (44)**
Extent	Local - regional (3)	As for pre-enhancement	
Magnitude	Low (4)	Mitigation will maximise local job creation	
Probability	High Probable (4)	Mitigation will maximise probability that any local recruitment targets are achieved and local benefits optimised	
Residual Impact: Improved pool of skills and experience in the local area			

Nature: **Assessment of the development of clean, renewable energy infrastructure**			
Impact description: Development of clean, renewable energy infrastructure			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Long term (4)	Brining renewable energy sector to Gert Sibande economy may contribute to the diversification of the local economy and provide greater economic stability.	**Medium Positive (48)**
Extent	National (4)	The generation of renewable energy will contribute to South Africa's electricity market and relieve the national gird	
Magnitude	Low (4)	As the solar resource is naturally available, its use will strengthen energy security as it will not be subjected to disruption by international crisis.	
Probability	Highly Probable (4)	Facility will help reduce the total carbon emissions associated with non -renewable energy generation	
Mitigation/Enhancement Measures			
Enhancement measures: None anticipated			
Post Enhancement			
Duration	Long term (4)	As for pre-enhancement	**Low Positive (48)**
Extent	National (4)	As for pre-enhancement	
Magnitude	Low (4)	As for pre-enhancement	
Probability	Highly Probable (4)	As for pre-enhancement	
Residual Impact: Reduce carbon emissions through the use of renewable energy and contribute to reducing global warming			

Nature: **Visual impacts and impacts on sense of place**			
Impact description: Visual impacts and sense of place impacts associated with the operation phase of the project			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Long term (4)	Impact on sense of place relates to the change in the landscape character and visual impact of the proposed solar energy facility	**Low Negative (22)**
Extent	Local (3)	Dependant on the demographics of the population that resides in the area and their perceptions	
Magnitude	Low (4)	There is power station located next to the site, the power and transmission lines, roads and the substation are infrastructural and disrupting elements that currently affect visual resources and sense of place in the immediate local area	

Probability	Improbable (2)	There are no tourist attractions located adjacent to the property and therefore the anticipated impact on the areas visual quality and sense of place is low.	
Mitigation Measures			
Mitigation: None anticipated			
Post Mitigation			
Duration	Long term (4)	As for pre-mitigation	**Low Negative (22)**
Extent	Local (3)	As for pre-mitigation	
Magnitude	Low (4)	As for pre-mitigation	
Probability	Improbable (2)	As for pre-mitigation	
Residual Impact: None anticipated if the visual impact will be removed after decommissioning, provided the solar energy facility infrastructure is removed and the site is rehabilitated to its original (current) status			

Nature: **Impacts associated with the loss of agricultural land**			
Impact description: Development on agricultural land and removal of potential agricultural production			
	Rating	**Motivation**	**Significance**
Prior to Mitigation			
Duration	Long term (4)	The development footprint on which the solar energy facility will be developed will be removed from agricultural production	**Medium Negative (33)**
Extent	Local (1)	The impact will occur at local level	
Magnitude	Moderate (6)	Impacts associated with the loss of agricultural land use to occupation of land by the solar energy facility.	
Probability	Probable (3)	Land uses will be affected by development	
Mitigation Measures			
Mitigation: » Keep the project footprint as small as possible.			
Post Mitigation/Enhancement Measures			
Duration	Long term (4)	As for pre-mitigation	**Low Negative (27)**
Extent	Local (1)	As for pre-mitigation	
Magnitude	Low (4)	As for pre-mitigation	
Probability	Probable (3)	As for pre-mitigation	
Residual Impact: The implications in terms of food production and security could also threaten jobs of workers employed in the agricultural activities.			

5.3. Assessment of Cumulative Impacts

Cumulative impacts have been considered as this energy facility has the potential to result in significant positive cumulative impacts; specifically since the establishment of a number of Solar energy facilities in the vicinity of the Local Municipality will create a number of socio-economic opportunities for the area, which in turn, will result in a positive social benefit. The positive cumulative impacts include creation of employment, skills development and training opportunities, and downstream business opportunities. Benefits to the local,

regional and national economy through employment and procurement of services could be substantial should many renewable energy facilities proceed. This benefit will increase significantly should critical mass be reached that allows local companies to develop the necessary skills to support construction and maintenance activities and that allows for components of the renewable energy facilities to be manufactured in South Africa. Furthermore, at municipal level, the cumulative impact could be positive and could incentivize operation and maintenance companies to centralize and expand their activities towards education and training.

Nature: **An increase in employment opportunities, skills development and business opportunities with the establishment of more than one solar energy facility**		
	Overall impact of the proposed project considered in isolation	**Cumulative impact of the project and other projects in the area**
Extent	Regional (3)	Regional (3)
Duration	Long-term (4)	Long-term (4)
Magnitude	Low (4)	Moderate (6)
Probability	Probable (3)	Probable (3)
Significance	**Medium (33)**	**Medium (39)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
Confidence in findings: High.		
Mitigation: The establishment of a number of solar energy facilities in the area does have the potential to have a positive cumulative impact on the area in the form of employment opportunities, skills development and business opportunities. The positive benefits will be enhanced if local employment policies are adopted and local services providers are utilised by the developers to maximise the project opportunities available to the local community.		

6. CONCLUSION AND RECOMMENDATIONS

This SIA has focused on the collection of primary data to identify and assess social issues and potential social impacts. Secondary data was collected and presented in a literature review and primary data was collected through the public participation process and telephonic consultation with key stakeholders. The environmental assessment framework for assessment of impacts and the relevant criteria were applied to evaluate the significance of the potential impacts.

A summary of the potential positive and negative impacts identified for the detailed design, construction and operation phases are presented in Error! Reference source not found. and Error! Reference source not found. for the potential impacts identified.

Table 6.6-1: Summary of potential social impacts identified for the detailed design and construction phase of the Becrux Solar PV Energy Facility

Impact	Significance without mitigation/enhancement	Significance with mitigation/enhancement
Positive Impacts		
Direct employment and skills development	Low	Medium
Economic multiplier effects	Medium	Medium
Negative Impacts		
Safety and security risks	Medium	Low
Impacts on daily living and movement patterns	Medium	Medium
Nuisance impact (noise and dust)	Medium	Low

Table 6.6-2: Summary of potential social impacts identified for the operation phase of the Becrux Solar PV Energy Facility

Impact	Significance without mitigation/enhancement	Significance with mitigation/enhancement
Positive Impacts		
Direct employment and skills development	Medium	Medium
Development of clean, renewable energy infrastructure	Medium	Medium
Negative Impacts		
Visual and sense of place impacts	Medium	Medium
Impacts associated with the loss of agricultural land.	Medium	Low

6.1. Key findings and Recommendations

Key Findings

From a social perspective, it is concluded that the project is supported, but that mitigation measures should be implemented and adhered to. Positive and negative social impacts have been identified. The assessment of the key issues indicated that there are no negative impacts that can be classified as fatal flaws and which are of such significance that they cannot be successfully mitigated. Positive impacts could be enhanced by implementing appropriate enhancement measures and through careful planning. Based on the social assessment, the following general conclusions and findings can be made:

- The potential negative social impacts associated with the construction phase are typical of construction related projects and not just focussed on the construction of PV facilities (these relate to influx of non-local workforce and jobseekers, intrusion and disturbance impacts, safety and security) and could be reduced with the implementation of the mitigation measures proposed.
- Employment opportunities will be created in the construction and operation phase and the impact is rated as positive even if only a small number of individuals benefit in this regard.
- The proposed project could assist the local economy in creating entrepreneurial development, especially if local business could be involved in the provision of general material and services during the construction and operational phases.
- Capacity building and skills training among employees are critical and would be highly beneficial to those involved, especially if they receive portable skills to enable them to also find work elsewhere and in other sectors.
- The proposed development also represents an investment in infrastructure for the generation of clean, renewable energy, which, given the challenges created by climate change, represents a positive social benefit for society as a whole.

Recommendations

The following recommendations are made based on the Social Impact Assessment and a thorough review of the concerns and suggestions raised by stakeholders and interested and affected parties during the stakeholder engagement process. The proposed mitigation measures should be implemented to limit the negative impacts and enhance the positive impacts. Based on the social assessment, the following recommendations are made:

- In terms of employment related impacts, it is important to consider that job opportunities for the unskilled and semi-skilled are scarce commodities in the study area and could create competition among the local unemployed. Introducing an outside workforce will therefore most likely worsen local endeavours to obtain jobs and provoke discontent as well as put pressure on the local services available. Local labour should be utilised to enhance the positive impact of employment creation in the area. Local businesses should be involved with the construction activities where possible. It is imperative that local labour be sourced to ensure that benefits accrue to the local communities. Preference should thus be given to the use of local labour during the construction and operational phases of the project as far as possible.
- Locals should also be allowed an opportunity to be included in a list of possible local suppliers and service providers, enhancing the multiplier effect. This aspect would serve to mitigate other subsequent negative impacts such as those associated with the inflow of outsiders to the area, the increased pressure on the infrastructure and services in the area, as well as the safety and security concerns.
- Impacts associated with the construction period should be carefully mitigated to minimise any possible dust and noise pollution.
- Safety and security concerns should be taken into account during the planning and construction phases of the proposed project.

Overall Conclusion

The proposed Becrux solar energy facility and associated infrastructure is unlikely to result in permanent damaging social impacts. Becrux Solar PV has the potential to result in significant positive cumulative impacts, specifically with regards to the creation of several socio-economic opportunities for the region, which in turn, can result in positive social benefits. The positive cumulative impacts include creation of employment, skills development and training opportunities, and downstream business opportunities. The cumulative benefits to the local, regional, and national economy through employment and procurement of services are more considerable than that of Hotazel 2 alone. From a social perspective, it is concluded that the project should be developed subject to the implementation of the recommended mitigation measures and management actions contained in this report.

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8. APPENDIX A: SIA ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

Construction Phase:

Direct employment and skills development

OBJECTIVE: Maximise local employment and skills opportunities associated with the construction phase		
Project component/s	Construction of the proposed Becrux solar energy facility and associated infrastructure	
Potential Impact	The opportunities and benefits associated with the creation of local employment and skills development to be maximised.	
Activity/risksource	» Construction procurement practice employed by the EPC contractor » Developer's investment plan	
Mitigation Target/Objective	The developer should aim to employ as many low-skilled and semi-skilled workers from the local area as possible. This shouldalso be made a requirement for all contractors.	
Enhancement: Action/control	**Responsibility**	**Timeframe**
Employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria	The Proponent & EPC Contractor	Pre-construction & construction phase
Adopt a local employment policy to maximise the opportunities made available to the local labour force as far as possible (preference to Govan Mbeki Local Municipality)	The Proponent & EPC Contractor	Pre-construction & construction phase
In the recruitment selection process, consideration must be given to women	EPC Contractor	Pre-construction & construction phase
Set realistic local recruitment targets for the construction phase (preference to Govan Mbeki Local Municipality)	The Proponent & EPC Contractor	Pre-construction & construction phase
Training and skills development programmes to be initiated prior to the commencement of the construction phase	The Proponent	Pre-construction & construction phase
PerformanceIndicator	» Employment and business policy document that sets out local employment and targets completed before construction phase commences. » Employ as many semi- and unskilled labour from the local area or local municipality as possible. » Training and skills development programme undertaken prior to the commencement of construction phase.	
Monitoring	» The developer and EPC contractor must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes.	

Economic multiplier effects

OBJECTIVE: Maximise local economic multiplier effect during construction phase			
Project component/s	Construction of the proposed Becrux solar energy facility and associated infrastructure		
Potential Impact	Potential local economic benefits		
Activity/risksource	Developer's procurement plan		
Mitigation Target/Objective	Increase the procurement of goods and services, especially within the local economy		
Enhancement: Action/control		**Responsibility**	**Timeframe**
A local procurement policy to be adopted to maximise the benefit to the local economy, where feasible (Govan Mbeki Local Municipality)		The Proponent & EPC Contractor	Pre-construction & construction phase
Develop a database of local companies, specifically Historically Disadvantaged (HD) which qualify as potential service providers (e.g. construction companies, security companies, catering companies, waste collection companies, transportation companies etc.) prior to the tender process and invite them to bid for project-related work where applicable		The Proponent	Pre-construction & construction phase
Source as much goods and services as possible from the local area (Govan Mbeki Local Municipality). Engage with local authorities and business organisation to investigate the possibility.		The Proponent	Pre-construction & construction phase
PerformanceIndicator	» Local procurement policy is adopted » Local goods and services are purchased from local suppliers, where feasible (Govan Mbeki Local Municipality)		
Monitoring	» The developer must monitor indicators listed above to ensure that they have been met for the construction phase.		

Safety and security impacts

OBJECTIVE: To avoid or reduce the possibility of the increase in crime and safety and security issues during the construction phase			
Project component/s	Construction of the proposed Becrux Solar energy facility and associated infrastructure		
Potential Impact	Increase in crime due to influx of non-local workforce and job seekers into the area		
Activity/risksource	Safety and security risks associated with construction activities		
Mitigation Target/Objective	To avoid or minimise the potential impact on local communities and their livelihoods		
Enhancement: Action/control		**Responsibility**	**Timeframe**
Access in and out of the construction camp should be strictly controlled by a securitycompany		EPC Contractor	Construction phase
The appointed EPC contractor must appoint a security company and appropriate securityprocedures are to be implemented		EPC Contractor	Construction phase
Open fires on the site for heating, smoking orcooking are not allowed, except in designated areas.		EPC Contractor	Construction phase
The contractor must provide adequate firefighting equipment on		EPC Contractor	Pre-construction &

site and provide firefighting training to selected construction staff.		construction phase
A comprehensive employee induction programme to be developed and utilised to cover land access protocols, fire managementand road safety	EPC Contractor	Pre-construction & construction phase
Method of communication should be implemented whereby local landowners can express any complaints or grievances with construction process	CLO	Pre-construction & construction phase

PerformanceIndicator	» Employee induction programme, covering land access protocols, fire management and road safety » The construction site is appropriately secured with a controlled access system » Security company appointed and security procedures implemented
Monitoring	» The developer and EPC contractor must monitor the indicators listed above to ensure that they have been met for theconstruction phase

Impacts on daily living and movement patterns

OBJECTIVE: To avoid or reduce traffic disruptions and movement patterns of local community during the construction phase	
Project component/s	Construction of the proposed Becrux Solar energy facility and associated infrastructure
Potential Impact	Increase in traffic disruptions, safety hazards, and impacts onmovement patterns of local community as well as impact on private property due to the upgrade of the existing road and heavy vehicle traffic in the local area
Activity/risksource	Construction activities affecting daily living and movement patterns
Mitigation Target/Objective	To avoid or minimise the potential impact on local communities and their livelihoods

Enhancement: Action/control	**Responsibility**	**Timeframe**
All vehicles must be road worthy and drivers must be qualified, obey traffic rules, follow speed limits and made aware of the potential road safety issues	EPC Contractor	Construction phase
Heavy vehicles should be inspected regularly to ensure their road safety worthiness.	EPC Contractor	Construction phase
Implement penalties for reckless driving for the drivers of heavy vehicles as a way toenforce compliance to traffic rules.	EPC Contractor	Construction phase
Any damage / wear and tear caused by construction related traffic to the roads must be repaired.	The Proponent & EPC contractor	Construction phase
Provide adequate and strategically placed traffic warning signs and control measures along the roads to warn road users of the construction activities taking place, displaying road safety messages and speed limits for the duration of the construction phase. Traffic warning signs must also be well illuminated at night.	EPC Contractor	Pre-construction & construction phase
A comprehensive employee induction programme to cover land access protocols and road safety. This must be addressed in the	EPC Contractor	Construction phase
Appoint a Community Liaison Officer and create method of communication whereby local community member can express any complaints or grievances	EPC Contractor	Pre-construction & construction phase

PerformanceIndicator	» Vehicles are roadworthy, inspected regularly and speed limits are adhered to » Traffic warning signs along R38 and secondary roads, also illuminated at night appointed and security procedures implemented
Monitoring	» The developer and EPC contractor must monitor the indicators listed above to ensure that they have been met for theconstruction phase

Pressure on economic and social infrastructure impacts from an in migration of people

OBJECTIVE: Reduce the pressure on economic and social infrastructure and social conflicts from an influx of a non-local workforce and jobseekers during the construction phase		
Project component/s	Construction of the proposed Becrux Solar energy facility and associated infrastructure	
Potential Impact	Increase in traffic disruptions, safety hazards, and impacts onmovement patterns of local community as well as impact on private property due to the upgrade of the existing road and heavy vehicle traffic in the local area	
Activity/risksource	Construction activities affecting daily living and movement patterns	
Mitigation Target/Objective	To avoid or minimise the potential impact on local communities and their livelihoods	
Enhancement: Action/control	**Responsibility**	**Timeframe**
Where possible, make it a requirement for contractors to implement a 'locals first' policy. Job opportunities should be advertised for construction employment opportunities, especially for semi and low-skilled job categories (preference to Govan Mbeki Municipality).	The proponent & EPC Contractor	Pre- construction phase & construction phase
Enhance employment opportunities for the immediate local area, if this is not possible, then the broader focus areas should be considered for sourcing workers such as the Govan Mbeki Local Municipality	The proponent & EPC Contractor	Pre- construction phase & construction phase
Prior to construction commencing, representatives from the local community e.g. ward councillor, surrounding landowners should be informed of details of the construction schedule and exact size of the workforce.	The proponent & CLO	Construction phase
Recruitment of temporary workers at the gates of the development should not be allowed. A recruitment office located in town with a Community Liaison officer should be established to deal with jobseekers.	EPC Contractor	Construction phase
Have clear rules and regulations for access to the proposed site to control loitering.	The Proponent & EPC contractor	Construction phase
A Community Liaison Officer should be appointed. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process	The Proponent	Pre-construction & construction phase
PerformanceIndicator	» Percentage of the workers employed in construction that come from local communities	
Monitoring	» The developer must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting	

	purposes

Nuisance impacts (Noise &Dust)

OBJECTIVE: To avoid or minimise the potential impacts of noise and dust from construction activities during the construction phase		
Project component/s	Construction of the proposed Becrux Solar energy facility and associated infrastructure	
Potential Impact	Heavy vehicles and construction activities can generate noise and dust impacts.	
Activity/risksource	Construction activities	
Mitigation Target/Objective	To avoid and or minimise the potential noise and dust impacts associated with construction activities	
Enhancement: Action/control	**Responsibility**	**Timeframe**
Implement dust suppression measures for heavy vehicles such as wetting the roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers	EPC Contractor	Construction phase
Ensure all vehicles are road worthy, driversare qualified and are made aware of the potential noise and dust issues	EPC Contractor	Construction phase
Ensure that drivers adhere to speed limits	EPC Contractor	Construction phase
A Community Liaison Officer should be appointed. A method of communication should be implemented whereby proceduresto lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process	The Proponent	Pre-construction & construction phase
PerformanceIndicator	» Dust suppression measures implemented for all heavy vehicles that require such measures during the construction phase » Enforcement of strict speeding limits » Road worthy certificates in place for all vehicles » Community liaison officer available for community grievances and communication channel	
Monitoring	» The EPC contractor must monitor the indicators to ensure that they have been met for the construction phase	

Operational Phase:

Direct employment and skills development during operation phase

OBJECTIVE: Maximise local employment and skills opportunities associated with the construction phase	
Project component/s	Operation and maintenance of the proposed Becrux Solar energy facility and associated infrastructure
Potential Impact	Loss of opportunities to stimulate production and employment of the local economy
Activity/risksource	Labour practices employed during operations

Enhancement: Target/Objective	Maximise local community employment benefits in the local economy		
Enhancement: Action/control		**Responsibility**	**Timeframe**
Adopt a local employment policy to maximise the opportunities made available to the local labour force. (preference to Govan Mbeki Local Municipality)		The Proponent & Operator	Operation phase
The recruitment selection process should seek to promote gender equality and the employment of women wherever possible		The Proponent & Operator	Operation phase
PerformanceIndicator	» Percentage of workers that were employed from local communities (Govan Mbeki Local Municipality) » Number of people attending vocational training throughout the operation phase		
Monitoring	» The developer must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes		

Visual and 'sense of place' impacts

OBJECTIVE: Reduce the visual and sense of place impacts associated with the operation phase of the project			
Project component/s	Operation and maintenance of the Proposed Becrux solar energy facility and associated infrastructure		
Potential Impact	Change in the sense of place that also leads to the negative impact on the area and visual intrusions		
Activity/risksource	The PV facility and associated infrastructure		
Enhancement: Target/Objective	Reduce the visual disturbances to minimise the losses of the sense of place		
Enhancement: Action/control		**Responsibility**	**Timeframe**
» Vegetation screening, or other suitable screening methods to be placed between the site and adjacent properties if required.		Operator	Operation phase
PerformanceIndicator	» Vegetation screening if required/necessary		
Monitoring	» The developer must monitor the indicators if vegetation screening is required by adjacent landowners		

9. APPENDIX B: KEY STAKEHOLDERS CONTACTED AND MEETING SCHEDULED

A site visit was undertaken 04 November 2021 with Mr Hennie Schoeman, the land and rights manager at the Sasol Mining – Regional Operations and Asset Services.

After a semi-formal discussion with Mr Schoeman on perceptions and attitudes around the proposed development, it appears that landowners are aware of contractual obligations of leasing the farmlands from Sasol Mining. Regarding the livelihoods, it appears that although the landowners will loose the land to the development, there are other activities and farming produces, that are undertaken by the farmer and therefore their livelihoods would not be impacted severely from this development. Mr Schoeman added that the benefits of such a development is the ability to allow other activities to coincide such as grazing.

The following information was received from Mr Schoeman.

Mashudu's details: Mashudu Ndou (Head Community Affairs)

Adjacent (lessees) details:
Mr. Gerhard Visser
Mr Tienie Joubert
Piraldi horse club: Mr Dirk Smit

Adjacent Landowners:
Mr Dick Kruger
Mr Billy te Water
Mr Gert Kotze
Mr Pieter Botha
Mr Coenie Engelbrecht

Business and Industry:
Details of the owner for the storage containers. Mr Johan Kruger

Consultation as part of the SIA.

Telephonic calls were made to the landowners reagrding a questionnaire which was emailed to the identified landowners above. One response was recicved to date (January 2022), Mr Billy Te Water who indicated they are postive about the development of this project.

Details on the response provided from the questionnaire.

Table 9-1 Overview of response from questionnaire distributed

Representative and Interest	Details of Questionnaire	Main Points Raised
Mr Billy Te Water Adjacent Landowner	Provided a response to the questionnaire sent via email	Their feelings towards having a PV project in the area is positive. No other comments on having a new renewable project and no other suggestions they would like to make.