



GLOBAL GREEN
Environmental Consultants

**ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE
PROPOSED DEVELOPMENT OF A 75MW PHOTO-VOLTAIC
(PV) SOLAR FACILITY, LOCATED ON PORTION 1 OF THE
FARM HET FORTUIN NO. 66, NEAR CRADOCK, INXUBA
YETHEMBA LOCAL MUNICIPALITY, EASTERN CAPE.**

DRAFT SCOPING REPORT

July 2020

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1 INTRODUCTION

Skypower (Pty) Ltd proposes to develop a 75 Megawatt (MW) solar photovoltaic (PV) facility, as well as associated infrastructure such as roads and a power line, at a site adjacent to the De Aar-Port Elizabeth railway near the Knutsford siding, approximately 30 km north-west of Cradock in the Eastern Cape Province.

The development of the proposed PV facility and associated infrastructure involves activities listed in terms of the National Environmental Management Act (107 of 1998) (NEMA) and requires that a full Environmental Impact Assessment (EIA) must be conducted to obtain an Environmental Authorisation (EA), prior to the commencement of those activities. The full EIA process requires the submission of a Scoping report, followed by an Environmental Impact report and Environmental Management Programme (EMPr).

According to the 2014 EIA regulations (as amended), the objective of the scoping process is as follows:

Regulation 1, GN.R. 982 (as amended), Objective of the scoping process

The objective of the scoping process is to, through a consultative process—

- (a) identify the relevant policies and legislation relevant to the activity;
- (b) motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- (c) identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks;
- (d) identify and confirm the preferred site, through a detailed site selection process, which includes an identification of impacts and risks, inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives, focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- (e) identify the key issues to be addressed in the assessment phase;
- (f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required, as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site, through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts, to inform the location of the development footprint within the preferred site; and
- (g) identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

This section introduces the Scoping Report and specifically address the following requirements of the NEMA 2014 EIA Regulations, published in GN R 982 (as amended):

Appendix 2, GN.R. 982 (as amended), Content of the scoping report:

2. (1) A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

1.1 MANDATE

Global Green Environmental Consultants was appointed by the applicant, Skypower (Pty) Ltd. to conduct the EIA for the proposed development on their behalf.

1.2 DETAILS OF THE APPLICANT

Project applicant:	Skypower (Pty) Ltd		
Business reg. No./ID. No.:	2010/018784/07		
Contact person:	Mr. Sizwe Kuzwayo		
Physical address:	Unit 4, Growthpoint Business Park, Cnr Tonetti & Old Pretoria Main Road, Midrand		
Postal address:	Unit 4, Growthpoint Business Park, Cnr Tonetti & Old Pretoria Main Road, Midrand		
Postal code:	1685	Cell:	079 779 8626
Telephone:	087 487 0384	Fax:	-
E-mail:	SizweK@skypower.com		

1.3 DETAILS OF THE LANDOWNER

Name of the landowner:	André Marais		
Name of the contact person for the landowner (if other):	André Marais		
Postal address:	PO Box 137, Cradock		
Postal code:	5880	Cell:	082 487 0348
Telephone:	082 487 0348	Fax:	-
E-mail:	Andre.laurensford@gmail.com		

1.4 PURPOSE OF THE REPORT

The purpose of the report is to:

- provide relevant information regarding the Scoping Phase of the EIA process;
- clarify and address all the potential issues and environmental impacts associated with the proposed construction, operation, maintenance and decommissioning of the Dobbin PV solar facility;
- identify and determine the scope of the relevant specialist studies that will be undertaken as part of the EIA process and provide information that will be used to determine the significance of the potential environmental impacts, as well as to what extent these impacts can be prevented or mitigated;
- provide information on the Public Participation process that has and will be followed, as well as details of the government institutions and interested and affected parties (I&APs) who are and will be involved in the EIA process.

1.5 STRUCTURE OF THE REPORT

This draft Scoping Report consists of twelve sections, according to the information as required by Appendix 2(2) of GN R. 982, which specifies that a scoping report must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping.

- **Section 1** consists of an introduction to the project, including the details of the applicant;
- **Section 2** contains the details of the EAP who prepared the report;
- **Section 3** summarizes the applicable policy and legislative context within which the development is proposed, including all policies, legislation, plans and guidelines that are applicable to the proposed development and are to be considered during the EIA Process. It also includes all the authorisations required for the proposed activity;
- **Section 4** explores the need and desirability of the proposed activity and also elaborates on the benefits of the proposed development;
- **Section 5** provides an overview of the Public Participation process followed to date;
- **Section 6** describes the scope of the proposed activity, including the locality, property description, activity description, listed and specified activities triggered, as well as description of alternatives;
- **Section 7** provides an overview of the components of the environment that may be affected by the proposed development, including geographical, physical, biological, social, economic, heritage and cultural aspects;
- **Section 8** provides detailed information on the scoping process, including the process followed to reach the preferred activity, site and development footprint alternatives, as well as the positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected;
- The plan of study (PoS) for undertaking the environmental impact assessment (EIA) process is provided in **Section 9**;
- **Section 10** contains the undertaking under oath or affirmation by the EAP; and
- The **Appendices** to the Scoping Report contains information and evidence relevant to the EIA process.

The requirements for scoping reports in terms of the 2014 EIA regulations are summarized in Table 1, which contains the minimum requirements for a scoping report and provides an easy reference for the reader of this report to find the relevant chapters, sections and addenda that are related to specific requirements of the 2014 EIA Regulations (GNR. 982 of December, Regulation 22 [Appendix 2]).

Table 1: Requirements of the 2014 EIA Regulations (GNR. 982 of December 2014).

Appendix 2	Content requirement of the 2014 EIA Regulations	Report section	Page
(a)	Details of- (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;	Section 2 Appendix A	7 92
(b)	The location of the activity, including: (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; and (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Section 6.1	36
(c)	A plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Section 6.1, Figure 4	39
(d)	A description of the scope of the proposed activity, including- (i) all listed and specified activities triggered and being applied for; and (ii) a description of the activities to be undertaken, including associated structures and infrastructure;	Section 6.3 Section 6.2	46 37
(e)	A description of the policy and legislative context within which the development is proposed, including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;	Section 3	9
(f)	A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location;	Section 4	20
(g)	A full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including:	Sections 4.2.1, 4.2.2 & 6.5	24, 24 & 49
(g)	(i) details of all the alternatives considered;	Section 6.5	49
(g)	(ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Section 5, Addendums B-E	26, 100- 121

Appendix 2	Content requirement of the 2014 EIA Regulations	Report section	Page
(g)	(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Section 5.3	30
(g)	(iv) the environmental attributes associated with the alternatives, focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 7	60
(g)	(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated;	Section 8.2-8.4	73
(g)	(vi) the methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Table 16	72
(g)	(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected, focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 8.3	80
(g)	(viii) the possible mitigation measures that could be applied and level of residual risk;	Draft EMPr (with EIR)	-
(g)	(ix) the outcome of the site selection matrix	Section 8.1.2	71
(g)	(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and	Not applicable	-
(g)	(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;	Section 6.5.6	58
(h)	a plan of study for undertaking the environmental impact assessment process to be undertaken, including-	Section 9	86
(h)	(i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;	Section 6.4	51
(h)	(ii) a description of the aspects to be assessed as part of the environmental impact assessment process;	Sections 9.2	86
(h)	(iii) aspects to be assessed by specialists;	Section 9.2	86

Appendix 2	Content requirement of the 2014 EIA Regulations	Report section	Page
(h)	(iv) a description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;	Section 9.5	87
(h)	(v) a description of the proposed method of assessing duration and significance;	Section 9.5	87
(h)	(vi) an indication of the stages at which the competent authority will be consulted;	Section 9.7	89
(h)	(vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and	Section 9.8	89
(h)	(viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;	Section 9.4	87
(h)	(ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.	Section 9.6	89
(i)	An undertaking under oath or affirmation by the EAP in relation to- (i) the correctness of the information provided in the report; (ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	Section 10	90
(j)	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;	Section 10	90
(k)	Any specific information that may be required by the competent authority, where applicable; and	N/A	
(l)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.	N/A	

2 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER WHO PREPARED THE REPORT

Regulation 12(1) in Government Notice No. R.982 requires that an applicant must appoint an Environmental Assessment Practitioner (EAP) at own cost to manage the application.

Regulation 13 furthermore specifies that an EAP appointed must be independent, have expertise in conducting environmental impact assessments and 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 application.

The applicant appointed Global Green Environmental Consultants to undertake the EIA for the proposed development.

Company of EAP:	Global Green Environmental Consultants		
B-BBEE:	Contribution level	4	% procurement recognition Exempt
EAP name:	Theunis Meyer		
EAP qualifications:	M Sc. Agric (Pasture Science), M Environmental Management		
EAP professional affiliation:	Registered professional natural scientist - SACNASP 400029/08, Member of the International Association for Impact Assessment & the Grassland Society of Southern Africa Registered senior EMS auditor - SAATCA E058		
Physical address:	Potchefstroom		
Postal address:	P.O. Box 2629, Potchefstroom		
Postal code:	2520	Cell:	083 627 0637
Telephone:	018 299 1467	Fax:	086 513 7996
E-mail:	Theunis.meyer@nwu.ac.za		

The Company Profile, CV and declaration of independence of the EAP responsible for conducting the EIA is attached as **Appendix A** to this report.

2.1 EXPERTISE OF EAP

Mr Theunis Meyer is an experienced environmental assessment practitioner and also employed as senior lecturer at the North-West University (NWU). He has more than 20 years' experience in the environmental management field and another 15 years as plant ecologist.

In terms of professional affiliation, he is registered as Professional Natural Scientist in Ecological Science and Environmental Science. He is also a member of the Grassland Society of Southern Africa (GSSA), the South-African chapter of the International Association of Impact Assessment (IAIAsa) and a registered Senior Environmental Management System (EMS) Auditor.

The EAP has been involved in numerous EIAs throughout South Africa, undertaken in terms of the Environmental Conservation Act (No. 73 of 1989), the National Environmental Management Act (No. 107 of 1998) (NEMA) and the Mineral and Petroleum Resources Development Act (No. 28 of 2002). His responsibilities in these EIAs included the identification and assessment of environmental impacts, the facilitation of public participation processes and the development of environmental management plans and programmes.

For many years, the EAP also co-ordinated the environmental law public short course at the NWU Centre for Environmental Management (CEM) and regularly lectures on the legal EIA requirements to various audiences.

As registered EMS Auditor, Mr. Meyer is regularly involved in environmental legal compliance audits for clients.

2.2 INDEPENDENCE OF THE EAP

Neither Global Green Environmental Consultants, nor the EAP on this project are in any way affiliated to Skypower (Pty) Ltd. Global Green also does not have any interest in secondary developments that may arise out of the authorisation of the proposed project. The EAP meet the requirements for independence, as he has and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the EIA Regulations, 2014. In addition, the EAP has and will not have vested interest in the proposed activity proceeding; and also has no, and will not engage in conflicting interests in the undertaking of the activity.

2.3 SUBJECT MATTER EXPERTS THAT SUPPORTS AND ASSISTS THE EAP

The EAP is supported in the EIA process by expertise from various subject matter experts as outlined in Table 2.

Table 2: Contributing subject matter experts

Specialist	Organisation	Expertise
Mr. J van Wyk	Limonology (Pty) Ltd	Botanical specialist
		Avifauna specialist
		Wetland specialist
Ms. C. Booth	Albany Museum: Archaeology	Archaeological specialist
Mr. J Almond	Natura Viva	Paleontological specialist
Mr TC Meyer	Global Green Environmental Consultants	Agricultural specialist
Prof. F. Retief & Dr. D. Cilliers	Global Green Environmental Consultants	Visual impact specialists
Mr. L Stroebeel	Geovation (Pty) Ltd	Geohydrological specialist
Prof. F. Retief & Mrs. C. Cilliers	Global Green Environmental Consultants	Socio-economic impact specialists

All of the subject matter experts have expertise in conducting the specialist work relevant to this application, including relevant knowledge of the applicable legislation, policies and guidelines that have relevance to the proposed activity. None of them are in any way affiliated to Skypower (Pty) Ltd

In addition, the subject matter experts meet the requirement for independence, as none of them has and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the EIA Regulations, 2014.

Furthermore, none of the subject matter experts has and will not have vested interest in the proposed activity proceeding; and also has no, and will not engage in conflicting interests in the undertaking of the activity.

3 POLICY AND LEGISLATIVE CONTEXT

This section aims to address the following requirement of the NEMA 2014 EIA Regulations (Appendix 2):

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

(e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.

It provides a brief overview of the pertinent policies, as well as legal and administrative requirements applicable to the proposed project.

3.1 APPLICABLE POLICIES, LEGISLATION AND GUIDELINES

Relevant policies, legislation and guidelines applicable to the establishment and operation of the proposed PV solar facility are summarized in Table 4.

3.2 OTHER AUTHORISATIONS OR PERMISSIONS THAT MAY BE REQUIRED

In addition to the Environmental Authorisation in terms of the NEMA, authorisations may also be required in terms of the NWA, MPRDA, NHRA, Aviation Act, as well as the SALA. An overview of the environmental-related authorisations that may be required for the proposed activity is provided in below.

3.2.1 Authorisations required in terms of the NWA:

The proposed activity will also trigger a number of water uses in terms of the National Water Act (No. 36 of 1998) and therefor require water use authorisation (Table 5).

Table 3: Water uses published in the NWA (No. 36 of 1998).

Section number	Activity description
Section 21(a)	<i>Taking water from a water resource</i>
Section 21(c)	<i>Impeding or diverting the flow of water in a watercourse.</i>
Section 21(i)	<i>Altering the bed, banks, course or characteristics of a watercourse.</i>
Section 21(g)	<i>Disposing of waste in a manner which may detrimentally impact on a water resource</i>

3.2.2 Authorisations or permissions required in terms of the Minerals and Petroleum Resources Development Act (MPRDA) (No. 28 of 2002):

The proposed activity will require a Section 53 approval by the Minister of Mineral Resources to use the surface of the land in any way which may be contrary to any object of this Act or which is likely to impede any such object (sterilisation of the surface).

Table 4: Relevant policies, legislation and guidelines considered.

Title of policy, legislation or guideline	Authority	Application
Policies		
White Paper on Energy Policy (1998)	DoE	<p>The policy outlines five key objectives:</p> <ul style="list-style-type: none"> • increasing access to affordable energy services; • improving energy governance; • stimulating economic development; • managing energy-related environmental and health impacts; and • securing supply through diversity. <p>These objectives have subsequently formed the foundation and informed the development of energy policy in South Africa and still remain relevant. The white paper also indicates the government's inclination to support renewable energy technologies and to work towards establishing national targets for reducing emissions.</p>
White Paper on Renewable Energy (2003)	DoE	<p>The White Paper supplements the White Paper on Energy Policy, which recognises that the medium and long-term potential of renewable energy is significant. This Paper sets out Government's vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa.</p> <p>Recognizing the importance of reducing the damage done to the environment by South Africa's reliance on electricity from coal and the need for diversification of energy resources, it commits the Government to a number of actions to ensure that renewable energy becomes a significant part of South Africa's energy portfolio. These measures include fiscal mechanisms, regulatory instruments, and standards to promote R&D and investment in renewables and educational programs to raise public awareness.</p> <p>The White Paper envisioned reaching 10,000 GWh of renewable energy generation by 2013.</p>
Integrated Energy Plan (IEP)	DoE	<p>The IEP is a multi-faceted long term energy policy which has multiple objectives:</p> <ul style="list-style-type: none"> • guide the development of energy policies and where relevant set the framework for regulations in the energy sector. • guide the selection of appropriate technologies to meet energy demand (i.e. what types and size of new power plants and refineries should be built and what prices should be charged for fuels). • guide the investment and development of energy infrastructure in South Africa.

Title of policy, legislation or guideline	Authority	Application
		<p>The IEP is a national plan, which provide a roadmap of the future energy landscape for South Africa, which guides future energy infrastructure investments and policy development. It covers the entire energy sector and considers all elements of the energy value chain and aims to guide future energy infrastructure investments, identify and recommend policy development to shape the future energy landscape of the country. It also seeks to quantify and provide feedback on the extent to which policy objectives outside the sector may impact on the attainment of energy sector imperatives and <i>vice versa</i>.</p> <p>The objectives of the IEP are to:</p> <ul style="list-style-type: none"> • ensure security of supply; • minimise the cost of energy; • promote the creation of jobs and localisation; • minimise negative environmental impacts from the energy sector; • promote the conservation of water; • diversify supply sources and primary sources of energy; • promote energy efficiency in the economy; and • increase access to modern energy. <p>As a new, cleaner technology, that is becoming more and more price competitive, the contribution of renewable (PV solar) energy will be playing an ever increasing role in the IEP.</p>
Integrated Resource Plan (2019)	DoE	<p>The Integrated Resource Plan (IRP) 2019 is a “living plan” to guide future electricity infrastructure investments over the period up to 2050, identify and recommend policy options to shape the future energy landscape of the country. It is an electricity infrastructure development plan, based on the least-cost electricity supply and demand balance, taking into account security of supply and the environment through the minimisation of negative emissions and water use. The IRP 2019 supports a diverse energy mix and sets out nine policy interventions to ensure the security of South Africa’s electricity supply.</p> <p>The IRP is the cornerstone of the South African renewable energy legal framework. Under IRP 19, 6,000 MW of new solar PV capacity and 14,400 MW of new wind power capacity will be commissioned by 2030, while there will be no new concentrated solar power commissioned under IRP 2019 up to 2030, beyond the 300 MW already committed to being commissioned.</p>

Title of policy, legislation or guideline	Authority	Application
Renewable Energy Independent Power Producer Procurement Program (REIPPPP)		<p>The DoE has determined that 3 725 megawatts (MW), to be generated from renewable energy sources is required to ensure the continued uninterrupted supply of electricity in South Africa. This 3 725 MW is broadly in accordance with the capacity allocated to Renewable Energy generation in IRP 2010-2030.</p> <p>The IPP Procurement Programme has been designed so as to contribute towards the target of 3 725 megawatts and towards socioeconomic and environmentally sustainable growth, and to start and stimulate the renewable industry in South Africa.</p> <p>Solar PV systems with a capacity of > 5 MW are regulated by the REIPPPP, which is managed by the DoE. It is a tender program that makes use of a competitive bidding system. In terms of the REIPPPP, bidders are required to propose a tariff for the provision of electricity from the renewable energy plant. Should the bid be accepted, the proposed tariff forms the basis for the power purchase agreement entered into between the bidder and South Africa's state owned electricity generator, supplier and distributor - Eskom.</p> <p>Four rounds of competitive bidding have been successfully completed, while numerous projects across different renewable technologies have raised financing, completed construction and grid connection and achieved commercial operations. The projects have brought much needed new capacity to the South African grid, helping to keep the lights on and industry producing. They have also brought South Africa's first substantial renewable output in a country dominated by coal fired power. To date, the programme has attracted over \$10bn of foreign investment in respect of approximately 4,000 MW of new renewable electricity generation capacity. The programme has also brought significant benefits to South Africa in key areas such as local ownership and participation by South Africans in the power sector, new jobs and the creation of a local manufacturing industry.</p>
Legislation		
The Constitution (1996) of the Republic of South Africa		<p>The supreme law of the country and underpins all environmental legislation. The Constitutional environmental right (section 24) not only affords every person the right to an environment which is not harmful to their health and well-being, but also places a constitutional mandate on government to protect the environment through reasonable legislative and other measures that:</p> <ul style="list-style-type: none"> • Prevent pollution and ecological degradation; • Promote conservation; and • Secure ecological sustainable development and the use of natural resources, while promoting justifiable economic and social development.

Title of policy, legislation or guideline	Authority	Application
National Environmental Management Act (No. 107 of 1998) (NEMA)	DEA/ DEDEAT	Gives effect to the Constitution by providing a framework for co-operative environmental governance and environmental principles that enable and facilitate decision-making on matters affecting the environment. It provides requirements for the sound management of the environment and sustainability principles, which must be complied with. It also makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorization from the relevant authorities, based on the findings of an environmental impact assessment. Applicable to the identification, assessment and management of environmental impacts.
Environmental Impact Assessment Regulations (GNR. 982, 4 December 2014.	DEA/ DEDEAT	The 2014 EIA regulations (GN R. 982) stipulate the requirements for the EIA process, as well as for the contents for scoping and EIA reports. The Scoping and EIA Process is regulated by part 3 of chapter 4, regulations 21 to 24.
List of Activities and Competent Authorities identified in terms of Sections 24(2) and 24D (Listing Notice 1 to 3) (GNR. 983, 984, & 985, 4 December 2014	DEA/ DEDEAT	Listing notices to identify activities that would require environmental authorisations prior to commencement of that activity and to identify competent authorities.
Identification of the minister as competent authority for the consideration of environmental authorisations for activities related to the Integrated Resource Plan (IRP) 2010 - 2030 (GN 779, 1 July 2016)	DEA/ DEDEAT	Identification of the minister as competent authority for the consideration and processing of environmental authorisations and amendments thereto for activities related to the Integrated Resource Plan 2010-2030.
National Water Act (Act 36 of 1998) (NWA)	DWS	Aims to ensure that South Africa's water resources are protected, used, developed, conserved, managed and controlled in responsible ways. It provides requirements for the management of the water resources to achieve sustainable use of water for the benefit of all water users. This requires the integrated management of water resources, as well as that the quality of water resources is protected. Also includes provisions requiring that a water use authorisation be obtained from the Department of Water & Sanitation (DWS) before a project developer engages in any activity defined as a water use in terms of the NWA.
General authorisation in terms of section 39 of the National Water Act (No. 36 of 1998) for water uses as defined in Section 21(c) or section 21(i) (GN. 509, 26 August 2016)	DWS	Provides specifications for the general authorisation of the following water uses: <ul style="list-style-type: none"> • Impeding or diverting the flow of water in a watercourse; • Altering the bed, banks, course or characteristics of a watercourse.

Title of policy, legislation or guideline	Authority	Application
Revision of General Authorisation for the taking and storage of water in terms of section 39 of the National Water Act (No. 36 of 1998) (GN 538, 2 September 2016)	DWS	Provides specifications for the general authorisation of the following water uses: <ul style="list-style-type: none"> The taking of water from a water resource and storage of water [Sections 21 (a) and (b)]
Revision of general authorisations in terms of section 39 of the National Water Act (No. 36 of 1998) (GN 665, 6 September 2013)	DWS	Provides specifications for the general authorisation of the following water uses: <ul style="list-style-type: none"> Disposing of waste in a manner which may detrimentally impact on a water resource [Section 21 (g)].
Water Services Act (No. 108 of 1998)	DWS	Regulates the right of access to basic water supply and basic sanitation, as well as other related matters, typically at a municipal level. Deals mainly with potable (drinkable) water supply services and sanitation services supplied by municipalities to households and other municipal water users and contains rules about how municipalities should provide these services.
National Environmental Management Waste Act (No. 59 of 2008)	DEA/ DEDEAT	Provides the legal framework for the management of general and hazardous waste in South Africa to protect health, well-being and the environment by providing: <ul style="list-style-type: none"> reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; national norms and standards for regulating the management of waste by all spheres of government; specific waste management measures; for the licensing and control of waste management activities. Before any development activities which may generate waste commence, an assessment as to the applicability of the relevant provisions of the NEMWA will need be made and if so required, any requisite waste management licenses applied for and procured prior to the commencement of any waste management activity which requires licensing.
List of waste management activities that have, or are likely to have, a detrimental effect on the environment (GN. 921, 29 November 2013)	DEA (Hazardous waste) /DEDEAT (General waste)	Listed activities to identify whether an activity requires the application for a waste management licence, prior to commencement of the activity. Category A activities require the application for a waste management licence, supported by a basic assessment process in terms of NEMA; Category B activities require the application for a waste management licence, supported by scoping and a full EIA process; while activities listed in Category C need to be registered with the DEA. For Category C activities, there are promulgated norms and standards that need to be complied with.

Title of policy, legislation or guideline	Authority	Application
National norms and standards for the storage of waste (GN. 926, 29 November 2013)	DEA/ DEDEAT	Provides key requirements for general and hazardous waste facilities as far as operational management, design, monitoring, auditing and record-keeping are concerned.
National Environmental Management: Biodiversity Act (No. 10 of 2004) (NEM:BA)	DEA/ DEDEAT	Provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. The Act places severe restrictions on activities that could have adverse effects on threatened or protected species.
Cape Nature and Environmental Conservation Ordinance (No. 19 of 1974)	DEDEAT	Aims to protected particular plant and animal species through permitting requirements associated with lists of protected species.
Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA)	DAFF	<p>Provides for control over the utilization of the natural agricultural resources of South Africa in order to promote the conservation of the soil, the water sources and the vegetation, and the combating of weeds and invader plants.</p> <p>Some of the control measures promulgated in terms of section 6 of the Act may be applicable to IPPs, especially those related to subsections (2) (e), (f), (g), (l), (m), (n) and (o):</p> <ul style="list-style-type: none"> • utilisation and protection of vleis, marshes, water sponges and water courses (Regulation 7); • the regulating of the flow pattern of run-off water (Regulation 8); • the utilization and protection of vegetation (Regulation 9); and • the control of weeds and invader plants (Regulation 16); • the restoration or reclamation of eroded land or land which is otherwise disturbed or denuded (Regulations 13 & 14); • the construction, maintenance, alteration or removal of soil conservation works or other structures on land (Sections 12 & 19 and relevant control measures). <p>CARA requires consent or permission from the executive officer responsible for the Act for exemptions from specific prohibitions or obligations in terms of the control measures, as well as actions related to the maintenance of soil conservation works.</p>
National Veld and Forest Fire Act (Act 101 of 1998) (NVFFA)	DAFF	Sets up regulations to help prevent veld, forest and mountain fires, and to minimize the damage they cause by developing a national fire danger rating, collecting fire related statistics and campaigning awareness of the dangers of fires and by outlining the responsibilities of property owners in the case of fire, transferring the burden to the property owner.
Fencing Act (No. 31 of 1963) (FA)	DAFF	Regulates the removal of any tree standing in the immediate line of a fence and the clearing of bush along the line of the fence up to 1.5 meters on each side thereof when erecting a boundary fence.

Title of policy, legislation or guideline	Authority	Application
Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA)	DAFF	The purpose of the Act is to control the subdivision and the long term (10 years or longer) lease of agricultural land and, in connection therewith, the use of agricultural land. The Minister of Agriculture, Forestry and Fisheries must consent to the proposed subdivision or long term lease.
The National Heritage Resources Act (No. 25 of 1999), particularly Chapter II, Section 38	SAHRA	Provides for the protection of heritage resources and the communication of any potential impacts on heritage resources to the South African Heritage Resource Authority (SAHRA) for statutory comment. Heritage resources are protected and may not be disturbed in any way without a permit issued by the South African Heritage Resources Agency or the relevant Provincial Heritage Resources Authority. Section 38(1) of the NHRA stipulates the triggers which would require a Heritage Impact Assessment (HIA) to become part of an EIA submitted for consideration by the relevant state department.
National Road Traffic Act, 1996 (No. 93 of 1996)	DoT	Provides the regulatory requirements that must be adhered to during the loading, offloading and transportation of dangerous goods.
National Road Traffic Regulations (GNR 225, 19 November 2013)	DoT Municipality	The regulations provide for very specific requirements applicable to the loading, offloading and transportation of dangerous goods.
Spatial Planning and Land Use Management Act (Act 16 of 2013) (SPLUMA)	National, Provincial and Local Government	Provides for a single, integrated spatial planning and land use management system for South Africa, as well as for the sustainable and efficient use of land.
Mineral & Petroleum Resources Development Act (Act 28 of 2002) (MPRDA)	DMR	Governs the legal tenure of mineral properties within South Africa. Requires approval by the Minister of Mineral Resources to use the surface of the land in any way which may be contrary to any object of this Act or which is likely to impede any such object (sterilisation of the surface).
Occupational Health and Safety Act (No. 85 of 1993)	DoL	Provides for the regulation of all work practices in the workplace to protect the occupational health and safety of employees
Regulations for Hazardous Chemical Agents (GNR. 280, 29 March 2021)	DoL	Provides important operational specifications for the management of hazardous chemical substances.
Regulations for hazardous Biological Agents (GNR. 1390 of 27 December 2001)	DoL	Provides the requirements for the labelling, packaging, transporting and storage of hazardous biological agents.
Civil Aviation Act (Act 13 of 2009) (CAA)	CAA	Provides for measures directed at more effective control of the safety and security of aircraft, airports and the like.

Title of policy, legislation or guideline	Authority	Application
Promotion of Access to Information Act (Act 2 of 2000) (PAIA)		Recognises the constitutional right of access to any information held by the state and by another person when that information is required to exercise or protect any rights. Aims to foster a culture of transparency and accountability in public and private bodies and to promote a society in which people have access to information that enables them to exercise and protect their rights.
Promotion of Administrative Justice Act (Act 3 of 2000) (PAJA)		Promote and ensures the constitutional right to just administrative action. It sets out the general rules and principles to be followed in exercising administrative power to ensure that government officials make decisions in a fair way...
Guideline Documents		
2015 EIA guideline for renewable energy projects	DEA	Aims to ensure that all potential environmental issues pertaining to renewable energy projects are adequately and timeously assessed and addressed as necessary so as to ensure sustainable roll-out of these technologies by creating a better understanding of the environmental approval process for renewable energy projects.
2017 Guideline on Need and Desirability	DEA	Provides guidance on the EIA process.
2002 Scoping, Integrated Environmental Management (IEM), Information Series 2	DEAT CSIR	Provides guidance on the EIA process.
Stakeholder engagement, IEM, Information Series 3	DEAT CSIR	Provides guidance on the EIA process.
2002 Specialist studies, IEM, Information Series 4	DEAT CSIR	Provides guidance on the EIA process.
2002 Impact significance, IEM, Information Series 5	DEAT CSIR	Provides guidance on the EIA process.
2004 Cumulative effects assessment, IEM, Information Series 7	DEAT	Provides guidance on the EIA process.
2004 Alternatives in EIA, IEM, Information Series 11	DEAT	Provides guidance on the EIA process.
2004 Environmental Management Plans, IEM, Information Series 12	DEAT	Provides guidance on the EIA process.

Title of policy, legislation or guideline	Authority	Application
2004 Environmental impact reporting, IEM, Information Series 15	DEAT	Provides guidance on the EIA process.
2005 Guideline for determining the scope of specialist involvement in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for the review of specialist input into the EIA process	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for involving biodiversity specialists in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for involving heritage specialists in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for involving visual and aesthetic specialists in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for involving economists in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for involving hydro-geologists in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.
2005 Guideline for involving social assessment specialists in EIA processes	DEADP CSIR	Provides guidance on the use of specialists in the EIA process.

3.2.3 Authorisations or permissions required in terms of the National Heritage Resources Act (No 25 of 1999):

Should the specialist study uncover any cultural/heritage resource artefacts or sites on the proposed development site, permission may be sought from the South African Heritage Resources Agency to remove or destroy such artefacts and disturb or destroy such sites if these cannot be incorporated in the final site-layout.

3.2.4 Authorisations or permissions required in terms of the Civil Aviation Act (No. 13 of 2009):

The Civil Aviation Regulations (CAR Part 139.01.33, 1997) issued in terms of the Civil Aviation Act, as amended, regulates obstacles outside aerodromes or heliports which may impact on navigational airspace and affect aviation safety. Information will be submitted to the Civil Aviation Authorities so that they can ensure that any infrastructure constructed complies with the regulation requirements for obstacle limitations and markings outside an aerodrome or heliport.

3.2.5 Permissions or consents required in terms of the Conservation of Agricultural Resources Act (Act 43 of 1983):

CARA requires consent or permission from the executive officer responsible for the Act for exemptions from specific prohibitions or obligations in terms of the control measures, as well as actions related to the maintenance of soil conservation works. These relate to the following, and may be required, depending on how the development is undertaken:

- utilisation and protection of vleis, marshes, water sponges and water courses (Regulation 7);
- the regulating of the flow pattern of run-off water (Regulation 8);
- the utilization and protection of vegetation (Regulation 9); and
- the control of weeds and invader plants (Regulation 16);
- the restoration or reclamation of eroded land or land which is otherwise disturbed or denuded (Regulations 13 & 14);
- the construction, maintenance, alteration or removal of soil conservation works or other structures on land (Sections 12 & 19 and relevant control measures).

3.2.6 Authorisations or permissions required in terms of the Subdivision of Agricultural Land Act (No 70 of 1970):

The Act prohibits the lease in respect of a portion of agricultural land of which the period is 10 years or longer, or which is renewable from time to time at the will of the lessee, either by the continuation of the original lease or by entering into a new lease, indefinitely or for periods which together with the first period of the lease amount in all to not less than 10 years, without the consent of the Minister of Agriculture, Forestry and Fisheries. Similarly, no right to a portion of agricultural land, whether surveyed or not, shall be sold or granted for a period of more than 10 years or to the same person for periods aggregating more than 10 years, or advertised for sale or with a view to any such granting, except for the purposes of a mine without such consent. The consent of the Minister of Agriculture, Forestry and Fisheries for the long term lease of the land (20 years) of the proposed development site will be sought before the project commences.

4 MOTIVATION FOR THE NEED AND DESIRABILITY FOR THE PROPOSED PV FACILITY, INCLUDING THE NEED AND DESIRABILITY OF THE FACILITY IN THE CONTEXT OF THE PREFERRED LOCATION

This section aims to address the following requirements of the 2014 NEMA EIA Regulations (Appendix 2):

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

(f) A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location;

The consideration of "need and desirability" in EIA decision-making requires the consideration of the strategic context of the development proposal, along with the broader societal needs and the public interest. The concept of "need and desirability" relates to, amongst others, the nature, scale and location of development being proposed, as well as the wise use of land. Essentially, the concept of "need and desirability" can be explained in terms of the general meaning of its two components in which need refers to time and desirability refers to place, i.e.

- Is this the right time for the type of land-use/activity being proposed?
- Is it the right place for locating the type of land-use/activity being proposed?

4.1 NEED FOR THE PV FACILITY - IS THIS THE RIGHT TIME FOR THE DEVELOPMENT OF PHOTOVOLTAIC FACILITIES IN SOUTH AFRICA?

Two of the main rationales for the proposed solar facility are the need for additional electricity generation capacity as a result of increasing electricity demand and the problems with the existing electricity generation capacity, as well as the contribution to the establishment of South Africa's renewable energy sector. A third important rationale is the need for transforming the South African economy and contribute to Broad Based Black Economic Empowerment.

4.1.1 Improving the South African electricity situation

4.1.1.1 South Africa's energy situation

South Africa is a developing country and associated energy demand is also ever increasing. The country relies heavily on coal to meet its energy needs because it is well-endowed with coal resources; in particular, South Africa has developed an efficient, large-scale, coal-based power generation system that provides low-cost electricity, through a grid system that is being extended to rural areas, to millions of residential, commercial and institutional consumers.

However, South Africa also recognises that the emissions of greenhouse gases, such as carbon dioxide, from the use of fossil fuels such as coal and petroleum products has led to increasing concerns worldwide about global climate change.

4.1.1.2 South Africa's solar potential

South Africa experiences some of the highest levels of solar radiation in the World. It has a considerable solar resource potential for solar water heating applications, solar photovoltaic and solar thermal power generation. The Eastern Cape, including the Cradock area, has great potential to generate electricity from solar energy and the proposed project will contribute significantly to achieving government's objective by supplying the Cradock area and national grid with electricity generated from the sun.

4.1.1.3 The potential of photovoltaic technology

PV cells are made from semi-conductor materials that are able to release electrons when exposed to solar radiation by using the photo-electric effect. Electrons from several PV cells are gathered together through conductors to make up the generation capacity of one module and many modules can be connected together to produce power in large quantities (Figures 1 and 2).

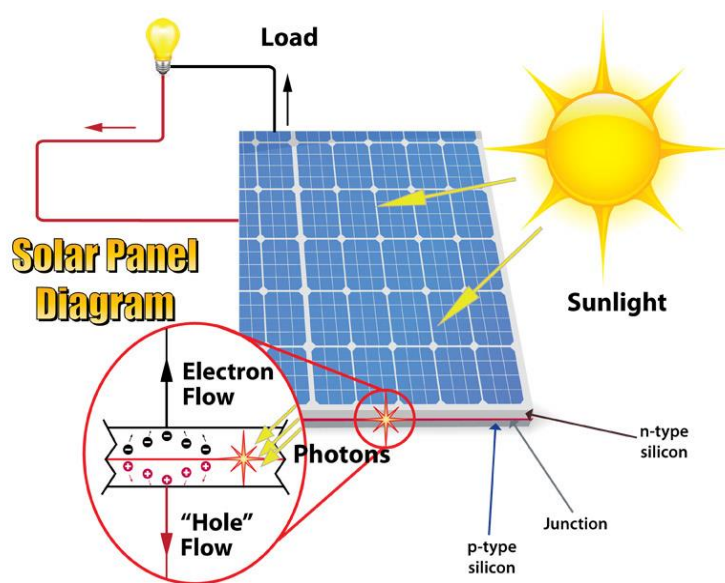


Figure 1: Schematic diagram illustrating the photovoltaic technology.

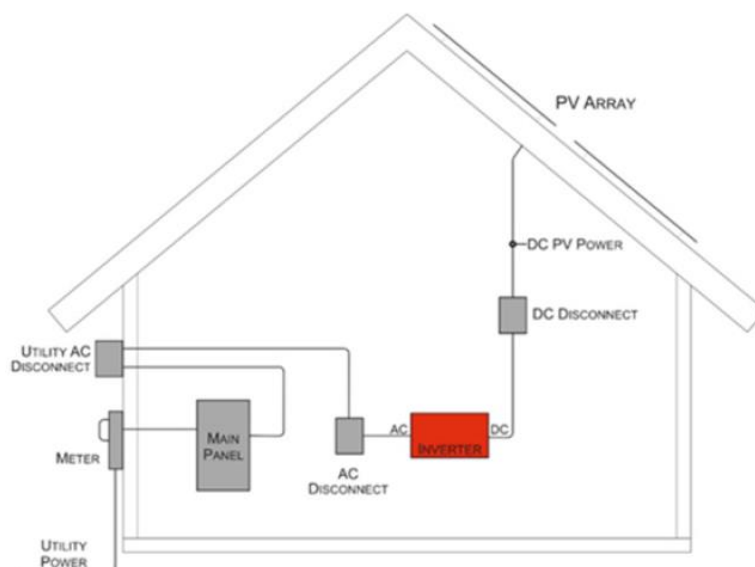


Figure 2: Schematic diagram of a residential grid-tied PV installation.

PV electricity generation is a non-consumptive use of a natural resource and consumes no fuel for its continuing operation. Furthermore, this type of energy produces an insignificant quantity of greenhouse gases over its lifecycle as compared to conventional coal-fired power stations. The operational phase of a solar facility does not produce CO₂, SO₂, Hg, particulates or any other type of air pollution.

Photovoltaic (PV) systems are widely applied for powering conventional and cellular telecommunications networks in South Africa. They are also applied in small-scale remote stand-alone power supplies for domestic use, game farms, household and community water pumping schemes. Installed PV has solar to electric efficiencies in excess of 8% and typical load factor of 22%.

Internationally, PV is the fastest-growing power generation technology and between 2000 and 2009 the installed capacity globally grew on average by 60% per year. Worldwide more than 35GW of PVs are installed and operating, and in South Africa as much as 8GW PV could potentially be installed by 2020.

4.1.1.4 South African government initiatives to promote renewable energy

South Africa is well endowed with abundant renewable energy resources that can be converted to productive energy uses and serve as sustainable alternatives to fossil fuels. However, these resources have remained largely untapped due to the utilisation of these resources not being cost competitive in many locations, when compared to South Africa's fossil-based energy supply industry.

The South Africa's Government is committed to make due contribution to the global effort to mitigate greenhouse gas emissions. For this purpose, the Government has developed an enabling environment through the introduction of fiscal and financial support mechanisms, within an appropriate legal and regulatory framework, to allow renewable energy technologies to compete with fossil-based technologies, so that the renewable energy industry can operate, grow, and contribute positively to the South African economy and to the global environment.

Two important documents in this regard are the National Development Plan and the White Paper of Renewable Energy.

The **National Development Plan 2030** formulate certain principles to guide *'the transition to an environmentally sustainable low-carbon economy, moving from policy to process to action'*, such as being just, sustainable, ethical, least regret, taking a regional approach, being accountable and transparent.

The **White Paper of Renewable Energy** (November 2003) recognises that –

- South Africa's energy generation is predominately supported by coal-based energy generation;
- the emissions of greenhouse gases from the use of fossil fuels has led to increasing concerns about global climate change;
- South Africa is well endowed with renewable energy resources, that can be sustainable alternatives to fossil fuels, but so far these have remained largely untapped.
- the advancement of renewable energy resources is a major contributor in countering climate change, protecting our natural resources, the biophysical environment, as well as providing a range of environmental, economic and social benefits that will contribute towards long-term sustainability.

The White Paper also acknowledges that the diversification of supply is an important element of improved energy security.

The Eastern Cape Province, including the Cradock area, has great potential to generate electricity from solar energy and the proposed project will contribute significantly to achieving government's objectives in this regard.

The proposed Dobbin solar PV facility does not only meet the NDP principles, but will also contribute to energy security, both in terms of generating capacity, and in terms of diversified supply. In addition, it will benefit society in general by alleviating the pressure of electricity generation from coal and contribute to the government's target for renewable energy.

4.1.2 Contributing to local economic development, broad-based black economic empowerment (BBB-EE), as well as socio-economic development.

Although not the primary motivation for the proposed development, in terms of the bidding process for the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), the project will also contribute to local economic development, BBB-EE, and socio-economic development.

In the REIPPPP Bid Window 5 Economic Development requirements are provided for under the following broad categories:

- Job creation - for SA Citizens, Black People and members from local communities;
- Local content - compliance with local content designations under South African procurement law, and that a certain percentage of the total value of the Project be spent on South African goods and services;
- Ownership - requires ownership by South African entities and local communities in the Project Company, as well as in the contractors responsible for construction and operations;
- Management Control - the involvement of Black People in Board Directorship, Executive Management and Senior Management roles of the Project Company;
- Skill Development - contributions made by the Project Company to improve the skills of employees, learners at higher education institutions, and disabled persons;
- Enterprise and Supplier Development - the development of emerging enterprises, including emerging enterprises located in local communities; and on procuring from Black Enterprises and enterprises owned by Black Women; and
- Socio-economic development - address socio-economic needs, including those of local communities.

Economic activities in the region is currently primarily dependent on farming related activities. Economic growth opportunities are limited and the authorities are struggling to develop and maintain the current service infrastructure networks.

The proposed project will directly contribute to infrastructure development initiatives and also assist in alleviating social challenges, including poverty and unemployment. The project is earmarked for participation in the REIPPPP and once awarded a PPA (Power Purchase Agreement) will contribute towards addressing social and socio-economic challenges in various ways.

The project will secure its social license to operate through the following initiatives:

- meeting the local content requirements, thereby contributing to economic growth in South Africa;

- meeting the ownership and management control requirements, thereby contributing to BBB-EE. The local community will become shareholders through an ownership stake and thus enjoy future dividends;
- meeting the job-creation requirements by creating temporary jobs during the construction period and permanent jobs during the operational period;
- meeting the enterprise and supplier development requirements, where local business will participate as suppliers through preferential procurement initiatives. In addition, local suppliers will be developed through enterprise development and supplier development contributions;
- meeting the socio-economic development requirements, where the local community will be developed through socio-economic development initiatives, including education, health and other social skills programmes. The project will make skills development commitments and thus contribute towards addressing the skills gap in local communities.

Finally, the proposed development will furthermore benefit the local community indirectly through benefits associated with the provision of accommodation, catering and local spending by contractors.

4.2 DESIRABILITY OF THE PV FACILITY - IS IT THE RIGHT PLACE FOR LOCATING THE PROPOSED PHOTOVOLTAIC FACILITIES?

4.2.1 Area selection - the DEA National Strategic Environmental Assessment for the efficient and effective rollout of wind and solar photovoltaic energy

As part of the roll-out of renewable energy in South Africa, the Department of Energy (DoE) has entered into bidding processes for the procurement of renewable energy from independent power producers.

To identify geographical areas best suited for the roll-out of wind and solar PV energy projects, the DEA commissioned the Council for Scientific and Industrial Research (CSIR) to undertake a Strategic Environmental Assessment (SEA) for the identification of suitable geographical areas (corridors/zones) for the efficient and effective rollout of renewable energy (including PV solar) in South Africa, referred to as Renewable Energy Development Zones (REDZs).

Solar PV development applications in the REDZs are incentivised and streamlined.

This was done to facilitate the efficient implementation of one of the Strategic Integrated Projects (SIPs) introduced in the 2012 National Infrastructure Development Plan. SIP 8 aims to promote green energy in support of the South African economy.

For the purpose of spreading development over the study areas, the top PV solar development potential was determined per province during the SEA process, while the approved PV Solar projects were also mapped. Although the Inxuba Yethemba Local Municipality (IYLM) was not included in one of the final REDz identified in the SEA, it was identified as one of the top PV solar development potential areas during the SEA process, confirming that the Cradock area has great potential for the efficient and effective rollout of solar PV energy in the Eastern Cape Province.

4.2.2 Site selection considerations

The ideal PV plant site meets the following criteria:

- High solar irradiation area to allow for the maximisation of the solar energy received;

- Flat to gently sloped terrain to allow for the optimisation of the layouts and minimum interference with respect to shadows etc. between the individual trackers;
- Northern orientation or no obstructions to the north to allow for efficiency;
- Not on high potential agricultural land to avoid conflicts with competing activities and the national priority of food security;
- Not in environmentally sensitive areas e.g. in wetlands or in close proximity to water courses;
- Suitable ground conditions to ensure the stability of the structures and reduce construction costs;
- Adjacent to an existing sub-station on the grid to avoid the necessity of transmission infrastructure;
- Existing capacity at the sub-station and local grid to receive the generated electricity so that the electricity generated by the facility can be used locally from the time of commissioning, thus avoiding infrastructure costs and transmission losses and costs;
- Potential to expand the facility - about the sub-station having a reasonable demand growth and there being space for the expansion of the PV plant.

The site selection process that led to the identification of the Dobbin site was based on locating sites in the Eastern Cape that matched as many as possible of the ideal criteria for the development of a PV electricity generation plant. The selection criteria filtered out alternative sites which are in some way or another not suitable for the development of a PV facility that is environmentally and economically sustainable. This resulted in the current site being selected, first on a regional level and thereafter on a farm level.

The power will feed into the Eskom electricity grid via the existing Dobbin traction substation that is situated at 31°56'36.36"S and 25°29'08.88"E, just south of the railway line, between the Dobbin and Knutsford Sidings, approximately 30 km north-west of Cradock in the Eastern Cape (Figure 3). The substation serves the electrified railway line between Port Elizabeth and De Aar and the electricity will be used for consumption in the local distribution network.

4.2.3 Land use impacts of the PV facility

The proposed land use fits well within the land use in the surrounding area, which is primarily used for intensive and extensive livestock farming. The parcel of land on which the development will take place is isolated from the adjacent intensive and extensive agricultural farming practices by the De Aar-Port Elizabeth railway line to the north, the N10 national road to the south, a secondary road to the farming areas to the east and a Telkom microwave tower on the western boundary of the property. The proposed land-use also conforms to the SDF and planning vision for the local municipality.

The benefits of the construction and operation of the PV facility will outweigh the negative impacts thereof, provided that the proposed mitigation measures are implemented effectively. Due to the fact that the proposed PV facility will be constructed in a fairly modified agri-industrial environment, the impact thereof on the sense of place will be limited. It will not compromise the urban edge and will not affect any person's rights.

4.2.4 Local economic development, BBB-EE, as well as socio-economic development benefit of the proposed PV facility

See the discussion under section 4.1.2 that indicates how the proposed project will also contribute to local economic development, BBB-EE and socio-economic development.

5 PUBLIC PARTICIPATION AND CONSULTATION

This section aims to address the following requirements of the 2014 NEMA EIA Regulations (Appendix 2):

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

(g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including—

(ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;

(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;

5.1 PUBLIC PARTICIPATION PROCESS

The public participation process was conducted strictly in accordance with the requirements included in the National Environmental Management Act (No. 1077 of 1998). It was, however, also done in accordance with the directions issued by the Minister of the Environment, Forestry and Fisheries in terms of regulation 10(8) of the regulations issued in terms of section 27(2) of the Disaster Management Act (Act No. 57 of 2002) regarding Measures to address, prevent and combat the spread of COVID-19 relating to National Environmental Management permits and licences, published in GN R. 650 of 5 June 2020.

The directions aim to curtail the threat posed by the COVID -19 pandemic and to alleviate, contain and minimise the effects of the national state of disaster, and in particular provide directions to ensure fair licensing processes and public participation processes. The directions specify that Public Participation Plan proposals for pending applications must be submitted to the relevant assigned case officer for discussion and approval.

The Public Participation Plan was carefully designed to ensure that a fair and reasonable opportunity is provided for public participation in the EIA process, taking into consideration all requirements in the National Environmental Management Act, 1998 (Act 107 of 1998), as well as the following regulations:

- Environmental Impact Assessment Regulations 2014, published in GN. R982 on 4 December 2014, as amended. (as amended), especially regulations 39 to 44;
- Directions Regarding Measures to Address, Prevent and Combat the Spread of COVID-19 Relating to National Environmental Management Permits and Licences, published on 05 June 2020 in GN.R. 650.

The Public Participation (PP) Plan, with suitable public consultation measures, was submitted to the Department of Environment, Forestry and Fisheries for review and following the review, the PP Plan was approved on 1 December 2020.

The approved public participation process and plan is summarised in Table 5. It explains the steps taken to notify potentially interested and affected parties, the notification of the surrounding community through newspaper advertisements and site notices, as well as the arrangements to invite registered I&APs to review and comment on the EIA reports.

Table 5: Public Participation Process and Plan (Approved by the competent authority)

Public participation requirements in terms of the National Environmental Management Act (No. 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended).	Public participation requirements in the Directions regarding measures to address, prevent and combat the spread of COVID-19 relating to National Environmental Management permits & licences, published in terms of the Disaster Management Act (No. 57 of 2002) on 05 June 2020 in GN.R. 650.	Public Participation actions in accordance with the applicable health and safety and other restrictions, directions and requirements determined in terms of section 27(2) of the Disaster Management Act.
<p>Regulation 41 (2) of GN.R. 326 states that <i>“The person conducting a public participation process must take into account any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application or proposed application which is subjected to public participation by—</i></p>	<p>Annexure 2 of GN.R. 650 states that <i>“Permitting services to be provided by issuing authorities in terms of the National Environmental Management Act and the Environmental Impact Assessment Regulations should adhere to -</i></p>	
<p>a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of—</p> <ol style="list-style-type: none"> i) the site where the activity to which the application or proposed application relates is or is to be undertaken; and ii) any alternative site; 	<p>At all times it must be ensured that reasonable opportunity is provided for public participation and that all administrative actions are reasonable. While the COVID-19 pandemic is a unique circumstance, the specific circumstances in each application must be considered in order to determine what will be reasonable. If alternative reasonable methods are available to give notice to potential interested and affected parties (I&APs), then the relevant competent authority can be approached for an agreement in this regard, as provided for in Regulation 41(2)(e) of the EIA Regulations.</p>	<p>The notice board will be fixed on site for a period of 30 days, providing potential I&APs / any member of the public with a 30-day period to register as I&APs.</p> <p>When fixing the notice boards will be fixed on site, the following measures will be implemented:</p> <ul style="list-style-type: none"> • The notice boards will be sanitized before placed on site. • The EAP that places the notice boards on site will be wearing a facial mask and implementing frequent hand sanitising measures to ensure proper sanitation and hygiene practices. • Should the EAP encounter by a member of the public during the placement of the notice boards, social distancing of 1.5 metres will be maintained, while interaction with any member of the public will be discouraged.

Public participation requirements in terms of the National Environmental Management Act (No. 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended).	Public participation requirements in the Directions regarding measures to address, prevent and combat the spread of COVID-19 relating to National Environmental Management permits & licences, published in terms of the Disaster Management Act (No. 57 of 2002) on 05 June 2020 in GN.R. 650.	Public Participation actions in accordance with the applicable health and safety and other restrictions, directions and requirements determined in terms of section 27(2) of the Disaster Management Act.
b) giving written notice , in any of the manners provided for in section 47D of the Act, to— i) the <u>occupiers</u> of the site and, if the proponent or applicant is not the <u>owner</u> or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;	At all times it must be ensured that reasonable opportunity is provided for public participation and that all administrative actions are reasonable. While the COVID-19 pandemic is a unique circumstance, the specific circumstances in each application must be considered in order to determine what will be reasonable. If alternative reasonable methods are available to give notice to potential interested and affected parties (I&APs), then the relevant competent authority can be approached for an agreement in this regard, as provided for in Regulation 41(2)(e) of the EIA Regulations.	Written notices will be e-mailed to the landowner, applicant, adjacent owners, occupiers, and/or persons in control of the land to maintain social distancing. The landowner and applicant have adequate resources for electronic communication. In the absence of e-mail communication with other stakeholders, documents will be sent via Whatsapp or sms messages. The written notice will provide for a 30-day period to register as I&APs / provide comments.
ii) <u>owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;</u>		Written notices will be e-mailed to the Local Municipality, ward councillor, ratepayers' organisations, any other organs of state and any other parties. In the absence of e-mail communication, documents will be sent via Whatsapp or sms messages. The written notice will provide for a 30-day period to register as I&APs / provide comments.
iii) the <u>municipal councillor</u> of the ward in which the site and alternative site is situated and <u>any organisation of ratepayers</u> that represent the community in the area;		Newspaper advertisements will be placed in a local newspaper and the relevant provincial gazette. All arrangements will be done electronically to maintain social distancing. The newspaper advertisement will provide potential I&APs with a 30-day period to register as I&APs / provide comments.
iv) the municipality which has jurisdiction in the area;		
v) any organ of state having jurisdiction in respect of any aspect of the activity; and		
vi) any other party as required by the competent authority;		
c) placing an advertisement in— i) one <u>local newspaper</u> ; or ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;		

Public participation requirements in terms of the National Environmental Management Act (No. 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended).	Public participation requirements in the Directions regarding measures to address, prevent and combat the spread of COVID-19 relating to National Environmental Management permits & licences, published in terms of the Disaster Management Act (No. 57 of 2002) on 05 June 2020 in GN.R. 650.	Public Participation actions in accordance with the applicable health and safety and other restrictions, directions and requirements determined in terms of section 27(2) of the Disaster Management Act.
d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph (c)(ii); and	At all times it must be ensured that reasonable opportunity is provided for public participation and that all administrative actions are reasonable. While the COVID-19 pandemic is a unique circumstance, the specific circumstances in each application must be considered in order to determine what will be reasonable. If alternative reasonable methods are available to give notice to potential interested and affected parties (I&APs), then the relevant competent authority can be approached for an agreement in this regard, as provided for in Regulation 41(2)(e) of the EIA Regulations.	Newspaper advertisements will be placed in the local newspaper and the relevant provincial gazette. All arrangements will be done electronically to maintain social distancing. The newspaper advertisement will provide potential I&APs with a 30-day period to register as I&APs / provide comments.
e) using <u>reasonable alternative methods</u> , as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to— i) illiteracy; ii) disability; or iii) any other disadvantage.		The main form of communication with I&APs will be via electronic format eg. e-mails, Whatsapp and sms messages, zoom meetings (if required), etc. Where required, phone calls will also be used. These communication measures will be implemented for the duration of the public participation process to ensure social distancing.
43 (1) A registered interested and affected party is entitled to comment, in writing, on all reports or plans submitted to such party during the public participation process contemplated in these Regulations and to bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.		The main form of communication with I&APs will be via electronic format eg. e-mails, Whatsapp and sms messages, zoom, etc. Where required, phone calls will also be used. Reports and plans that are too big to be e-mailed, will be made available for download from a suitable web platform. These communication measures will be implemented for the duration of the public participation process to ensure social distancing. I&APs will be provided with a 30-day period to register as I&APs / provide comments.

5.1.1 Pre-application meeting

After submission of the Public Participation Plan, a virtual pre-application meeting was held between the EAP and the competent authority. See the Minutes to the meeting attached to the report (Appendix B).

5.1.2 Notification of the proposed development and the related EIA process sent to the owners, lawful occupiers, as well as interested and affected parties

In line with the 2014 EIA regulations, directions regarding measures to address, prevent and combat the Spread of COVID-19 relating to National Environmental Management permits and licences, as well as the approved public participation plan, notices regarding the proposed development and the related EIA process was e-mailed on 15 January 2021 to the owners, lawful occupiers, as well as interested and affected parties (Appendix C1). A number of I&APs responded to the e-mailed notification (Appendix C2).

5.1.3 Publication of newspaper advertisements, facebook notices and site notices

In line with the 2014 EIA regulations, a newspaper advertisement about the proposed development and EIA process was published in the Hartland Nuus on 10 December 2020 (Appendices D1 and D2).

In line with the directions regarding measures to address, prevent and combat the Spread of COVID-19 relating to National Environmental Management permits and licences, as well as the approved public participation plan, the newspaper advertisement was also published twice on the Cradock Community facebook page, on 8 December 2020 (Appendix D3) and 8 January 2021 (Appendix D4).

In addition, site notices were also displayed on the boundary of the proposed development site (Appendices E1 to E3).

5.1.4 Minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants

In line with the directions regarding measures to address, prevent and combat the Spread of COVID-19 relating to National Environmental Management permits and licences, no public meetings were held.

5.2 INTERESTED AND AFFECTED PARTIES

I&APs include all stakeholders who deem themselves affected and / or interested by the proposed development. These include the mandatory I&APs identified in the EIA regulations, as well as those that respond to the advertisements and invitations and register as I&APs.

A list of interested and affected parties (I&APs), developed during the EIA process in 2012 was used as starting point for this EIA process and revised (Table 6). To date no additional interested and affected parties have been registered.

The Public Participation Process will be updated in the final Scoping Report.

5.3 SUMMARY OF THE ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES, AND AN INDICATION OF THE MANNER IN WHICH THE ISSUES WERE INCORPORATED, OR THE REASONS FOR NOT INCLUDING THEM

The issues raised by the interested and affected parties, as well as the responses thereto are summarised in Table 7.

Table 6: List of Interested and Affected Parties (I&APs).

Name	Position	Tel number	E-mail address	Postal Address
Owners/Occupiers of land				
André Marais	Owner			
Liandre Otto	Lawful occupier			
Neighbours				
Wiliam Walker	Neighbour			
Rudi Nel	Neighbour			
Freddie van Zyl	Neighbour			
Organs of State				
DFFE: Integrated Environmental Management				
Muhammad Essop				
Fiona Grimmet				
Thulisile Nyalunga				
DFFE: Biodiversity & Conservation				
Shonisani Munzhedzi	Deputy Director-General			
Simon Malete				
EC Department of Economic Development and Environmental Affairs				
Leon Els	Regional Director			
Mncedisi Makosonke	Regional Manager			
Department of Water and Sanitation (Eastern Cape Regional Office)				
Ashley Starkey				
Joseph Jacobs				
Lizna Fourie				

Name	Position	Tel number	E-mail address	Postal Address
Department of Mineral Resources and Energy (Eastern Cape Regional Office)				
Samuel van den Berg				
Siyanda Lurwenga				
Brenda Ngebulana				
Zimkita Tyala				
DAFF				
Mrs. Annelize Collett	Directorate Land Use and Soil Management			
HJ Buys				
EC Department of Agriculture				
Glen Thomas				
EC Department of Transport & Public Works				
Zukiswa Ngwane	Office of HoD			
South African National Roads Agency (SANRAL)				
Nanna Gouws				
South African National Parks				
Peter Novellie	Senior General Manager			
Lesley-Ann Meyer	Park Manager, Mountain Zebra National Park			
South African Heritage Resources Authority				
Mariagrazia Galimberti				
Eastern Cape Provincial Heritage Resources Authority				
Mr Sello Mokhanya				
Chris Hani District Municipality				

Name	Position	Tel number	E-mail address	Postal Address
A Prinsloo Francois Nel	Environemntal Manager			
<i>Inxuba Yethemba Local Municipality</i>				
Nyameka Goniwe	Executive Mayor			
Mzwandile S Tantsi	Municipal Manager			
Siphiwo Njobo	Ward 6 councillor			
Lucille Nel	Supervisor: Environmental Services Unit			
Eskom				
Eddie Leach				
John Geeringh	Snr Env Advisor (Pr Sci Nat)			
Michelle Nicol Siyabonga Nsele	Land and Rights Section			
Transnet Freight Rail				
Henry Dumont				
<i>Interest groups</i>				
S Matthews	Agri Eastern Cape			
Richard & Marion Holmes	Cat Conservation Trust			
Daniel Marnewick	BirdLife South Africa			
Dr Hanneline Smit- Robinson	BirdLife South Africa			
	East Cape Game Management Association			

Name	Position	Tel number	E-mail address	Postal Address
Proponent				
Skypower Solar (Pty) Ltd	Senior Manager			
General public				
None to date				

Table 7: A summary of issues raised by interested and affected parties and the response of the EAP to those issues.

Interested and Affected Party	Date of receipt	Issue	EAP Response	Manner in which issues were incorporated/reasons for not including them
John Geeringh, Eskom	15 January 2021	Forwarded Eskom general requirements for works at or near Eskom infrastructure and servitudes, as well as Eskom setback guidelines for consideration by the applicant during the planning process. Requested a KMZ file of the affected property, proposed development layout and proposed grid connection.	Eskom general requirements, as well as setback guidelines will be forwarded to the applicant for consideration during the planning process. The requested information will be provided once it has been received from the applicant.	The Eskom general requirements for works at or near Eskom infrastructure and servitudes, as well as Eskom setback guidelines were considered by the applicant during the planning process, especially the design of the preferred lay-out alternatives.

6 SCOPE OF THE PROPOSED ACTIVITY

This section aims to address the following requirements of the 2014 NEMA EIA Regulations (Appendix 2):

<p>A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—</p> <p>(b) the location of the activity, including—</p> <ul style="list-style-type: none">(i) the 21-digit Surveyor General code of each cadastral land parcel;(ii) where available, the physical address and farm name;(iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties; <p>(c) a plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is—</p> <ul style="list-style-type: none">(i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or(ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken; <p>(d) a description of the scope of the proposed activity, including—</p> <ul style="list-style-type: none">(i) all listed and specified activities triggered;(ii) a description of the activities to be undertaken, including associated structures and infrastructure; <p>g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including—</p> <ul style="list-style-type: none">(i) details of all the alternatives considered;(ix) the outcome of the site selection matrix;(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;
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6.1 LOCATION OF THE ACTIVITY AND PROPERTY DESCRIPTION

The proposed development will be undertaken on the property Remainder of Portion 1 of Het Fortuin No. 66, near Cradock in the Eastern Cape (Table 8 and Figure 3).

Table 8: Property description

Property Description	21-digit Surveyor General code
Remainder of Portion 1 of the farm Het Fortuin No. 66, Local Municipality of Inxuba Yethemba, Division of Cradock, Province of the Eastern Cape.	CO2200000000006600001

The property was identified as the only feasible location to be considered for the investment, first on a regional level and thereafter on a farm level, following an extensive selection process described in sections 4.2.1, 4.2.2 and 4.2.3. The applicant then entered into a long-term lease agreement with the owners of the farm for the development of and use as a solar

farm. The locality map (Figure 3) indicates the proposed development site next to the N10 road between Middelburg and Cradock, approximately 30 km north-west of Cradock. The map also indicates two sites for proposed renewable energy development projects within a 30 km radius. The second locality map (Figure 4) indicates the environmental features of the proposed PV solar facility site.

The area required for the development of the PV facility is determined by a number of factors. The key factors determining the size of the site needed are the production capacity of the plant, the technology used, i.e. panel/module spacing and pitch, the shape of the available site, amount of usable land and/or exclusion zones and the site lay-out. Given the current trend in the highly competitive Independent Power Producer market, which implies that either fixed structures or horizontal single axis tracking systems will most likely be used for this development, an area of approximately 170 hectares is required for the development of the 75 MWp solar PV facility.

A suitable site for the proposed development was identified on a property located between the N10 national road between Middelburg and Cradock (Figure 5) and the Noupport-Cradock railway line (Figure 6). To the south the site borders onto a gravel road leading from the N10 to the Knutsford railway-siding (Figure 7), while land to the east of the property is used for intensive irrigation farming (Figure 8). The property already houses the Eskom Dobbin sub-station (Figure 9) and a microwave tower (Figure 10), while the site is currently used for livestock grazing.

6.2 ACTIVITY DESCRIPTION

The construction of the proposed PV facility will involve the construction of the following infrastructure:

- Arrays of photovoltaic panels for the generation of electricity, arranged in clusters;
- Dedicated inverters to convert the electricity from DC to AC;
- Underground low voltage cabling between the photovoltaic clusters and dedicated inverters;
- Underground medium voltage (either 22 kV or 33 kV) power lines from inverter substations to a central collector/ step-up substation;
- A new outdoor step-up substation with transformers to step up the medium voltage (either 22 kV or 33 kV) electricity to High Voltage (HV) 132 kV electricity;
- A switching station next to the new sub-station;
- A new 132 kV overhead power line (approximately 0.5 km in length) from the switching station to the existing 132kV Dobbin-Genoegsaam overhead line traversing the site, which connects into the Eskom grid;

Associated infrastructure include the following:

- External access road from the gravel road to the Knutsford railway siding;
- Internal roads;
- Water storage tanks with associated pumping equipment;
- Administrative/security buildings (office, a control room, as well as security personnel and equipment storage, ablution facilities; and
- 3 m high mesh security fencing and security lighting (with motion detecting spotlights) around the site boundary.

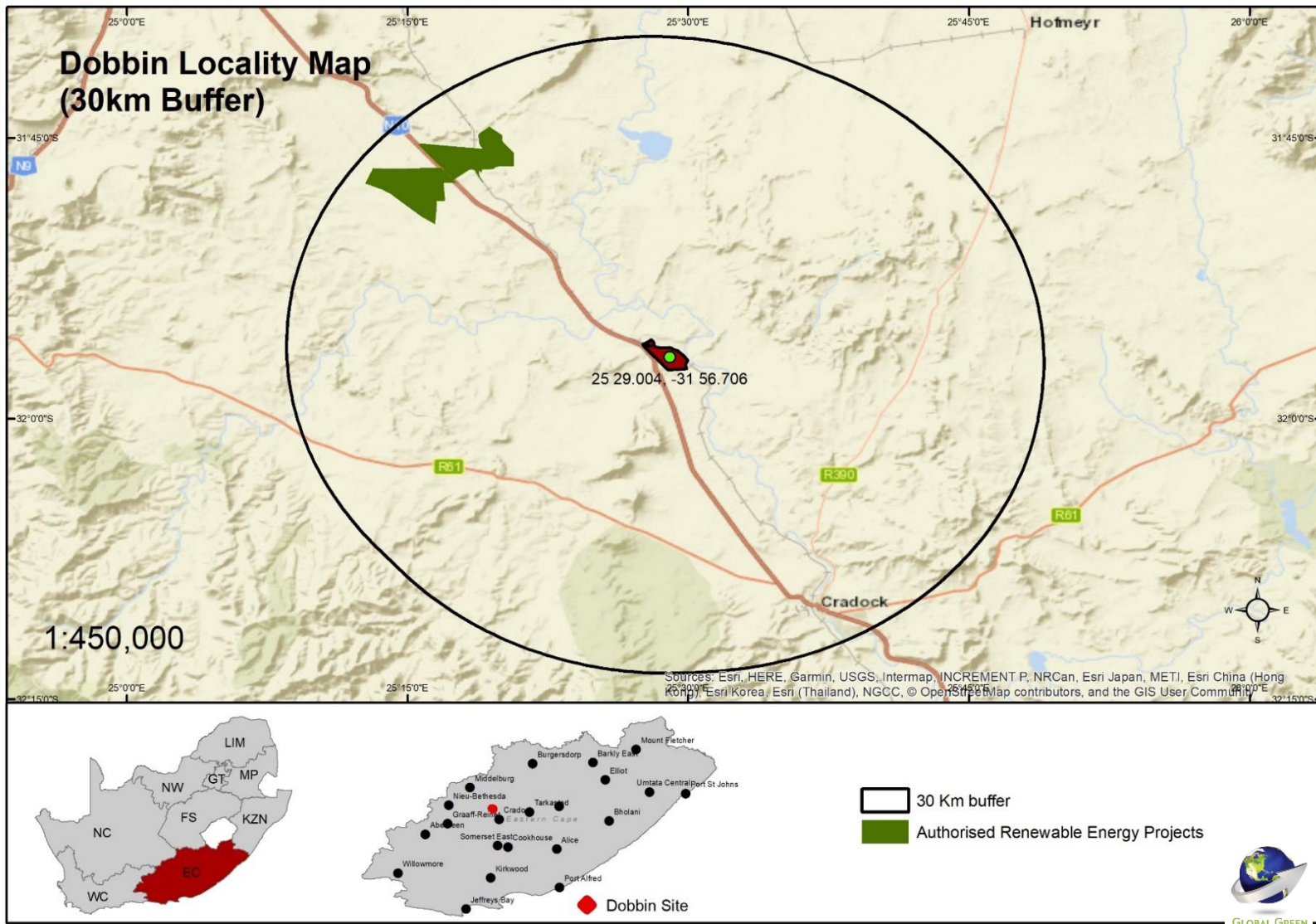


Figure 3: 1:300 000 locality map, indicating the locality of the proposed PV solar facility, as well as other similar facilities within a 30km radius of the proposed development site.

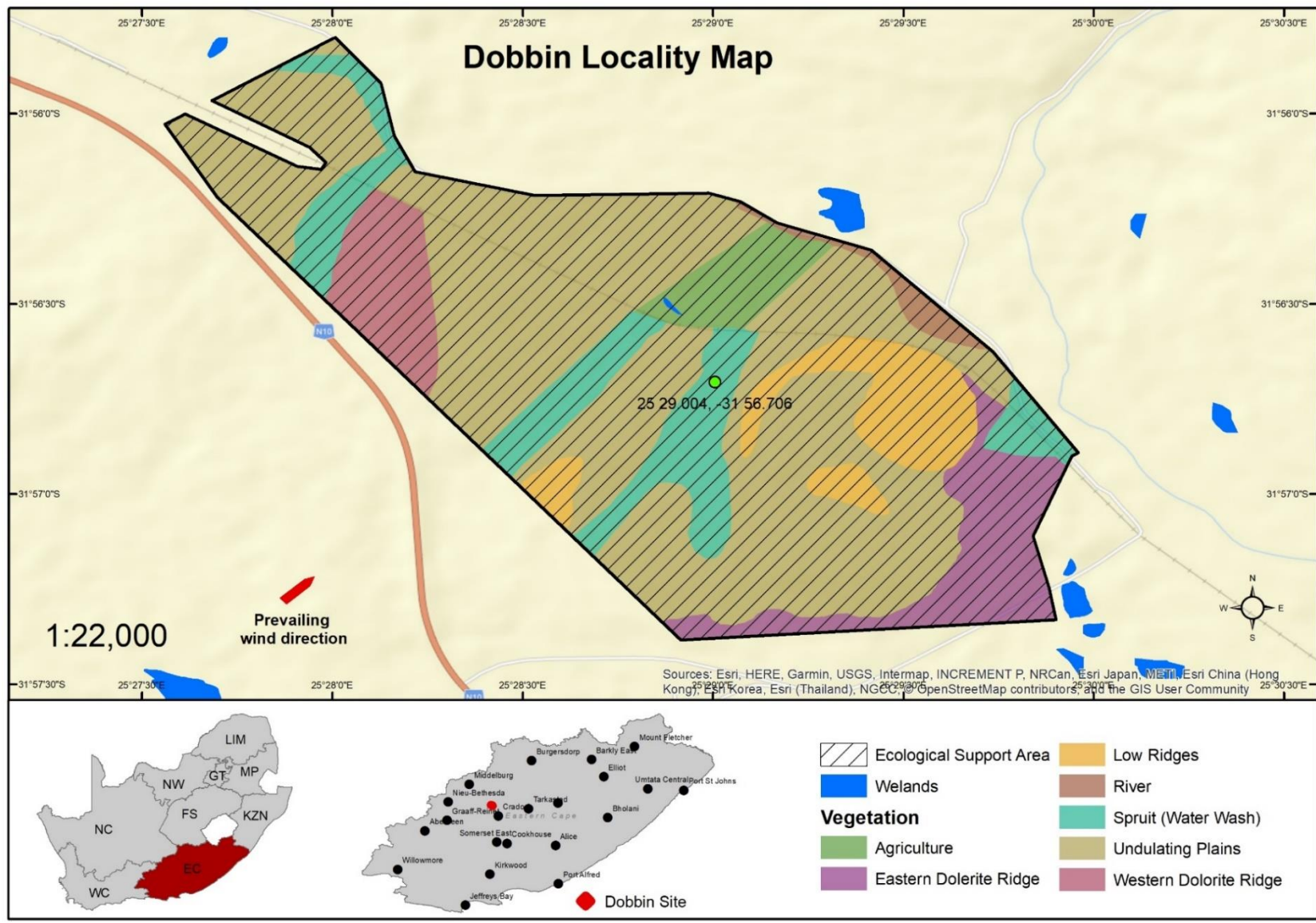


Figure 4: 1:22 000 locality map, indicating the environmental features for the proposed PV solar facility site.



Figure 5: The proposed development site is situated north of the N10 national road between Middelburg and Cradock.



Figure 6: The site for the proposed development is situated just south of the Noupoort Cradock railway line.



Figure 7: The gravel road from the N10 to the Knutsford siding, from which will be the access road to the proposed development site.



Figure 8: The land to the east of the proposed development site is used for intensive irrigation farming along the Great Fish River and its tributaries.



Figure 9: The proposed development site already houses the Eskom Dobbin sub-station next to the railway line.



Figure 10: The proposed development site already also houses a microwave tower on the western side of the site.

The aim of the design and lay-out of the facility and associated infrastructure will be to maximise electricity generation through exposure to solar radiation, while minimising infrastructure, operational and maintenance costs, as well as environmental & social impacts.

The technical detail of the infrastructure, including the associated infrastructure is summarised in Table 2.

Table 9: Technical detail of the infrastructure, including the associated infrastructure of the proposed development.

Component	Description
Height of PV Panels	Between 1.5 m to 2.5 m
Area of PV array	Approximately 150 hectares
Number of Inverters required	750 x 100 kW each (subject to change during detailed engineering)
Area occupied by Inverters/ transformer stations/substation	<ul style="list-style-type: none"> • Inverter stations = 0.3 ha • Control room = 0.04 ha • Facility substation = 0.2 ha
Capacity of on-site substation	75MW
Area occupied by permanent and construction laydown areas	PV array area and construction laydown area = approximately 170 hectares
Area occupied by buildings	Control room building = 0.04 ha
Length of internal roads	Around 15 km
Width of internal roads	4.5 m
Proximity to grid connection	0.5 km from nearest transmission line
Height of fencing	2.5 m
Type of fencing	Diamond mesh fencing or Boundary wall

6.2.1 Electricity generation and transmission infrastructure

The main components of the proposed PV solar facility are the PV solar panels, power lines, inverters and a step-up substation with transformers.

6.2.1.1 Photovoltaic (PV) panels

PV panels constitute the power generation units of a solar PV facility that generates electricity through the direct conversion of sunlight. In PV solar facilities, arrays of ground-mounted PV modules are arranged in rows with gaps in-between to prevent shading of the subsequent row. A number of rows are arranged to form clusters, which are connected to dedicated inverters that convert the electricity from DC to AC. The PV panels in a facility could either be mounted on fixed structures (fixed-rack systems) or on structures (tracking systems) that can track the daily movement of the sun. The difference between the two systems are discussed in more detail in section 6.3.4.

6.2.1.2 Power lines, inverters and substation

Once the electricity has been generated in the PV solar panels, it is transported in low voltage cables to inverters, where the direct current (DC) is converted to alternating current (AC), before it is transported in medium voltage power lines to a step-up substation with transformers that transforms the electricity to high voltage. The high

voltage electricity then has to be transported in high voltage power lines to where it can be fed into the high voltage grid.

The electrical reticulation will comprise of an underground DC component within the PV plant, from the PV modules to the inverters and an AC component in the form of an electricity distribution line from the inverters to the new substation, as well as from the substation to the connection point, where the generated electricity will be fed into the Eskom grid.

There are various types of inverters defined according to their technology. The inverters will be selected on the basis of optimising their rated power according to the manufacturer specifications and the power to be installed in each site. The choice of inverters depends on the performance of the PV module chosen (type and model).

The concentrator boxes are outdoor switchgear boxes or cabinets where the electrical wires from the tracker or rack group are collected. The concentrator boxes are designed for outdoor conditions and are mounted on a concrete base.

The transformation centre will be a concrete or steel prefabricated structure built to house the transformer and the associated protection devices. In the transformer, voltage level will be transformed from 0.38 kV to 132 kV.

6.2.2 Associated infrastructure

In addition to the main components of the development proposal as listed in Section 6.2.2, a number of related infrastructure is required.

6.2.2.1 External access road

Access to the site will be via an existing gravel road to the Knutsford railway siding along the southern boundary of the site that turns off the N10. The road may need to be graded or upgraded prior to construction to ensure that it is suitable for use by more traffic and larger construction vehicles. This will probably involve the improvement of the road bed, as well as minor improvements to the geometric alignment to do away with sharp corners and deep dips or high bumps. After construction, the gravel road may need to be rehabilitated due to the possible wear and tear of the road by large volumes of construction vehicles.

From the gravel road, there is an existing access road to a quarry on the adjacent property. The existing access road will have to be extended and probably upgraded to reach the proposed construction site. The access and internal roads will be constructed as 3m wide all weather type roads, with wide open side drains, forming part of the site or other existing drainage systems.

Sufficient space will be allowed at the access points to the access road to ensure that the vehicles do not stack up on the road while being processed through security.

6.2.2.2 Internal roads

Internal roads will need to be constructed on the site to access all parts of the development for the duration of the development. These roads will be constructed as 3m wide all weather type roads, with wide open side drains, forming part of the site or other existing drainage systems.

The internal road layout will be designed to ensure ease of access to every rack or tracker structure and the horizontal geometry will be designed to enable the turning of trucks. These service roads will only be gravel tracks, as access around the site during

the operational phase will primarily be for security and routine inspection, while access for cleaning operations or maintenance will be very infrequent.

6.2.2.3 Buildings

The buildings and facilities needed to service a PV plant are a control room, a small office, ablution facilities and kitchen area, a small workshop and a store. There will also be facilities for the security personnel on the site.

Given the fact that the electricity generating license has a limited 20 year term, the trend is to rather provide temporary buildings, such as Park-homes or containers to meet the building requirements.

Electricity for the buildings will be provided from the Eskom Dobbin sub-station.

It is not anticipated that any living quarters will be constructed on-site, neither during the construction nor the operational phases. Staff will stay in the nearest formal residential areas and be transported to and from the site.

6.2.2.4 Parking area

There will be a small hardstand parking / lay-down area near the buildings, to be used during the operational phase.

6.2.2.5 Monitoring & control system

A Supervisory Control And Data Acquisition (SCADA) system will be installed. The primary purpose of SCADA will be to monitor, control and alarm plant or regional operating systems from a central location. While override control is possible, it is infrequently utilized.

6.2.2.6 Meteorological stations

There will be a number of meteorological stations installed on the site in order provide adequate meteorological data to evaluate the PV plant performance. A typical meteorological station will include all or some of the following items:

- 3m high lattice structure for the support of the systems;
- Pyranometer(s) to assess radiation;
- ambient temperature sensor with natural ventilation anti-radiant shield;
- anemometer at 5m height;
- a vane to measure the wind direction;
- module temperature sensors;
- humidity sensor;
- data logger;
- GSM/GPRS modem;
- UPS or non-stop power supply system.

6.2.2.7 Lightning protection system

To protect the PV plant, equipment and personnel from lightning strikes a lightning protection system composed of masts and surges arresters will be installed. This system will be designed by a specialist and will comply with South African laws and standards.

Although current lightning protection designs only allow for low height protection on the individual structures, provision has been made in the applications for 15m high conductor masts.

6.2.2.8 Water supply

During the construction phase water will be required for civil works and foundations, while it may also be needed for dust suppression and general usage (Table 10).

Table 10: Water requirements during the construction phase

Description	Requirement (m ³)		
	Daily	Monthly	Annually
Earth works/Dust suppression	16	477	5,720
Civil works/Foundations	34	1,033	12,392
General (domestic) use	3	79	953
Total	52	1,589	19,065

During the operational phase, water will be required on site for ablutions and for the washing of panels. The anticipated water demand during the operational phase is estimated to be 1,050 litres per day. Should the available water need treatment then the appropriate equipment will be installed.

Table 11: Water requirements during the operational phase

Description	Requirement (m ³)		
	Daily	Monthly	Annually
Cleaning/washing of PV panels			37
General (domestic) use		1	15
Total			38

Water supply to the site during the construction and operational phases is likely to be from boreholes, either existing or new. Due to the absence of a general authorisation for the abstraction of water from boreholes, the type of use (industrial) will trigger an application for a water use license.

In the event that groundwater supply is not environmentally sustainable, then water would need to be delivered by road tanker from the nearest water services provider, i.e. the Inxuba Yethemba Local Municipality in Cradock.

6.2.2.9 Waste water and sewerage

During the construction phase, portable ablution facilities will be provided. These will be serviced regularly and the sewerage will be disposed of at the Cradock Wastewater Treatment Works.

During the operational phase, small quantities of sanitary wastewater would be generated from staff facilities on the site. It is anticipated that this waste stream would be directed to a septic tank to soak away. If this is not technically feasible, then a conservancy tank would need to be installed.

Enviro-loo toilets, that do not require a water supply, could be considered. These toilets operate by separating the solid and water waste and then drying the waste by evaporation. The dry solids are removed and can safely be spread as compost in the field.

6.2.2.10 Solid Waste

During the construction phase of the development, waste streams will primarily consist of construction-related solid waste, e.g. packaging material. Small volumes of domestic waste associated with the staff facilities will also be generated. These wastes will be safely stored on site and disposed of at the closest licensed waste disposal site. Inert construction waste generated will be used on-site for levelling purposes.

The anticipated waste streams during the operational phase of the development include:

- Small quantities of domestic waste associated with the office and staff facilities;
- Occasional scrapped equipment (e.g. defective panels, tracking systems, etc.); and
- Occasional transformer oils from routine maintenance activities.

These and other waste streams can be readily managed and will be temporarily stored on site, and disposed of off-site at the closest licensed waste disposal site. A considerable amount of the waste generated would be recyclable, and some of this would have high economic value. Such wastes would therefore be recycled as far as practicable

6.2.2.11 Perimeter fencing

Given the high material values and risk of theft associated with PV panels and electrical cabling it is imperative that the perimeter fences and security systems get installed and commissioned as soon as is practical. This is especially so before the reticulation is operational and hence the materials are less easy to steal.

The process will be to first fence off a delivery, storage and processing area within the site as a start and then to erect the perimeter fence and security. This will allow the initial construction start up activities to begin earlier. The proposed perimeter fence is 2.5 m diamond mesh fence or a solid boundary wall. If required, the diamond mesh fence could be electrified or a double barrier consisting of two 2.5 m high electric fences placed about 2 metres apart could be constructed.

A single automated sliding gate will be provided for vehicular access, with a single gate for pedestrians.

6.2.2.12 Security system

If required, the perimeter, access points and general site will be monitored by CCTV cameras infrared / night vision technology and passive intrusion detection systems. The security lighting will be linked to the passive intrusion detection systems, so that it will not be on all night.

6.2.2.13 Site drainage

The proposed site drainage system will be a surface water management system, based on the principle of not collecting storm-water, but rather spreading or distributing it over the site to soak away or drain away slowly, similarly to the normal pre-development flows.

6.3 LISTED AND SPECIFIED ACTIVITIES TRIGGERED

The listed activities triggered are summarised in Table 5.

Table 12: Detailed description of listed activities associated with the project

Listed activity as described in GN R 983, 984 and 985	Description of project activity that triggers listed activity
GNR 984, Activity 1: The development of facilities or infrastructure for the generation of electricity from a renewable resource, where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs within an urban area.	Construction of a 75 MWp Photo Voltaic (PV) solar facility with associated infrastructure
GNR 984, Activity 15: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Construction of 75 MWp Photo Voltaic (PV) solar facility with associated infrastructure
GNR 983, Activity 11: The development of facilities or infrastructure for the transmission and distribution of electricity (i) outside urban areas or industrial complexes, with a capacity of > 33 kilovolts but < 275 kilovolts	Construction of a power line to link the new substation at the PV solar facility to the existing Eskom Dobbin substation
GNR 983, Activity 12: The development of (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; excluding ...	Construction of 75 MWp Photo Voltaic (PV) solar facility with associated infrastructure, including underground power lines and internal roads that will cross the drainage lines on the site, where infrastructure will be required to cross these drainage lines.
GNR 983, Activity 19: The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from (i) a watercourse.	Construction of 75 MWp Photo Voltaic (PV) solar facility with associated infrastructure, including underground power lines and internal roads that will cross the drainage lines on the site, where infrastructure will be required to cross these drainage lines.
GNR 983, Activity 28: Residential, mixed, retail, commercial, industrial or institutional developments, where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	Construction of 75 MWp Photo Voltaic (PV) solar facility with associated infrastructure

6.4 PROJECT PHASES AND ASSOCIATED PHYSICAL ACTIVITIES

The construction phase is expected to start within one year of successful application for preferred bidder status in the Department of Mineral and Energy's REIPP programme, and will take approximately one year to complete. The PV solar facility is expected to have a

lifespan (operational phase) of approximately 25 years, after which the facility would either be decommissioned or refurbished for an additional 25 year operating period.

The main physical activities that will take place during each of the phases of the development are summarised below.

6.4.1 Construction phase (10-12 months)

The construction of a solar PV facility normally incorporates some or all of the following activities:

- Conducting of detailed technical surveys (typically a geotechnical survey, a site topographical survey, etc.) prior to construction;
- Installation of a security fence around the boundary of the site, which is expected to be approximately 200 ha;
- Rehabilitation/upgrading of the proposed gravel access road, as well as construction of the additional extended access road and internal roads;
- Establishment of construction camp, including on-site staff facilities to provide potable water (water storage tanks and associated pumping equipment) and temporary ablution facilities;
- Establishment of temporary equipment lay down areas, where equipment will be temporarily stored before installation;
- Earthworks related to limited clearing of vegetation and levelling and compaction of the site in selected areas (e.g. for roads and substations), with possible excavations of soil and rock, which will be used during construction or stock piled and used for site rehabilitation after construction;
- Construction and maintenance of storm water management and other services infrastructure;
- Operation and maintenance of construction vehicles, machinery and equipment;
- Handling and use of hazardous materials, such as hydrocarbon fuels, grease, lube oils & solvents, cement, as well as herbicides and pesticides on site;
- Temporary storage and disposal of solid and liquid wastes;
- Transportation of equipment to the site – most of the equipment could be transported in modules and would not need special transport arrangements, except for the transformers that may be classified as abnormal loads;
- Installation of PV solar panels, which entails the construction of the mounting structures on appropriate foundations, on which the modular frames with the solar photovoltaic panels will be mounted;
- Construction of inverters, concentrator boxes and inverter substations;
- Installation of internal medium voltage (MV) underground power lines from the inverter substations to a central collector/ step-up substation;
- Construction of a step-up substation with transformers to step up the medium voltage (either 22 kV or 33 kV) current to high voltage 132 kV. Switchgear and metering equipment will also be established in the substation;
- Construction of a 132 kV overhead power line of approximately 1 km (length to be confirmed) from the step-up substation to the connection point, where the generated electricity will be fed into the Eskom grid;
- Construction of substation buildings, control room for the operational and maintenance staff and equipment storage; and
- Removal of all temporary construction structures and services, as well as site rehabilitation.

Some of the above activities are more harmful to the environment than others. Intrusive activities directly impacts on the environment by destroying natural and cultural features and replacing it with the built feature, while other indirectly affect the environment, but can proceed over extended periods. The bottom line is that the existing natural environment will be replaced by a man-made environment.

6.4.2 Operational and Maintenance Phase (\pm 25 years)

The operation and maintenance of a solar PV facility normally incorporates some or all of the following activities:

- Security staff will be on-site permanently to protect the infrastructure;
- Technical staff will be on-site periodically to control, service and maintain the infrastructure as required; while
- Cleaning staff will be on-site to clean the PV solar panels four times a year (in 90 day cycles).

All of the operational and maintenance activities will take place from the on-site buildings and facilities, consisting of the control room, a small office, ablution facilities and kitchen area, a small workshop and a store.

Some of the above activities are more harmful to the environment than others, but generally the environmental impacts during the operational and maintenance phase is much less than during the construction phase.

6.4.3 Decommissioning Phase

The following activities will take place during the decommissioning phase:

- Preparation of the site for decommissioning, by assessing the suitability of all the roads and preparing a lay-down area, where the equipment can be disassembled and temporary stored; and
- Disassembling and removal of equipment.

6.5 CONSIDERATION OF ALTERNATIVES

The EIA regulations require the consideration of alternatives such as the no-go, location, activity, and design alternatives. It is however, important to note that only 'feasible' and 'reasonable' alternatives be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the developer and EAP, which in some instances culminates in a single preferred project alternative. The following sections explore the alternatives in relation to the proposed activity, as well as the processes already followed or that will be followed for the consideration of alternatives.

6.5.1 No-go alternative

This alternative considers the option of 'do nothing' and maintaining the *status quo*. If this alternative is selected, no development will be undertaken and the land will remain extensive karoo grazing land.

Not implementing the activity would have the following environmental implications:

- Comparatively low value agricultural activity would continue;
- There will be no additional environmental impacts;

Not implementing the activity would have the following socio-economic implications:

- At a strategic level -
 - no renewable energy production would result in less energy security at a national level;
 - the opportunity to harness foreign direct investment for the development of renewable energy infrastructure and production of renewable energy will be lost;
 - the opportunity to contribute to the transitioning of the South African economy to a lower carbon economy will be lost.
- At a local level -
 - the potential opportunity for job creation and local economic development associated with the project, in a local environment of limited economic activities and high unemployment, would be lost;
 - the potential opportunity for community empowerment and additional social benefit schemes, such as training and skill development programmes linked to the development would also not materialise.

Considering all of the above, the no-go alternative is not desirable.

6.5.2 Activity alternatives

Considering that this is a private sector investment the activity to be considered is exclusively determined by the developer. As the applicant, SkyPower has earned the enviable track record and global recognition as one of the largest and most successful independent power producers that develops, finances, builds, owns and operates utility-scale renewable power projects across the globe, no activity alternatives were considered.

6.5.3 Location alternatives

This alternative asks the question whether there is not, from an environmental perspective, a more suitable location for the proposed activity. Since the proposed development is private sector driven the principle of feasibility features prominently. The process followed to identify and select the specific site has been discussed in sections 4.2.1 and 4.2.2.

After identifying all the possible sites that matched as many as possible of the ideal criteria for the development of a PV electricity generation plant, the selection criteria were applied to filter out alternative sites which are in some way or another are not suitable for the development of a PV facility that is environmentally and economically sustainable. This process resulted in the current site on the being selected as the only feasible location to be considered for the investment, first on a regional level and thereafter on a farm level.

Because alternative sites have been considered prior to the EIA process, there are no site alternatives that will be investigated in the EIA process.

6.5.4 Site layout alternatives

The choice of the technology or more specifically, the PV module and tracker or rack structure is the chief determinant in the layout of the PV plant. Fixed rack structures, single and two axis trackers all have different spatial requirements.

An optimised layout or spatial arrangement of the solar field considers the performance criteria and spatial requirements of the preferred equipment choices, also taking into account other design criteria.

From an environmental management perspective, an optimised site lay-out must also consider a range of environmental sensitivities and adapt the design so as to avoid environmentally sensitive areas.

In this EIA, the following three site lay-out alternatives were considered:

- The unmitigated site lay-out with the lowest cost, where no environmental sensitivities are considered (Figure 6);
- Two mitigated site lay-outs for fixed and tracking panel systems (Figures 7 & 8) that are very similar and considers the environmental sensitivities, where the lay-outs do not encroach on buffer zones around sensitive environmental features, such as the drainage lines crossing the site. Due to the fact that there is very little difference between the environmental impacts associated with the two different technologies, and the final decision on which of these to use will only be done at a later stage, both of these systems will be evaluated as the preferred site lay-out during the EIA.

The process followed to reach the preferred location of the development footprint alternatives are described in detail in section 8.1 of this report.

6.5.5 Technological and structural alternatives

Photovoltaic solar facilities have a wide range of technology and structural alternatives that can be considered for incorporation into the design of the facility. Some of the technological alternatives that have been and will be considered for this development are discussed in more detail below.

However, the solar PV industry is a rapidly developing industry, where the advances in the general efficiencies of the technology and the reduction of production costs are enormous. Therefore, it is not feasible to commit to specific technologies and manufacturers at this stage of the project.

During the bid process, the developer will put out a Request for Offers (RFO) from credible EPC Contractors who will make proposals with respect to the technology to be used and possible equipment suppliers for the PV plant. These will include the PV module manufacturer, the capacity of the modules, the support structure or tracker type and manufacturer, the inverter type, etc. The design of the facility and the selection of equipment will then be tailored for the specific site conditions and finalised at that stage. This will be done in line with the commitments of the EIA and conditions of the environmental authorisation.

6.5.5.1 Type of PV Modules

There are various types of PV modules defined according to the materials used, such as Si-Monocrystalline, Si-Polycrystalline, Thin Film and High Concentrated. Currently the trend for utility scale facilities such as this is towards polycrystalline module technology.

There are also a wide range of PV module manufacturers in the market. In the REIPPP, an important bid criteria is local content and the use of locally manufactured or assembled PV modules to help the local economy, local job creation and the local communities. As stated before, the proposed development will meet the local content requirements, while the EPC contractor will establish rigorous quality control procedures for the PV module suppliers.

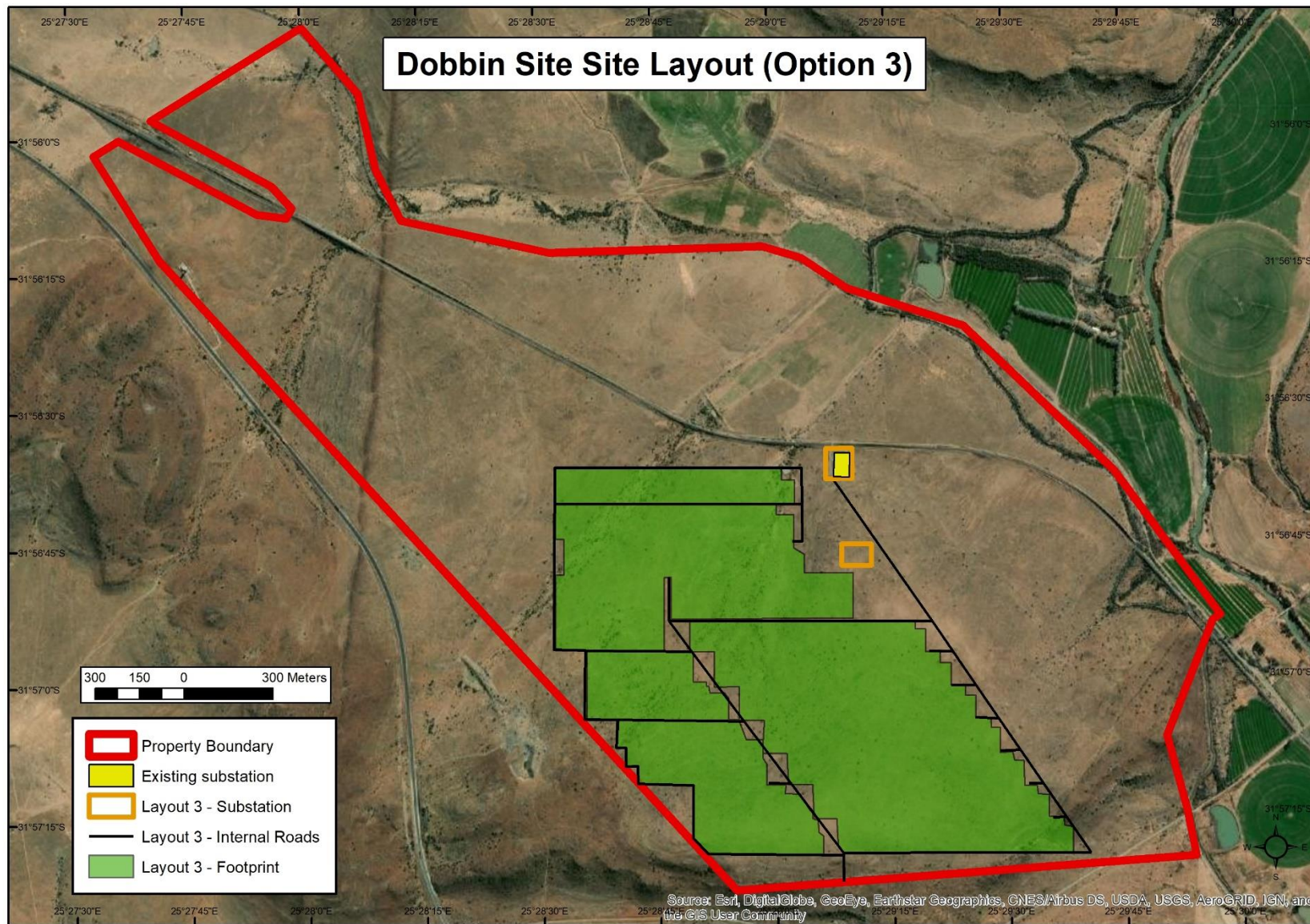


Figure 11: Unmitigated site lay-out with the lowest cost, where no environmental sensitivities are considered

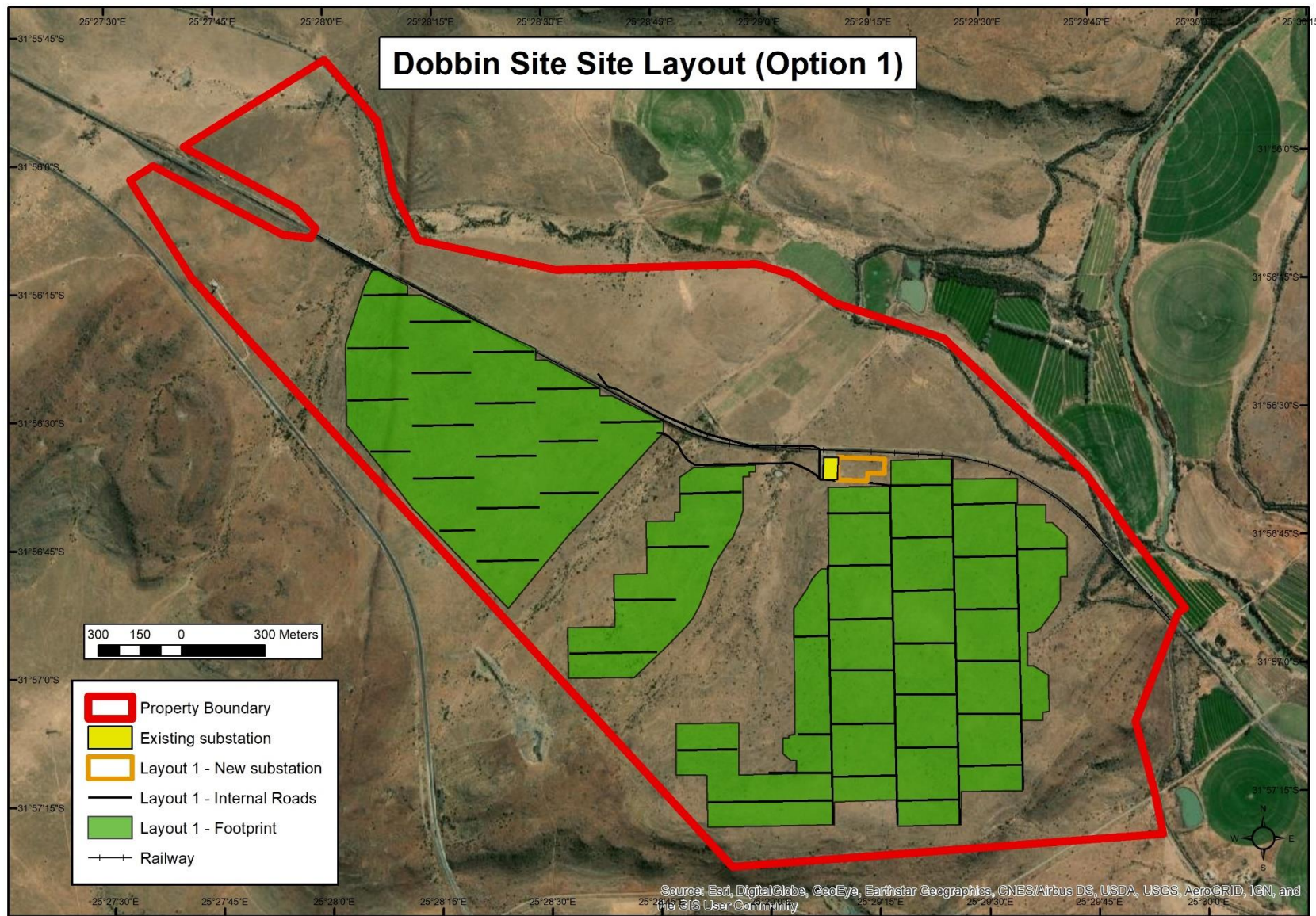


Figure 12: Mitigated site lay-out for fixed panels, where environmental sensitivities are considered

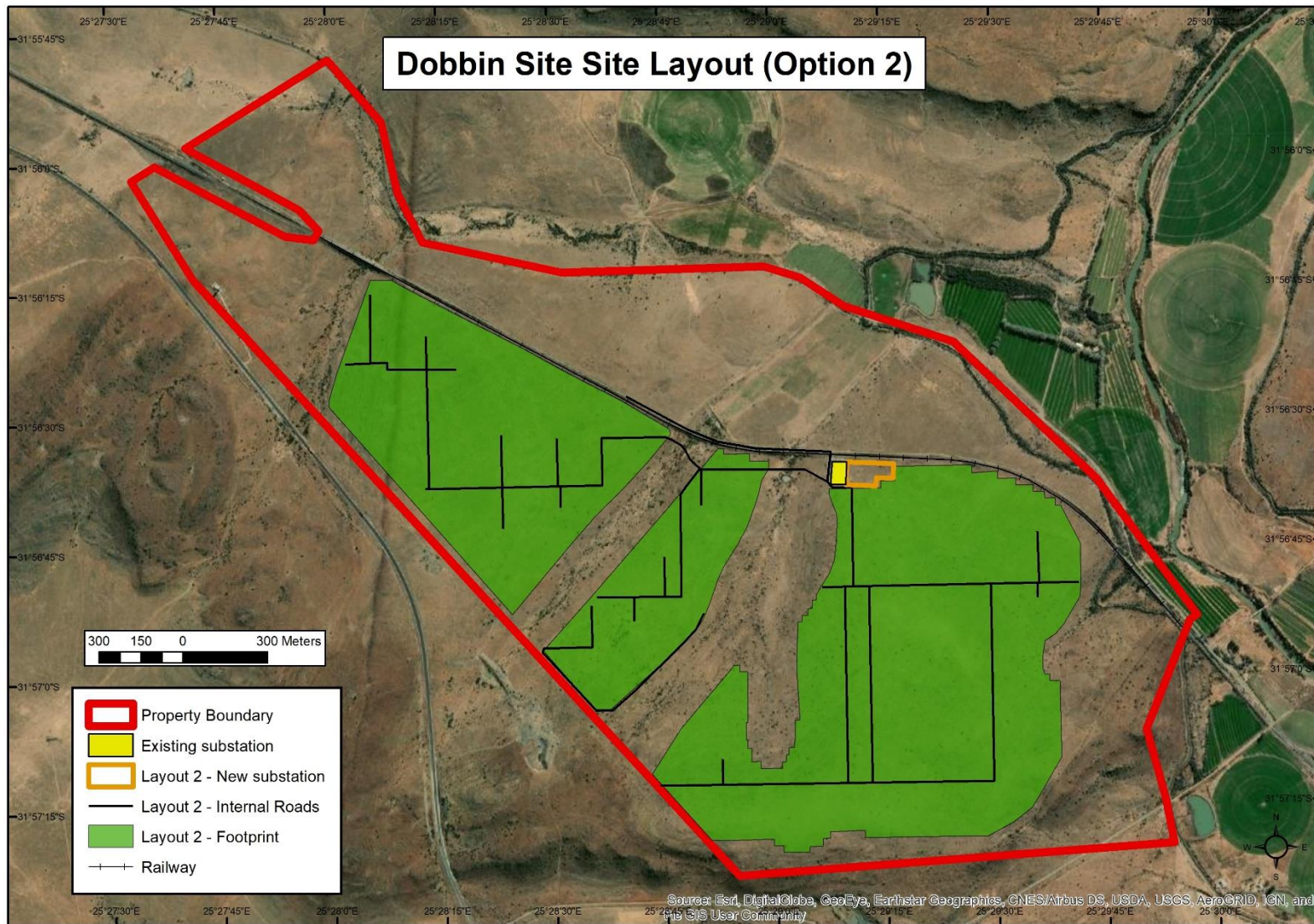


Figure 13: Mitigated site lay-out for tracking panels, where environmental sensitivities are considered

6.5.5.2 Mounting structures

In order to support the PV modules, a structure must be used. The materials commonly used in support and tracker structures are galvanized steel, stainless steel and anodized aluminium. Three different mounting structure options can be considered; a fixed or rack structure, a single axis tracker (horizontal, vertical or polar axis) and a double axis tracker.

Fixed panel or rack mounting structures (Figure 6)

Under this alternative, modules of solar panels are supported on fixed frames orientated along an east/west axis, with the panels facing to the north.

A typical rack or fixed structure will have two rows of 20 modules (2 strings). If this mounting system is used, solar facilities are constructed in clusters, with a certain number of rows of solar panels per cluster, each row ± 4.2 m apart.

The design of the fittings for fixing the modules to the rack structures will enable thermal expansion of the metal without transferring mechanical loads that could affect the integrity of the modules. The structure will probably have anti-theft bolts.

Clusters are connected by underground cables to inverter substations.

The arrangement of fixed panels, involving two rows of panels on an array for each ± 4.2 m separation between arrays, results in a smaller (and denser) development footprint, as a smaller surface area per cluster is required. However, the yield from each fixed panel is less than that obtained by means of tracking panels, which have a 20% higher yield. Fixed panels are advantageous with regard to the extent of land required, but are not preferred economically.



Figure 14: A fixed or rack structure PV solar mounting

Tracker mounting systems (Figure 7)

When tracking panels are used, panels are arranged in continuous lines on a north-south axis and rotate around this axis to maintain a constant angle of incidence with solar

radiation. Precision electronics with GPS input and proprietary positioning algorithms ensure optimum angle is controlled at all times.

With a typical horizontal single-axis tracker the PV modules are attached to beams on the rotating structure. A number of these trackers are placed adjacent to each other and driven by a common rotation mechanism. This allows for a modular design with each module having a single central motor and a number of trackers. This simplifies design and allows for an extremely efficient use of space.

With tracking panels, each cluster occupies a larger surface area and separated from each other by ± 5 m wide internal road. Clusters are connected by underground cables to inverter substations.

This layout alternative has the following advantages:

- Higher yield from panels (approximately 20% higher) than rack structures;
- Less shade under the panels, i.e. for any point of the surface, the amount of time that such a point is in the shadow of a panel is less than for fixed panels; and
- Less possibility of reflections to nearby receptors;
- an extremely low energy consumption;

The **current trend in the industry is towards rack structures or possibly horizontal single axis trackers** because of the superior production rates and cost effectiveness.



Figure 15: A dual axis tracker PV solar mounting

6.5.5.3 Foundation alternatives

A PV solar facility can also use one of a number of foundation alternatives. These are mass concrete block, ground screw, concrete pile or vibratory driven steel pile foundations.

The foundation alternative is primarily determined by the geotechnical soil information and the preferred mounting structure, which will determine the best practical and economical alternative. Fortunately from an environmental perspective, the best

practical and economical alternative is normally the one that is the least intrusive and therefore also the option with the least environmental harm.

Once the type of mounting structure has been decided on, a detailed geotechnical study will be carried out in order to provide data for the selection of the foundation.

For fixed or rack structures, either driven steel piles or small concrete footings, typically of the same size as for small buildings, are cast in the ground for the foundations.

The preferred technology for trackers is a vibratory direct-driven steel pile foundation, with a ramming depth subject to the soil characteristics. Under unfavourable ground conditions, a concrete pile may be required.

6.5.5.4 Underground vs overhead power lines

As previously indicated, the electrical reticulation associated with the proposed development will comprise of DC and AC components within the PV plant, as well as an AC component from the new substation to the connection point, where the generated electricity will be fed into the Eskom grid. These lines could be developed either as underground or overhead lines.

Above ground transmission lines are cheaper to construct and easier to maintain, with the ability to span environmentally sensitive areas and the railway line. However, above ground lines can restrict movement on the site and from an environmental perspective, these lines are visible, and can have a negative impact on birds.

Below ground transmission lines are more difficult to construct and maintain, but do not restrict movement on a site and also protect fragile cables from decay and damage. From an environmental perspectives, the trenches within which the lines are installed cause environmental disturbance to the vegetation and soils, as well as to sensitive areas such as watercourses. However, they do not cause visual impacts and do not have a negative impact on birds.

The **preferred technical alternative for the electrical reticulation on the site** of the PV facility is below ground electrical lines that will not restrict movement on site. The dimensions of the trenches will vary according to the number of cables that run through each trench, while the typical width is 0.6 m. Trenches are usually excavated by a TLB, but given the quantity of trenching within the PV plant specialist trenching machines might be used. After installation of the cables, the trenches are backfilled using suitable material originating from the trench excavations.

The **preferred technical and most economical alternative** for the high voltage power line between the new sub-station and the connection point, where the generated electricity will be fed into the Eskom grid is a 30 m high above ground transmission line with a lattice mast, which is similar to the existing Eskom lines to the Dobbin substation.

6.5.6 Concluding statement indicating the preferred alternative, including preferred location of the activity

The preferred alternative for this development is a 75 MW PV solar facility, situated on the Remainder of Portion 1 of the farm Het Fortuin No. 66, on the parcel of land between the Noupoot-Cradock railway line and the N10 national road between Middelburg and Cradock, next to the existing Eskom Dobbin substation.

The EIA considered two alternative site-layouts as preferred alternative. These are for both fixed panels as well as tracking panels, which have very similar footprints and both do not encroach on buffer zones around sensitive environmental features, such as the drainage lines crossing the site.

Depending on the final choice of fixed or tracking mounting systems, the foundation alternative that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society will be used, i.e. either driven steel piles or small concrete footings for fixed or rack structures, or a vibratory direct-driven steel pile foundation for trackers.

The preferred technical alternative for the electrical reticulation on the site of the PV facility is below ground electrical lines that will not restrict movement on site, while the preferred technical and most economical alternative for the high voltage power line between the new sub-station and the connection point, where the generated electricity will be fed into the Eskom grid is a 30 m high above ground transmission line with a lattice mast, which is similar to the existing Eskom lines to the Dobbin substation.

For purposes of the EIA it was decided to investigate a larger area than required for the PV plant envisaged for the application. This will provide sufficient space for the preferred technology and flexibility in the positioning and detailed layout of the plant, in response to on-site or environmental conditions and for design optimisation. Consequently, the area required for the final 75 MW PV facility will be smaller than that investigated during the EIA process.

7 DESCRIPTION OF THE ENVIRONMENT

This section aims to address the following requirements of the 2014 NEMA EIA Regulations (Appendix 2):

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including—

(iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

7.1 CLIMATE

Cradock is situated in the summer rainfall region of South Africa with rain mainly in summer and autumn, peaking in January. The mean annual rainfall for the area in which the site is located is 305 mm. The region has a mean annual potential evaporation of 1800 mm, which is almost seven times higher than the mean annual rainfall.

A mean annual temperature of 17.2°C is reported. Mean maximum and minimum monthly temperatures in Cradock are 30.0°C and 2.0°C for January and July.

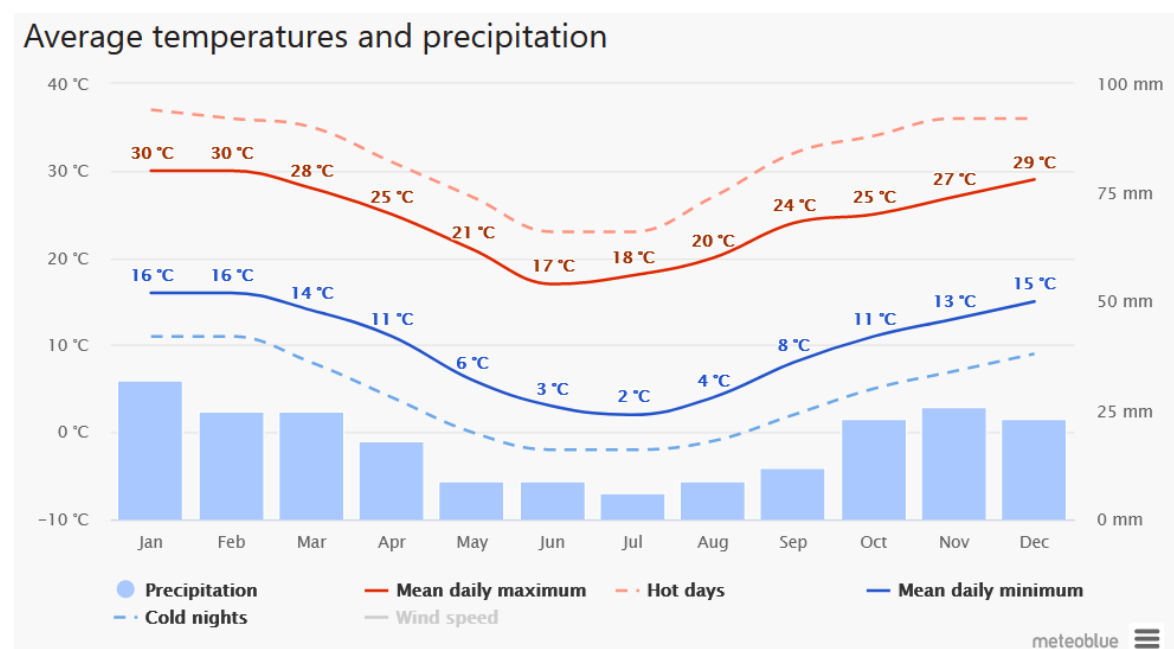


Figure 16: Climatogram for Cradock, which provides good indications of typical climate patterns and expected weather conditions (temperature and precipitation).

According to the monthly data for Cradock on the incidence of cloudy, sunny and rainfall days (Figure 17), it is clear that Cradock receives sunshine (less than 20% cloud cover) for approximately 172 days per year, with only approximately 40 days per year with overcast conditions (more than 80% cloud cover). The remaining 153 days per year are partly cloudy, with 20-80% cloud cover.

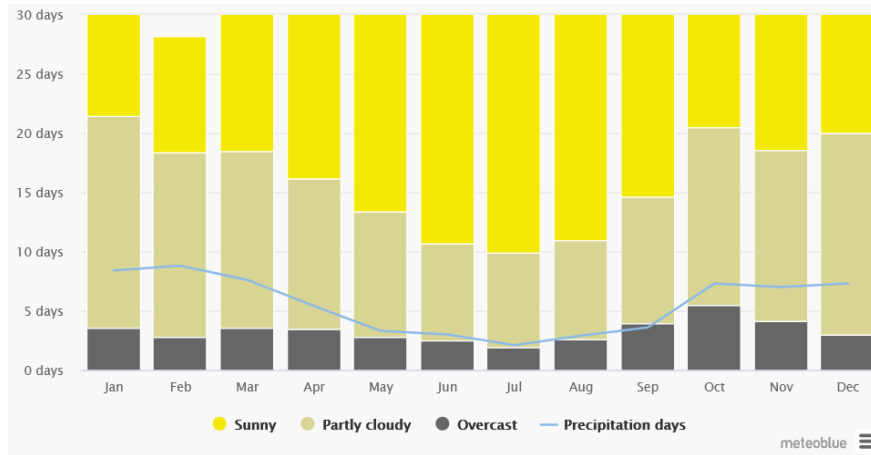


Figure 17: Average monthly days that are sunny, partly cloudy or overcast with sunshine for Cradock, providing an indication of typical climate patterns and weather conditions.

7.2 TOPOGRAPHY

The site of the proposed development is situated approximately 900 m above sea level on adjacent to the Great Fish River flood plains. It is characterised by an undulating and gently sloping plains landscape, with small low plateaus, dissected by two somewhat rockier and steeper dolerite ridges, on the south-eastern edge and near the western boundary of the site, respectively. All terrain slopes on-site are less than 12%, with the majority being between 3% and 7 %.

The site is also traversed by three fairly well-defined drainage lines, flowing north-eastwards into a small tributary of the Great Fish River along the northern edge of the site. One drainage line is located west of the western dolerite ridge and the other two parallel to each other, approximately 400 m apart, near the middle of the site (Figures 10 to 14).



Figure 18: The development site viewed from east to west, showing the gently sloping plains, dissected by two water courses. The vegetation consists of with dwarf shrubs and white grasses on the plains and shrubs and trees in the drainage lines. The microwave tower and the railway line on the on the western and northern boundaries of the site, respectively, are visible in the background.



Figure 19: The proposed development site viewed from to south-west to north-east, showing the flat and gently sloping plains and a fairly well-defined water course. The surface is covered with dwarf shrubs and white grasses on the plains and shrubs and trees in the drainage line. The railway line on the northern boundary of the site and the intensive farming in the Great Fish River valley are visible in the background.



Figure 20: The proposed development site viewed from to south-west to north-east, showing the flat and gently sloping plains and a water course. The vegetation consists of dwarf shrubs and white grasses on the plains and shrubs and trees in the drainage line. The existing Eskom Dobbin substation is also visible.



Figure 21: The proposed development site viewed from east to west, showing the fairly steep sloped dolerite ridge on the eastern edge of the site, as well as the access road from the gravel road to the site. The vegetation consist of dwarf shrubs and white grasses on the plains and bigger shrubs and trees on the dolerite ridge.



Figure 22: The proposed development site viewed from north-west to south-east, showing the flat and gently sloping plains, with the western dolerite ridge and a water course in the background. The vegetation consists of dwarf shrubs and white grasses on the plains and shrubs and trees in the drainage line. The N10 national road between Cradock and Middelburg along the western boundary of the site is also visible.

7.3 GEOLOGY AND SOILS

The geology of the area consists of of the Beaufort Group, including both Adelaide and Tarkastad Subgroups. In some places, less prominent Jurassic dolerites are also found.

The area is largely underlain at depth by fluvial sediments (mudstones and sandstones) of the Lower Beaufort Group (Karoo Supergroup), Adelaide Subgroup, that are extensively intruded by dykes and sills of the Karoo Dolerite Suite. A high proportion of the Beaufort sediments within the study area must have experienced thermal metamorphism and attendant chemical alteration during the dolerite intrusion. On the gently-sloping hill slopes near the electrical substation, where the solar farm will probably be developed, the Adelaide Subgroup rocks are largely obscured by reddish brown soils and downwasted gravels, largely composed of platy, angular sandstone clasts, with minor silicified calcrete nodules, quartzites, hornfels, and dolerite (Figure 15).

The geology primarily supports shallow Glenrosa and Mispah soils. The Mispah Soil Form is characterised by a light friable topsoil (orthic) over sheet rock. The topsoil depth varies from zero to 50 mm, while it is also heavily interspersed with gravel, loose stones and loose rocks. In the drainage lines the topsoil can be up to 1 m deep, but is generally less. Again, the substrate is sheet rock.



Figure 23: The Adelaide Subgroup rocks are largely obscured by reddish brown soils and downwasted gravels on the gently-sloping hill slopes near the existing Dobbin electrical substation, where the PV solar facility is proposed.

7.4 HYDROLOGY

The proposed development site is situated in the Q13C quaternary catchment of 455 km² that forms part of the Upper Fish secondary catchment. The quaternary catchment receives a mean annual rainfall of 305 mm, but experience mean annual evaporation losses of 1800 mm, with a natural mean annual runoff of 3.81 million m³. The annual sediment yield is 84049 tons or the equivalent of 1.85 tons/ha per year.

In the Upper Middle Fish catchment, within which the area is situated, some 141 km² of land is scheduled for irrigation from canals carrying water imported from the Orange River. It has been assumed that about 87 km² or approximately 60% of this is irrigated annually. The site is located in the Knutsford irrigation district, within which 3284 ha is scheduled for irrigation from the Great Fish River, supplied by the Orange-Fish transfer scheme.

Water quality in the upper reaches of the Fish River in the vicinity of the site (Q13) was classified as good to ideal in a study in 2002. However, due to the geology of the river valley as well as irrigation return flows, the total dissolved solids (TDS) increases downstream.

Although groundwater abstraction has a negligible impact on surface water, the groundwater in the quaternary catchment in which the site is located is already over-utilised. Because the rocks of the Karoo Supergroup are of marine origin, they consequently cause groundwater generally to be of high salinity.

7.5 VEGETATION

The proposed development site is situated in two interlinked biomes; the Grassland Biome and the Nama-Karoo. The vegetation on and around the site of the proposed development comprises of Eastern Upper Karoo and Tarkastad Montane Shrubland vegetation types, while the azonal, Southern Karoo Riviere inland saline vegetation type occurs on the eastern fringes of the site, along the Great Fish River (Figure 24).

7.5.1 Tarkastad Montane Shrubland

Tarkastad Montane Shrubland vegetation covers the largest part of the proposed development site. It is characterized by low, semi-open, mixed shrubland, with 'white' grasses and dwarf shrubs forming a prominent component of the vegetation (Figures 17 & 18). Biogeographically important taxa are *Encephalartos friderici-guilllemi*, *Eriocephalus africanus* and *Senecio acutifolius*. The status of this vegetation type is 'least threatened' and important taxa of the Tarkastad Montane Shrubland are listed in Table 13.

Table 13: Dominant species within the Tarkastad Montane Shrubland.

Vegetation Type	Tarkastad Montane Shrubland
Succulent tree:	<i>Aloe ferox</i>
Small tree:	<i>Acacia karoo</i> complex
Tall shrubs:	<i>Diospyros austro-africana</i> , <i>Cadaba aphylla</i> , <i>Ehretia rigida</i> , <i>Rhus burchellii</i> , <i>Tarchonanthus minor</i>
Woody climbers:	<i>Asparagus racemosus</i> , <i>A. retrofractus</i>
Low shrubs:	<i>Euryops annae</i> , <i>Aptosimum elongatum</i> , <i>Asparagus striatus</i> , <i>Blepharis mitrata</i> , <i>B. villosa</i> , <i>Chrysocoma ciliate</i> , <i>Diospyros pallens</i> , <i>Eriocephalus ericoides</i> , <i>Felicia filifolia</i> subsp. <i>filifolia</i> , <i>F. muricata</i> , <i>Gymnosporia heterophylla</i> , <i>Helichrysum dregeanum</i> , <i>H. zeyheri</i> , <i>Hermannia filifolia</i> , <i>Indigofera sessilifolia</i> , <i>Lantana rugosa</i> , <i>Limeum aethiopicum</i> , <i>Melolobium microphyllum</i> , <i>Nenax microphylla</i> , <i>Pegolettia retrofracta</i> , <i>Pentzia globosa</i> , <i>Phymaspermum parvifolium</i> , <i>Rosenia humilis</i> , <i>Sutera pinnatifida</i> , <i>Wahlenbergia albens</i>
Succulent shrubs:	<i>Lycium schizocalyx</i> , <i>Pachypodium succulentum</i> , <i>Sarcocaulon camdeboense</i>
Semiparasitic shrub:	<i>Thesium hystrix</i>

Vegetation Type	Tarkastad Montane Shrubland
Grasses:	<i>Aristida adscensionis</i> , <i>A. congesta</i> , <i>A. diffusa</i> , <i>Cynodon incompletes</i> , <i>Enneapogon scoparius</i> , <i>Eragrostis chloromelas</i> , <i>E. lehmanniana</i> , <i>E. obtuse</i> , <i>Heteropogon contortus</i> , <i>Tragus berteronianus</i> , <i>T. koelerioides</i> , <i>Chloris virgata</i> , <i>Cymbopogon pospischilii</i> , <i>Digitaria eriantha</i> , <i>Eragrostis curvula</i> , <i>Eustachys paspaloides</i> , <i>Fingerhuthia Africana</i> , <i>Sporobolus fimbriatus</i> , <i>Themeda triandra</i> , <i>Tragus racemosus</i>
Herbs:	<i>Commelina Africana</i> , <i>Gazania krebsiana</i> subsp. <i>krebsiana</i> , <i>Hibiscus pusillus</i> , <i>Indigofera alternans</i> , <i>Lepidium africanum</i> subsp. <i>africanum</i> , <i>Tribulus terrestris</i>
Geophytic herbs:	<i>Asplenim cordatum</i> , <i>Boophone disticha</i> , <i>Cheilanthes deltoidea</i> , <i>C. hirta</i> , <i>Oxalis depressa</i>
Succulent herb:	<i>Crassula muscosa</i>

7.5.2 Eastern Upper Karoo

The Eastern Upper Karoo vegetation type, which is found on the northern, eastern and southern edges of the proposed development site, is dominated by dwarf microphyllous shrubs, with 'white' grasses of the genera *Aristida* and *Eragrostis*, which become prominent, especially in the early autumn months after good summer rains (Figures 13 - 16). Endemic taxa includes: *Chasmatophyllum rouxii*, *Hertia cluytiifolia*, *Rabiea albinota*, *Salsola tetrandra*, *Phymaspermum scoparium*, *Aspalathus acicularis* subsp. *Planifolia*, *Selago persimilis* and *S. walpersii*. The status of this vegetation type is 'least threatened' and important taxa are listed in Table 14.

Table 14: Dominant species within the Eastern Upper Karoo.

Vegetation Type	Eastern Upper Karoo
Tall shrubs:	<i>Lycium cinereum</i> , <i>L. horridum</i> , <i>L. oxycarpum</i>
Low shrubs:	<i>Chrysocoma ciliate</i> , <i>Eriocephalus ericoides</i> subsp. <i>ericoides</i> , <i>E. spinescens</i> , <i>Pentzia globosa</i> , <i>P. incana</i> , <i>Phymaspermum parvifolium</i> , <i>Salsola calluna</i> , <i>Aptosimum procumbens</i> , <i>Felicia muricata</i> , <i>Gnidia polycephala</i> , <i>Helichrysum dregeanum</i> , <i>H. lucilioides</i> , <i>Limeum aethiopicum</i> , <i>Nenax microphylla</i> , <i>Osteospermum leptolobum</i> , <i>Plinthus karoocicus</i> , <i>Pteronia glauca</i> , <i>Rosenia humilis</i> , <i>Selago geniculata</i> , <i>S. saxatilis</i>
Succulent shrubs:	<i>Euphorbia hypogaea</i> , <i>Ruschia intricate</i>
Herbs:	<i>Indigofera alternans</i> , <i>Pelargonium minimum</i> , <i>tribulus terrestris</i>
Geophytic herbs:	<i>Moraea palida</i> , <i>M. polystichya</i> , <i>Syringodea bifucata</i> , <i>S. concolor</i>
Succulent herbs:	<i>Psilocaulon coriarium</i> , <i>Tridentea jucunda</i> , <i>T. virescens</i>
Grasses:	<i>Aristida congesta</i> , <i>A. diffusa</i> , <i>Cynodon incompletes</i> , <i>Eragrostis bergiana</i> , <i>E. bicolor</i> , <i>E. lehmanniana</i> , <i>E. obtuse</i> , <i>Sporobolus fimbriatus</i> , <i>Stipagrostis ciliata</i> , <i>Tragus koelerioides</i> , <i>Aristida abscensionis</i> , <i>Chloris virgata</i> , <i>Cyperus usitatus</i> , <i>Digitaria eriantha</i> , <i>Enneapogon desvauxii</i> , <i>E. scoparius</i> , <i>Eragrostis curvula</i> , <i>Fingerhuthia Africana</i> , <i>Heteropogon contortus</i> , <i>Sporobolus ludwigii</i> , <i>S. tenellus</i> , <i>Stipagrostis obtuse</i> , <i>Themeda triandra</i> , <i>Tragus berteronianus</i>

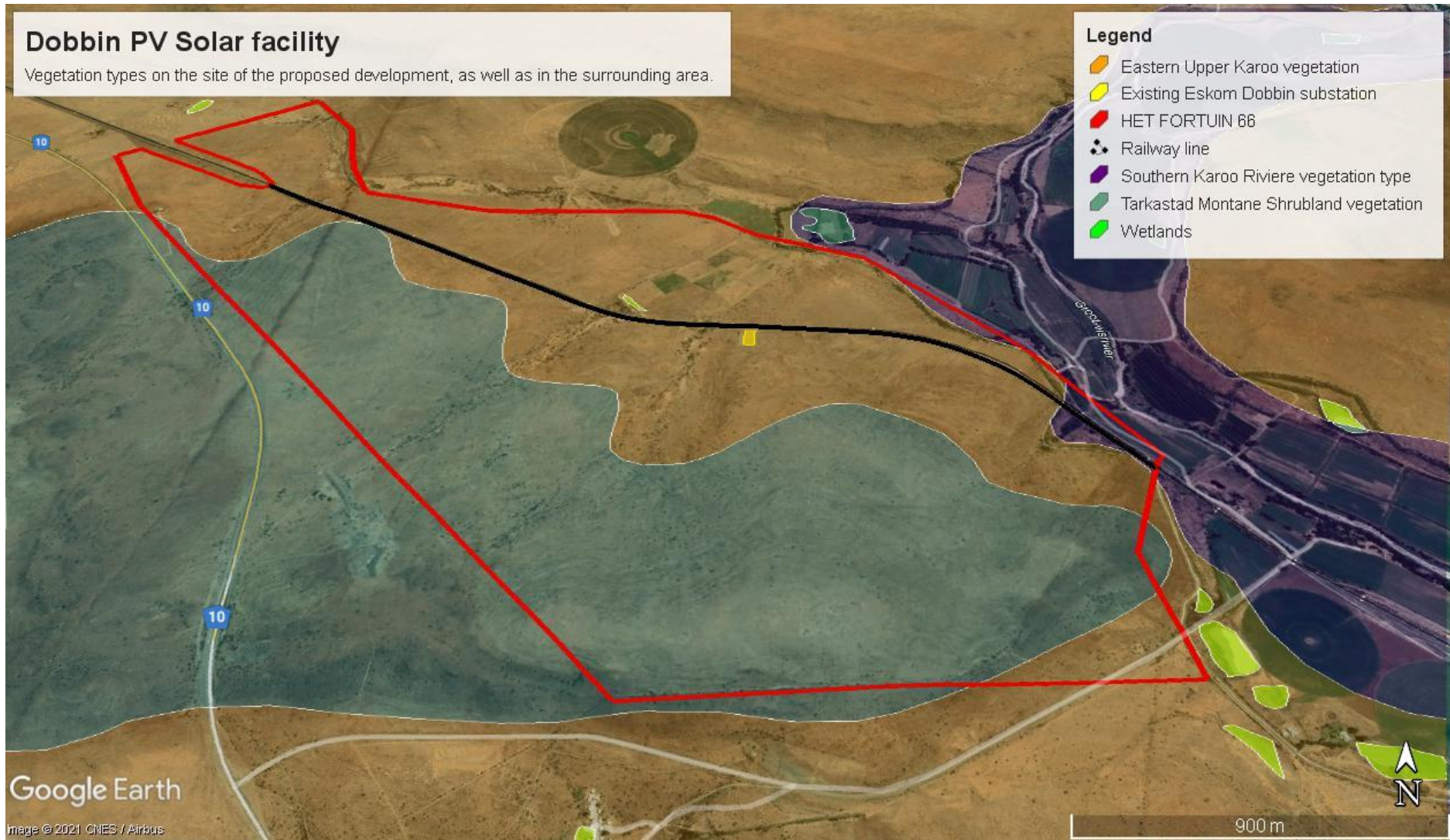


Figure 24: Vegetation types on the site of the proposed development, as well as in the surrounding area.

7.5.3 Southern Karoo Riviere

The Southern Karoo Riviere vegetation type, which is found on the eastern fringes of the proposed development site on the narrow riverine flats on the banks of the Great Fish River, supports a complex of *Vachellia karoo* thickets, fringed by *Salsola*-dominated shrubland. The thickets are also characterised by the presence of small trees like *Seersia lancea*, tall shrubs like *Diospyros lycioides* and *Grewia robusta* and succulent shrubs like *Lycium cinerium* and *L. hirsutum*.

7.6 INVASIVE ALIEN PLANTS

Invasive alien plant species do not present major problems in the area of the proposed development. Both the Tarkastad Montane Shrubland and Eastern Upper Karoo vegetation types are not prone to heavy alien invasive plant infestations. However, the Southern Karoo Riviere vegetation is prone to invasion by alien woody plants and forbs. This is due to frequent disturbance by floods and concentrated grazing pressure and the associated input of nutrients. A total of 15 alien plant species (IAPs) are reported to occur in the area (Cradock) (Table 15). The list provides an overview of the possible IAPs which could be expected at the proposed development site. At the moment, none of these occur at the site, however, could be introduced into any disturbed areas associated with the construction and operation of the proposed PV facility.

Table 15: Potential IAPs which could be encountered at the proposed development site.

<i>Agave americana</i> L.	<i>Opuntia ficus-indica</i> (L. Mill.)
<i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i> L.	<i>Opuntia robusta</i> (H.L. Wendl.)
<i>Atriplex eardleya</i> (Aellen)	<i>Prosopis velutina</i> (Wooton)
<i>Atriplex lindleyi</i> subsp. <i>inflata</i> (F.Muell.)	<i>Salsola kali</i>
<i>Cereus jamacaru</i> DC.	<i>Schkurhia pinnate</i>
<i>Cirsium vulgare</i>	<i>Schinus molle</i> L.
<i>Gleditsia triacanthos</i> L.	<i>Solanum elaeagnifolium</i> Cav.
<i>Prosopis glandulosa</i> var. <i>torreyana/velutina</i>	

7.7 THREATENED FAUNA AND FLORA

Information on threatened animal and plant species for the Middelburg area is greatly lacking. There are 317 threatened animal and plant species in the Eastern Cape, including 19 mammal, 26 reptile and amphibian, 39 invertebrate, 17 fish, 31 bird and 185 plant species. The threatened and endemic reptiles and amphibians in the Eastern Cape are mostly located near the coast and in forest areas, while there are six listed plant species which have become extinct in the Eastern Cape, all in the Albany Centre of Endemism.

7.8 LAND USE

7.8.1 Land use on site

The site is extensively used for livestock grazing for sheep and game, with a dam in one of the water courses to provide water to the livestock. Due to the proximity to the N10 road and the risk of stock theft, it is not regularly used for sheep grazing.

The Eskom Dobbin substation is situated next to the railway line near the centre of the site, while there is also a microwave tower next to the N10 road in the north-western corner of the site and an old quarry just west of the site (Figures 10 and 12).

7.8.2 Neighbouring land uses

The surrounding land uses are as follows (Figures 11 and 12):

- North, east and south of the site: extensive livestock grazing, with some centre pivot irrigation systems in the river valleys that is used for crop production (wheat or maize), fodder production (Lucerne) or planted pastures;
- West of the site: extensive livestock grazing.

7.8.3 Land use in the area

Approximately 97% of the land in the Upper Middle Fish secondary catchment is used for extensive livestock grazing, with some irrigation (< 2%) and conservation areas (< 1%), limited urban areas and very little alien plant invader problems. Crops produced under irrigation are primarily lucerne (>50%), some pastures and wheat (approximately 16% each), with a small amount of maize. Livestock kept includes sheep (>50%), cattle (≈20%) and goats (26%).

The total population in the quaternary catchment reside in rural areas, i.e. on farms.

7.9 DESCRIPTION OF THE SOCIO-ECONOMIC ASPECTS

South Africa is a middle-income developing country with an abundance of natural resources. It is the most industrialised country in Africa, leading the continent in industrial output and mineral production, with well-developed financial, legal, communication, energy and transport sectors. South Africa also has a smaller, but well developed, informal economy which interacts with the formal economy.

Two of the biggest challenges facing growth in the South African economy are poverty and unemployment. The South African government aims to alleviate unemployment and poverty with policies aimed at increasing economic growth in a stable economic environment.

The Eastern Cape is the second largest province in South Africa with the third biggest population and a population density of approximately 40 people per km² (similar to the average national population density). However, the overall economic situation is dire, with a high unemployment rate.

The Inxuba Yethemba Local Municipality, within which the proposed development is situated, is the westernmost municipality in the Chris Hani District Municipality. There are two urban centres in the municipal area, Cradock, with the Lingelihle and Michausdal communities, and Middelburg, with the Kwanonzame, Lusaka and Midros communities. The towns are fairly similar, with well-developed CBDs and fair infrastructure. The rural areas of both towns consist mainly of commercial farms, with small settlements in the rural areas of Fish River, Mortimer and Rosmead. The N10 National Road, which is the vital economic link between Port Elizabeth and the interior to the north, runs through Cradock and skirts Middelburg.

The main economic sectors in the municipal area are community services (58.9%), finance (13.8%), trade (7.5%), transport (5.9%), agriculture (5.4%), construction (4.2%) and

manufacturing (3.6%). The Bergkwagga National Park is also situated in the municipal area, near Cradock and approximately 17 km south of the proposed development site.

Poverty (measured as the percentage of households under the minimum living income level) is also widespread in the municipality, with a high unemployment rate. The monthly income of all employed people in the municipality reveals that the bulk of employment is based on unskilled labour.

8 SCOPING

This section aims to address the following requirements of the 2014 NEMA Regulations (Appendix 2):

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

(g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including—

(v) the impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be avoided, managed or mitigated;

(vi) the methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;

(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

(viii) the possible mitigation measures that could be applied and level of residual risk;

The scoping process aims to scope potential aspects and focus on the most significant impacts in order to determine key issues for more in-depth assessment during the EIA process as well as whether the proposed mitigation measures (if available) would be sufficient.

8.1 PROCESS FOLLOWED TO REACH THE PREFERRED ACTIVITY, SITE AND LOCATION OF THE DEVELOPMENT FOOTPRINT ALTERNATIVES

8.1.1 Process followed to reach the preferred activity and site alternatives

The process followed to reach the preferred activity and site alternatives are described in sections 6.5.2 and 6.5.3, respectively.

8.1.2 Process followed to reach the preferred development footprint alternatives

The process followed to reach the preferred development footprint alternatives included the analysis of an evaluation matrix (Table 16).

The matrix analysis provides a holistic indication of the relationship and interaction between the development footprint alternatives over the life cycle of the development and the impact thereof on the environment. The method aims to provide an indication of first order cause and effect relationships between the proposed development and the environment.

Table 16: Matrix analysis, indicating the nature, probability, extent, duration and significance of the potential environmental impacts over the life-cycle of the proposed development.

Environmental elements		Magnitude, duration and significance of potential impacts											
		Nature/consequence of impact	Unmitigated site lay-out				Mitigated site lay-outs				Possible Mitigation		
			Probability	Extent	Duration	Significance	Probability	Extent	Duration	Significance	Avoid	Managed	Reversed
BIOPHYSICAL ENVIRONMENT	Ground Water	Pollution & over-utilisation	L	V	M	-	L	V	M	-	✓		
	Surface Water	Pollution	L	V	M	-	L	V	M	-	✓	✓	✓
	Surface Water	Hydrology modification	D	V	L	-S	U	S	L	-	✓	✓	✓
	Soil	Pollution & erosion	D	V	L	-S	L	S	L	-	✓	✓	✓
	Biodiversity	Loss & habitat modification	D	S	M	-	L	S	M	-	✓	✓	✓
	Biodiversity	Impact on ecological function	D	V	M	-S	L	S	M	-	✓	✓	✓
	Air Quality	Dust and noise	D	V	S	-	D	V	S	-		✓	
	Heritage	Destruction	L	S	S	-	L	S	S	-	✓	✓	
	Minerals	Sterilisation	D	S	M	-	D	S	M	-			✓
SOCIO-ECONOMIC ENVIRONMENT	Employment	Job creation	D	V	S/L	+	D	V	S/L	+		✓	
	Visual impact	Impact on viewshed	D	V	L	-	D	V	L	-			
	Traffic impact	Disruption during construction	L	V	S	-	L	V	S	-		✓	
	Air Quality	Dust and noise	L	V	S	-	L	V	S	-		✓	
	Social	Community development	D	V	L	+S	D	V	L	+S		✓	
	Social	Negative social impacts	L	R	S	-	L	R	S	-		✓	
	Economic	Local economic development	D	R	M	+	D	R	M	+		✓	
Probability	(U) Unlikely (L) Likely (D) Definite			Duration	(S) Short term (M) Medium term (L) Long term								
Extent	(S) Site (V) Immediate vicinity (R) Region			Significance	(+) Positive impact (+S) Significantly positive impact (-) Negative impact (-S) Significantly negative impact				(✓) Can be avoided/reversed (✓) Mitigation measures available				

The matrix highlights areas of particular concern (Table 9). Each environmental impact was evaluated individually in terms of the nature of the impact, as well as the probability, extent, duration and significance thereof in the absence of mitigation measures. This is important since many impacts would not be considered insignificant if proper mitigation measures were implemented. The matrix also provides an indication of whether the impact is reversible and can be avoided or managed and mitigated.

From the results it is clear that the main difference between the unmitigated site lay-out alternative and the preferred site lay-out alternatives (for fixed and tracking panels, centres around the footprint of the former alternative that extends into two of the drainage lines crossing the site. This does not only impact on the hydrology of those drainage lines, but also the resultant soil erosion and the ecological function performed by the drainage lines.

All of these impacts can be avoided, by modifying the site lay-out to leave buffer zones between the footprint areas where the solar panels will be constructed and the sensitive drainage line areas, as has been done with the preferred site lay-out alternatives.

8.2 METHODOLOGY FOR THE IDENTIFICATION OF KEY ISSUES (ENVIRONMENTAL IMPACTS)

Different types of impacts may occur from the undertaking of an activity. The impacts may be positive or negative and may be categorized as being direct (primary), indirect (secondary) or cumulative impacts.

Direct impacts are impacts that are caused by the activity and generally occur at the same time and at the place of the activity (e.g. noise generated by blasting operations on the site of the activity). These impacts are usually associated with the quantifiable.

Indirect impacts of an activity are indirect or induce changes that may occur as a result of the activity (e.g. reduction of water in a stream that supplies water to a reservoir that supplies water to the activity). These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.

The identification of the potential impacts of an activity on the environment should include impacts that may occur during the commencement, operation and termination of an activity. In order to identify impacts it is important that the nature of the proposed activity is well understood so that the potential impacts that are associated with the activity can be understood.

The impact identification process followed included the following activities:

- determination of current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured (section 7);
- determination of future changes to the environment that will occur if the proposed activity does not take place;
- an understanding of the activity in sufficient detail to understand its consequences (sections 6 and 8.2); and
- the identification of impacts which are likely to occur if the activity is undertaken.

Potential environmental impacts of the proposed development have been identified during consultative processes between the consultant, the client and some technical specialists, based upon their professional experience and judgement. Additional potential environmental impacts were identified during the public participation process.

The methodology to identify key environmental issues also involved the following:

- **DFFE screening report** (see Section 8.1.1):

The 2014 EIA regulations requires that a report for the proposed development site, generated by the national web based environmental screening tool, that assist with pre-screening of a proposed site for any environmental sensitivity, must accompany any application for environmental authorisation.

- **Environmental checklist** (see Section 8.1.2):

The checklist consists of a list of structured questions related to the environmental parameters and specific human actions, which assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts.

- **Conceptual environmental impact identification model** (see Section 8.1.3):

The model is designed to indicate the relationship between the different stressors and receptors which leads to specific impacts and related mitigation measures. The eventual environmental management programme that will be developed as part of the EIA report will formalize the proposed mitigation measures.

8.2.1 Environmental features identified in the DFFE Screening report

The report generated by the national web based environmental screening tool highlights the following site environmental sensitivities (Table 17), but states that the footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Table 17: Detailed description of listed activities associated with the project

Theme	Sensitivity				Motivation
	Very high	High	Medium	Low	
Agriculture		X			Annual crop cultivation or Planted pastures rotation Land capability class 1
Animal species		X			Possible presence of Verreaux's Eagle (<i>Aquila verreauxii</i>)
Plant species			X		
Avian		X			Within 500 m of a river & within 500 m of a wetland
Bats				X	
Aquatic biodiversity				X	
Terrestrial biodiversity	X				Ecological Support Area 1 & Ecological Support Area 2
Archaeological & cultural heritage		X			Within 500 m of an important river
Paleontology		X			Rock units with a high paleontological sensitivity
Civil aviation (Solar PV)				X	
Defence				X	
Landscape/Visual (Solar)	X				Slope more than 1:4 Within 250 m of a river
Radio Frequency Interference (RFI)			X		

Based on the results of the web-based screening, the associated report indicates that the following list of specialist assessments have been identified for inclusion in the assessment report:

- Agricultural impact assessment
- Landscape/Visual impact assessment
- Archaeological and cultural heritage impact assessment
- Palaeontology impact assessment
- Terrestrial biodiversity impact assessment
- Aquatic biodiversity impact assessment
- Avian impact assessment
- Civil aviation impact assessment
- Defence assessment
- RFI assessment
- Geotechnical assessment
- Socio-economic assessment
- Plant species assessment
- Animal species assessment

However, the web-based screening report also specifies that it is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation. This will be done in the site sensitivity verification report that will be included in the EIA report.

8.2.2 Environmental checklist analysis

The independent consultant conducted a site visit during April 2019. The site visit was conducted to ensure a proper analysis of the site-specific characteristics of the study area. Table 18 provides a checklist, which is designed to stimulate thought regarding possible consequences of specific actions and so ensuring comprehensiveness as well as precision in analysis. The table highlights certain issues, which are further analysed in matrix format in section 6.3.2.

Table 18: Environmental Checklist used to identify environmental issues.

Question	Evaluation	Notes
1. Are any of the following located on the site earmarked for the development?		
(i) A river, stream, dam or wetland	√	Three tributaries to the Great Fish River cross the site.
(ii) A conservation or open space area	X	
(iii) An area that is of cultural importance	X	
(iv) Site of geological significance	X	
(v) Areas of outstanding natural beauty	X	
(vi) Highly productive agricultural land	X	
(vii) Flood plain	X	
(viii) Indigenous forest	X	
(ix) Grassland	X	

Question	Evaluation	Notes
(x) Bird nesting sites	?	The DFFE screening report indicate the possible presence of the Verreaux's Eagle (<i>Aquila verreauxii</i>)
(xi) Red data species	X	
(xii) Tourist resort	X	
2. Is the proposed project located near the following?		
(i) A river, stream, dam or wetland	√	The site is situated approximately 250 m from the Great Fish River, while three tributaries to the river drain across the site.
(ii) A conservation or open space area	X	The site is situated approximately 18 km from the Bergkwagga National Park
(iii) An area that is of cultural importance	X	
(iv) A site of geological significance	X	
(v) An area of outstanding natural beauty	X	
(vi) Highly productive agricultural land	√	High productive agricultural land where intensive irrigation farming practices are implemented occur in the vicinity of the site.
(vii) A tourist resort	X	
(viii) A formal or informal settlement	X	Craddock is situated 30 km south-east of the site
Will the project potentially result in potential?		
(i) Removal of people	X	
(ii) Visual Impacts	√	The PV solar facility will cause a visual impact, although this will be in already visually compromised environment.
(iii) Noise pollution	X	
(iv) Construction of an access road	√	
(v) Risk to human or valuable ecosystems due to explosion/fire/discharge of waste into water or air.	?	
(vi) Accumulation of large workforce (>50 manual workers) into the site.	√	During the construction phase of the project, a large workforce will work on-site. However, these workers will be housed off-site.
(vii) Utilisation of significant volumes of local raw materials such as water, wood etc.	?	
(viii) Job creation	√	Job opportunities will be created during the construction and operational phases.
(ix) Traffic generation	√	Increased traffic will be generated during the construction phase.
(x) Soil erosion	√	The proposed development may result in increased soil erosion.
(xi) Installation of additional bulk transmission lines or facilities	?	The proposed development include the construction of a new sub-station, with only a short connector line to the Eskom bulk transmission lines.

8.2.3 Conceptual environmental impact identification model

The anticipated impacts are evaluated for the operational and decommissioning phases of the proposed development respectively. Impact identification models that specify stressors, receptors, impacts and mitigation were also used identify potential environmental impacts (Figures 20 and 21).

Stressor: The aspect of the proposed development, which initiates and cause impacts on elements of the environment.

Receptor: The recipient and most important components of the environment affected by the stressor.

Impacts: The net result of the cause-effect relationship between the stressor and receptor.

Mitigation: The degree to which the environmental impacts can be managed or mitigated to minimize the effect on the environment.

8.2.3.1 Potential environmental impacts during the Construction Phase

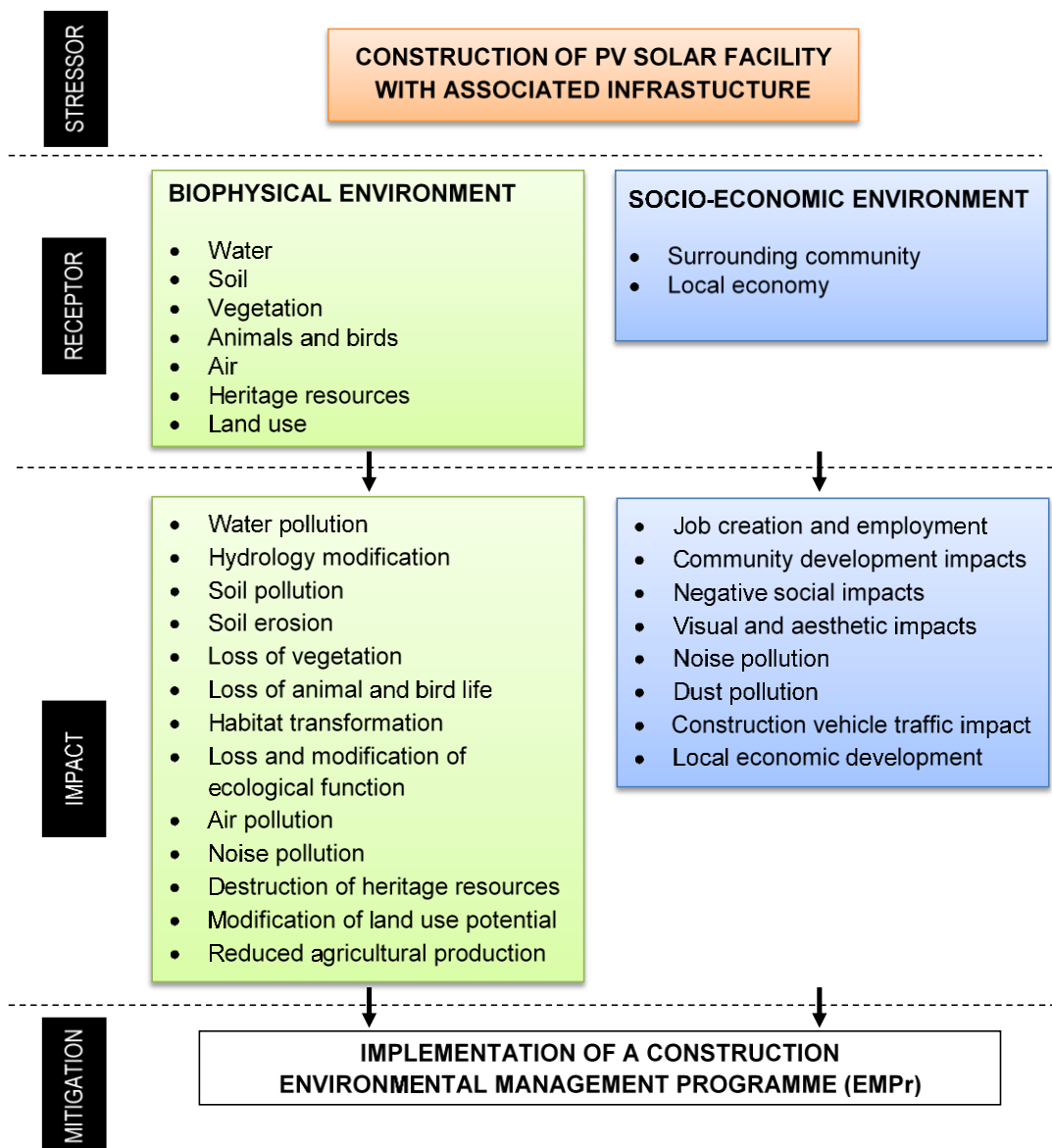


Figure 25: Conceptual model of impacts during the construction phase

Stressors during the construction phase mainly refer to the activities related to the site preparation, as well as construction of the solar panels and associated infrastructure. Various aspects of the biophysical and social environments will be impacted positively and negatively (Figure 25). Negative environmental impacts will be avoided or prevented as far as is reasonably practicable, even if it requires a redesign of the proposed facilities. The negative environmental impacts that cannot be prevented will be minimised or managed as far as is reasonably practicable. Negative environmental impacts that can be reversed will be rehabilitated or remediated once the construction of the PV facility with its associated infrastructure has been completed.

The management and mitigation measures for these identified impacts will be included in the Environmental Management Programme (EMPr), to ensure that the environmental impacts are managed to an acceptable level. The EMPr will be included in the EIR.

8.2.3.2 Potential environmental impacts during the Operational Phase

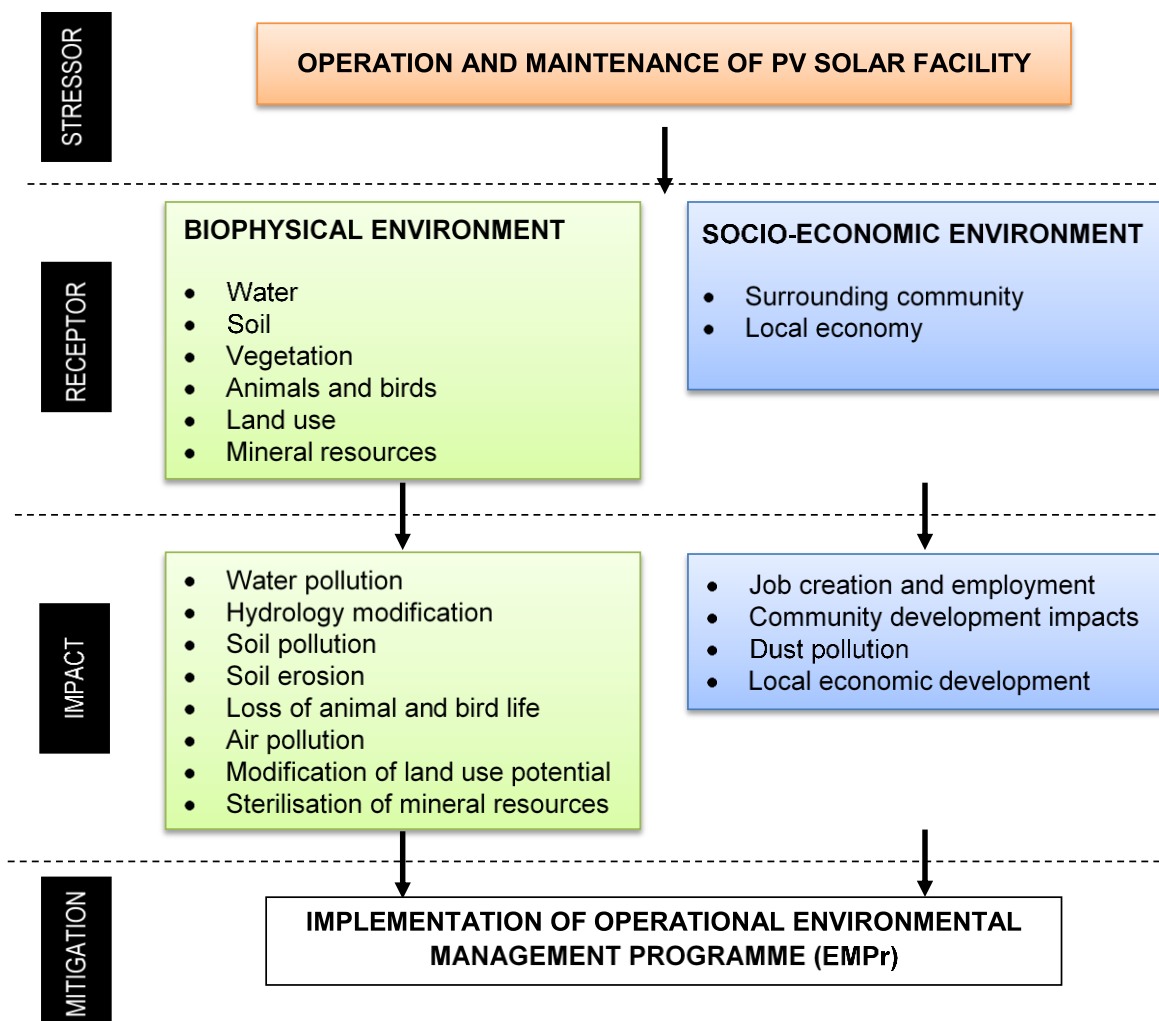


Figure 26: Conceptual model of impacts during the operational phase

Stressors during the operational phase mainly refer to the activities related to the the operation and maintenance of the PV facility and associated infrastructure. Various aspects of the biophysical and social environments will be impacted positively and negatively (Figure 26). Negative environmental impacts will be avoided or prevented as far as is reasonably practicable. The negative environmental impacts that cannot be prevented will be minimised or managed as far as is reasonably practicable through the implementation of appropriate impact management and mitigation measures. Natural

features remain once the PV Plant with its associated infrastructure has been developed, will be appropriately managed.

The management and mitigation measures for these identified impacts will be included in the Environmental Management Programme (EMPr), to ensure that the environmental impacts are managed to an acceptable level. The EMPr will be included in the EIR.

8.2.3.3 Potential environmental impacts during the Decommissioning Phase

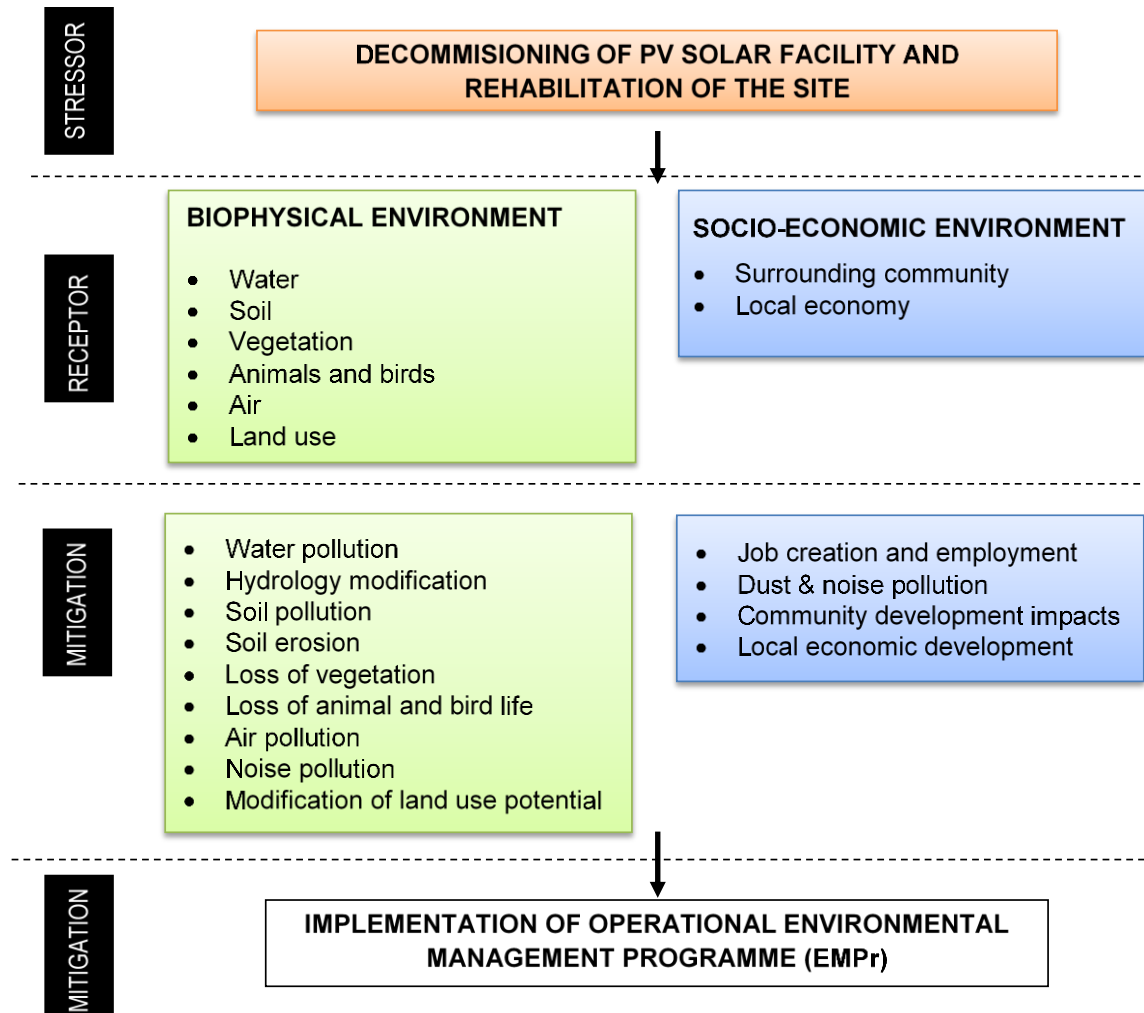


Figure 27: Conceptual model of impacts during the decommissioning phase

Stressors during the decommissioning phase mainly refer to the activities related to the preparation of the site for decommissioning, the disassembling and removal of equipment, as well as the decommissioning of the associated infrastructure and rehabilitation of the site. Various aspects of the biophysical and social environments will be impacted positively and negatively (Figure 27). Negative environmental impacts will be avoided or prevented as far as is reasonably practicable. The negative environmental impacts that cannot be prevented will be minimised or managed as far as is reasonably practicable through the implementation of appropriate impact management and mitigation measures. Once the decommissioning has been completed, the site will be rehabilitated.

The management and mitigation measures for these identified impacts will be included in the Environmental Management Programme (EMPr), to ensure that the environmental impacts are managed to an acceptable level. The EMPr will be included in the EIR.

8.3 KEY ISSUES IDENTIFIED

The following key issues that were identified for the construction phase will be assessed in the EIA process and reported in the EIR.

8.3.1 Impacts that may potentially occur during the construction phase

The following key environmental issues and aspects during the construction phase emerged from the scoping exercise:

- **Water use and pollution:**
 - Water consumption during the construction phase for construction activities and human consumption may negatively impact on water availability for surrounding land users;
 - Potential surface water pollution due to spillage of pollutants, such as cement, as well as fuel, oil and grease during construction;
 - Potential surface water pollution due to spillage of solid and liquid wastes (sewerage and waste water) during construction;
 - Modification of the hydrology (water flow) in the drainage lines that cross the site due to construction activities;
- **Soil pollution and erosion:**
 - Potential soil pollution due to spillage of pollutants, such as cement, as well as fuel, oil and grease during construction;
 - Potential soil erosion due to the removal of vegetation cover and modification of storm water runoff from the site;
 - Potential soil pollution due to spillage of solid and liquid wastes during construction;
- **Land use and production impact:**
 - Loss of agricultural land use potential due to the construction of the PV solar facility, with the necessary official consent;
 - Temporary sterilisation of mineral resources on the land, with the necessary official consent;
 - Loss of agricultural production from the land on which the PV solar facility is constructed;
- **Biodiversity impacts:**
 - Habitat transformation and fragmentation due to the removal of vegetation during the construction phase;
 - Impacts on ecological functioning, especially of the drainage lines, due to the habitat transformation and fragmentation; and
 - Potential loss of plants and animals from the site due to the habitat transformation and fragmentation;
- **Heritage impacts:**
 - Removal, disturbance and or destruction of archeological artefacts and sites;
 - Removal, disturbance and or destruction of fossils;
- **Traffic impact:**

Negative impact of increased traffic volumes on the existing road infrastructure and users.

- **Noise and dust pollution:**
 - Nuisance dust generation due to the removal of vegetation cover during construction;
 - Nuisance dust generation by heavy vehicle traffic and construction machinery during construction on site and access roads;
 - Noise pollution from heavy vehicles and construction machinery on the construction site create a nuisance to the surrounding communities.
- **Other environmental impacts:**
 - Visual and aesthetic impact of the proposed PV solar facility on the viewsheds in the vicinity of the site;
 - Potential electromagnetic interference of the PV solar facility with the electronic communication around the microwave tower on the site;
 - Potential interference of the PV solar facility with air traffic in the vicinity of the site.
- **Social impacts:**
 - Negative social impacts due to migrant labour during the construction phase;
 - Positive community development impacts as a result of local community shareholding in the development;
- **Economic impacts:**
 - Job creation and employment opportunities will directly benefit the local community during the construction phase;
 - Local economic development due to opportunities to provide goods and services to the PV solar facility during the construction and operational phases will directly benefit the local economy.

8.3.2 Impacts that may potentially occur during the operational phase

The following key environmental that were identified for the operational phase will be assessed in the EIA process and reported in the EIR.

- **Water use and pollution:**
 - Water consumption during the operational phase for the periodic cleaning of solar PV panels to ensure optimal efficiency may negatively impact on water availability for surrounding land users;
 - Potential surface water pollution due to spillage of pollutants, such as soap and detergents, as well as paints, oil and grease during operations;
 - Potential surface water pollution due to spillage of solid and liquid wastes (sewerage and waste water) during the operational phase;
 - Generation of concentrated storm water discharges by the on-site infrastructure may cause water pollution as a result of soil erosion.
- **Soil pollution and erosion:**
 - Potential soil pollution due to spillage of pollutants, such as soap and detergents, as well as paints, oil and grease during operations;
 - Potential soil pollution due to spillage of solid and liquid wastes (sewerage and waste water) during operations;
 - Potential soil erosion due to the generation of concentrated storm water discharges by the on-site infrastructure.
- **Land use and production impact:**
 - Temporary sterilisation of mineral resources on the land, with the necessary official consent;

- Loss of agricultural production from the land on which the PV solar facility is constructed.
- **Other environmental impacts:**
 - Visual and aesthetic impact of the proposed PV solar facility on the viewsheds in the vicinity of the site;
 - Potential electromagnetic interference of the PV solar facility with the electronic communication around the microwave tower on the site;
 - Potential interference of the PV solar facility with air traffic in the vicinity of the site.
- **Social impacts**
 - Positive impacts of job creation during the operational phase;
 - Positive impacts of improved education through the establishment of the proposed Educational Trust;
- **Economic impacts**
 - Job creation and employment opportunities will directly benefit the local community during the operational phase;
 - Local economic development due to opportunities to provide goods and services to the PV solar facility during the operational phase will directly benefit the local economy.

8.3.3 Impacts that may potentially occur during the decommissioning phase

The following key environmental that were identified for the decommissioning phase will be assessed in the EIA process and reported in the EIR.

- **Water use and pollution:**
 - Potential surface water pollution due to spillage of pollutants, such as cement, as well as fuel, oil and grease during construction;
 - Potential surface water pollution due to spillage of solid and liquid wastes (sewerage and waste water) during decommissioning;
 - Modification of the hydrology (water flow) in the drainage lines that cross the site due to decommissioning activities;
- **Soil pollution and erosion:**
 - Potential soil pollution due to spillage of pollutants, such as cement, as well as fuel, oil and grease during decommissioning;
 - Potential soil erosion due to the soil disturbance and modification of storm water runoff from the site;
 - Potential soil pollution due to spillage of solid and liquid wastes during decommissioning;
- **Land use and production impact:**
 - Rehabilitation of agricultural land use potential due to the decommissioning of the PV solar facility;
 - Reversal of temporary sterilisation of mineral resources on the land;
 - Resumption of agricultural production from the land on which the PV solar facility is constructed;
- **Biodiversity impacts:**
 - Habitat rehabilitation due to the revegetation during the decommissioning phase;
 - Improved ecological functioning, especially of the drainage lines, due to the habitat rehabilitation; and

- **Traffic impact:**
Negative impact of increased traffic volumes on the existing road infrastructure and users.
- **Noise and dust pollution:**
 - Nuisance dust generation due to the decommissioning activities;
 - Noise pollution from heavy vehicles and machinery on the site during decommissioning may create a nuisance to the surrounding communities.
- **Other environmental impacts:**
 - Removal of the visual and aesthetic impact of the PV solar facility on the viewsheds in the vicinity of the site;
 - Removal of electromagnetic interference of the PV solar facility with the electronic communication around the microwave tower on the site;
 - Removal of interference of the PV solar facility with air traffic in the vicinity of the site.
- **Social impacts:**
 - Negative social impacts due to loss of job permanent opportunities and employment during the decommissioning phase;
 - Cessation of positive community development activities due to the cessation of the development;
- **Economic impacts:**
 - Permanent job losses and loss of employment opportunities will directly affect the local community during the decommissioning phase;
 - Local economic development due to opportunities to provide goods and services to the PV solar facility during the decommissioning phase may benefit the local economy;
 - Loss of opportunities to provide goods and services to the PV solar facility due to the cessation of the activities.

8.3.4 Summary of key issues identified

The key environmental issues identified for the construction, operation and decommissioning of the proposed solar PV facility are summarised in Table 19. The majority of the potential environmental impacts identified will apply equally to all the alternatives considered, except as discussed in section 8.1.2.

Table 19: Potential environmental impacts associated with the various phases of the proposed development.

Environmental medium	Environmental impact	Phase		
		Construction	Operational	Decommissioning
Water	Water pollution	X	X	X
	Water consumption	X	X	
	Hydrology modification	X	X	X
Soil	Soil pollution	X	X	X
	Soil erosion	X	X	X
Air	Air pollution	X	X	X
	Noise	X		X

Environmental medium	Environmental impact	Phase		
		Construction	Operational	Decommissioning
Land use	Land use potential	X	X	X
	Agricultural production	X	X	X
	Temporary sterilisation of mineral resources		X	
Biodiversity	Habitat transformation	X	X	X
	Habitat fragmentation	X	X	X
	Ecological & corridor function	X	X	X
	Loss of plant and animal species	X		
Heritage impacts	Impacts on archaeological and paleontological resources	X		
Visual	Visual & aesthetic impacts	X	X	X
Traffic	Traffic impacts	X	X	X
Social	Negative social impacts	X		X
	Positive social impacts	X	X	X
Economy	Negative economic impacts			X
	Positive economic impacts	X	X	

8.3.5 Cumulative impact

Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities (e.g. discharge of nutrients and heated water to a river that combine to cause algal bloom and subsequent loss of dissolved oxygen that is greater than the additive impacts of each pollutant). Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.

GN R. 982 defines “cumulative impacts”, in relation to an activity, as “the impact of an activity that in itself may not be significant, but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.”

In light of the existing developments in the area, such as the microwave tower and Eskom substation on the site of the proposed development, the quarry on the neighbouring property, as well as the railway line and national road skirting the site, it is clear that site has already been impacted by these developments and are therefore not in a pristine condition. It is therefore reasonable to assume that the implementation of the proposed project may have cumulative effects on the environment. The existing developments have already caused ecological habitat fragmentation, as well as loss of habitat and ecological degradation in the area. It is likely that the proposed development could further contribute to these environmental impacts.

In addition, there are also two other proposed solar energy project within a 30 km radius of the proposed development site. Although these are similar types of development, given the nature of the REIPPP process, it is unlikely that more than one of these proposed

developments will be awarded preferred bidder status at a specific point in time. Although unlikely, it is therefore possible that the three solar energy projects may have cumulative environmental impacts. The EIA will assess potential cumulative environmental impacts.

8.4 ENVIRONMENTAL IMPACT SIGNIFICANCE

The nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed, may cause irreplaceable loss of resources; and can be avoided, managed or mitigated has not been done as yet. It will be evaluated during the impact assessment phase and documented in the Environmental Impact Report.

8.5 POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND LEVEL OF RESIDUAL RISK

Possible mitigation measures that could be applied to prevent or mitigate the identified environmental impacts have not yet been done identified. It will be done and level of residual risk identified during the environmental impact assessment phase and documented in the Environmental Management Programme that will be submitted with the EIA report.

9 PLAN OF STUDY (POS) FOR UNDERTAKING THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

This section aims to address the following requirements of the NEMA Regulations:

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

(h) a plan of study for undertaking the environmental impact assessment process to be undertaken, including—

- (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;
- (ii) a description of the aspects to be assessed as part of the environmental impact assessment process;
- (iii) aspects to be assessed by specialists;
- (iv) a description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;
- (v) a description of the proposed method of assessing duration and significance;
- (vi) an indication of the stages at which the competent authority will be consulted;
- (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and
- (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;
- (ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

9.1 DESCRIPTION OF THE ALTERNATIVES TO BE CONSIDERED AND ASSESSED WITHIN THE PREFERRED SITE, INCLUDING THE OPTION OF NOT PROCEEDING WITH THE ACTIVITY

The alternatives within the preferred site, as described in section 6.5 this report, including the option of not proceeding with the activity, will be considered and assessed in the EIA process.

9.2 DESCRIPTION OF THE ASPECTS TO BE ASSESSED AS PART OF THE EIA PROCESS

The environmental aspects identified under section 8.3 of this report will be assessed as part of the EIA process.

9.3 DESCRIPTION OF THE ASPECTS TO BE ASSESSED BY SPECIALISTS

The environmental aspects identified under section 2.3 of this report has been assessed by specialists as part of the EIA process in 2012. These include soils and agricultural impact, vegetation (botanical) impacts, fauna (animal) impacts, archaeological impacts, paleontological impacts and visual impacts.

In the opinion of the EAP, nothing has changed in the environment of the proposed development site since the specialist studies were undertaken. As discussed during the pre-application meeting, the specialists will be requested to revise the initial specialist reports and confirm that the specialist studies and the recommendations therein are still applicable to the current application. They will also be requested to do a cumulative impact assessment, where applicable.

9.4 DESCRIPTION OF THE TASKS THAT WILL BE UNDERTAKEN AS PART OF THE EIA PROCESS

9.4.1 Description of the nature of the environmental impacts

The first step in the assessment is to describe the nature of the impact, i.e. a description of what is being affected and how. This is an appraisal of the type of effect the activity would have on the affected environment. Although this has partially been done as part of the scoping process, it will be refined in the EIA with the assistance of the specialists.

9.4.2 Specialist studies

Specialist studies has already been undertaken during October 2012, as discussed under sections 2.3 and 9.3. Once the original specialist studies have been reviewed and/or revised, inputs from the specialist studies will be used to assess potential environmental impacts and identify suitable mitigation measures.

9.4.3 Evaluation of the significance of the environmental impacts

The second step is to determine the significance of the described impacts.

GN R. 982 defines "significant impact" as an impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment, based on criteria such as duration, magnitude, intensity and probability of occurrence.

9.4.4 Drafting of the Environmental Impact Assessment (EIA) Report & Environmental Management Programme (EMPr)

Once the Scoping Report has been accepted, the EIA Report and the EMPr will be compiled. A draft EIA Report and EMPr will be made available for review and comment by I&APs (30-day commenting period). All comments by I&APs and competent authorities and associated EAP responses will be recorded in the I&AP issue and response register.

The draft EIA Report and EMP will be reviewed and revised where required and the final EIA Report and EMPr will be submitted to the competent authority for consideration and decision-making.

9.5 DESCRIPTION OF THE PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL IMPACTS, INCLUDING THE DURATION AND SIGNIFICANCE THEREOF

The environmental significance will be determined through a synthesis of the following assessment criteria: duration, magnitude, intensity and probability of occurrence.

9.5.1 Duration

This will be rated to indicate whether the lifetime of the impact would be:

- short term - where the impact would exist for 0-5 years;
- medium term - where the impact would exist for 5-15 years;
- long term - where the impact will cease after the operational life of the activity either because of natural process or by human intervention; or
- permanent - where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.

9.5.2 Magnitude or extent (spatial scale)

This will be rated as:

- local - where the impact would extend only as far as the activity;
- immediate - where the impact would be limited to the site and its immediate surroundings;
- regional - where the impact would extend to the region (municipal boundaries); or
- national - where the impact would have an impact on a national scale.

9.5.3 Status and intensity of the impact (severity)

Here it will be established whether the impact would be destructive or benign and rated as:

- low - where the impact affects the environment in such a way that natural, social and cultural functions and processes are not affected;
- moderate - where the affected environment is altered, but natural, social and cultural functions and processes continue albeit in a modified way; or
- high - where natural, social and cultural functions or processes are altered to the extent that it will temporarily or permanently cease.

The ratings will be based on a number of considerations, i.e. the degree to which:

- the activity, product or service violates the spirit or letter of any law, statute, regulation or authorisation;
- the activity, product or service affects public health and safety (level of toxicity etc.);
- the activity, product or service affects the availability or functioning of life support systems or other environmental goods, services and conditions which are considered to be of special or unique character, of limited supply or essentially irreplaceable;
- the activity, product or service is related to other impacts which individually are insignificant, but could cumulatively result in significant impacts;
- an activity, product or service may establish a precedent for future actions with significant environmental impacts or represents a decision in principle about an issue with significant implications;
- the potential impacts of the activity, product or service is highly uncertain or involves unique or unknown risks; and
- the degree of irreversibility.

9.5.4 Probability

The likelihood of the impact actually occurring will be rated as:

- improbable - where the possibility of the impact to materialise is very low, either because of design or historic experience;
- probable - where there is a distinct possibility that the impact will occur;
- highly probable - where it is most likely that the impact will occur; or
- definitely - where the impact will occur regardless of any prevention measures.

9.5.5 Significance

The significance of impacts will be determined through a synthesis of the aspects mentioned above and described as:

- low - where it will not have an influence on the decision;
- medium - where it should have an influence on the decision unless it is mitigated; or
- high - where it would influence the decision regardless of any possible mitigation.

9.5.6 Cumulative impacts

Cumulative impacts will be considered with specific focus on determining the geographical, physical, biological, social, economic, heritage, cultural and traffic sensitivity of the other sites where similar developments may be undertaken. Other factors that will be considered is technology, as well as time and space crowding of similar activities.

9.6 IDENTIFICATION OF SUITABLE MEASURES TO AVOID, REVERSE, MITIGATE OR MANAGE IDENTIFIED IMPACTS AND THE EXTENT OF THE RESIDUAL RISKS THAT NEED TO BE MANAGED AND MONITORED

Possible mitigation measures that could be applied to avoid (prevent), mitigate, manage or reverse the identified environmental impacts have not yet been identified. It will be done during the environmental impact assessment phase and documented in the Environmental Management Programme and will include the level of residual risks that need to be managed and monitored.

9.7 INDICATION OF THE STAGES AT WHICH THE COMPETENT AUTHORITY WILL BE CONSULTED

- Submission of draft and final Scoping and Environmental Impact Reports with EMP_r for comment during the public review periods;
- Submission of final Scoping and Environmental Impact Reports with EMP_r for consideration and decision-making.

9.8 PARTICULARS OF THE PUBLIC PARTICIPATION PROCESS THAT WILL BE CONDUCTED DURING THE EIA PROCESS

- Electronic copies of the Final Scoping report, as well as the draft EIA Report and EMP_r, together with the specialist reports, will be made available for comment by I&APs (30-day commenting period). Where these documents are too big to be e-mailed, they will be made available for download from a suitable web platform.
- At the end of the commenting period, the EIA report will be reviewed and finalised, based on the comments received and submitted to the competent authority for consideration. All comments by I&APs and the competent authority, and the associated responses will be recorded in the issue and response register and dealt with appropriately.
- Once a decision on the application has been taken, all I&APs will be informed of the decision on the application and provided with access to the decision and the reasons for such decision. Their attention will also be drawn to the fact that an appeal may be lodged against the decision.

10 UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP

The EAP hereby affirms that:

- the information provided in the report is correct and accurate;
- all comments and inputs from stakeholders and interested and affected parties (I&APs); as well as any information provided by the EAP to I&APs and any responses by the EAP to comments or inputs made by I&APs has been included;
- there is agreement between the EAP and I&APs on the Plan of Study for undertaking the EIA.

TC Meyer, Environmental Assessment Practitioner

11 CONCLUSION

This Scoping Report aimed at identifying the 'scope' of the EIA that will be conducted in respect of the activity for which authorization is being applied for.

It can be concluded that:

- The scoping report complies with the requirements of the Regulations and the recommendations of the EIA Guideline.
- The public participation and consultation process for the scoping phase, as prescribed by the 2014 EIA Regulations and the Directions regarding measures to address, prevent and combat the spread of COVID-19 relating to National Environmental Management permits & licences, published in terms of the Disaster Management Act (No. 57 of 2002), has been completed.

12 APPENDICES

12.1 APPENDIX A: CV OF ENVIRONMENTAL ASSESSMENT PRACTITIONER

TC Meyer
Environmental Impact Assessment Curriculum Vitae

1. **Surname:** Meyer
2. **First names:** Theunis Christoffel
3. **Date of birth:** 1961-11-29
4. **Nationality:** South African
5. **Education/qualifications:**



Institution	Date from - Date to	Qualifications obtained
University of Orange Free State	1982-1986	B. Sc. Agric, B.Sc. Agric Honours (Pasture Science)
	1990-1992	M.Sc. Agric (Pasture Science)
University of Pretoria	1987-1987	B.Sc. Honours (Wildlife Management)
Technikon RSA	1992-1996	National Higher Diploma (Management Practice)
Potchefstroom University	1999-2003	M. (Environmental Management)
Maccavlei Learning Academy	2010	Assessor Programme Certificate
North West University	2015	Adv. Man. Programme: Certificate in Strategic Management
Maccavlei Learning Academy	2017	Moderator Programme Certificate

6. **Membership of professional bodies:**
 - Registered Professional Natural Scientist – Ecological Science, Environmental Science and Agricultural Science (400029/08)
 - Certified Senior Environmental Management System Auditor - Southern African Auditor Training and Certification Association (E058)
 - International Association for Impact Assessment (South African Chapter)
 - Grassland Society of Southern Africa
7. **Present position and location:**
 Senior Lecturer, Unit for Environmental Sciences and Management, North-West University, Potchefstroom
8. **Years within the organisation:** 20 years

9. Professional experience

9.1 Areas of specialisation

Environmental law, mine closure and rehabilitation, Environmental Impact Assessment, Environmental Management Frameworks, Environmental and Occupational Health and Safety management systems, Environmental Management Systems auditing, environmental legal compliance auditing, municipal environmental management, Green Economy, estate management, invader plant control, biodiversity offsets, karoo, grassland and savannah ecology, wildlife and protected area management, plant-animal interactions.

9.2 Work experience

No	Activity	Key Experience
1.	Project Management	<ul style="list-style-type: none"> Managed a number of large, multi-stakeholder projects for public and private sector clients.
2.	Conducting and facilitating Environmental Impact Assessments (EIAs) for clients	<ul style="list-style-type: none"> Conducted numerous EIAs throughout South Africa in terms of the Environmental Conservation Act (No. 73 of 1989), the National Environmental Management Act (No. 107 of 1998) and the Mineral and Petroleum Resources Development Act (No. 28 of 2002) for shopping malls, PV solar facilities and mining projects.
3.	Development of Environmental Management Frameworks (EMFs) for clients	<ul style="list-style-type: none"> Team leader for the development of Environmental Management Frameworks for the Vredefort Dome World Heritage Site, Mqohaka, Ngwathe and Taung Local Municipalities, Mangaung Metropolitan Municipality, as well as Bojanala Platinum District Municipality.
4.	Conducting environmental legal compliance, Environmental Management System (EMS) and environmental performance audits	<ul style="list-style-type: none"> Conducted numerous environmental legal compliance, EMS and Environmental Performance audits for clients in the mining, energy, chemical, explosives, defence and local government sectors.
5.	Environmental management in local government	<ul style="list-style-type: none"> Developed and delivered various environmental management training interventions for local government in the past - Municipalities in Mpumalanga, selected municipalities in SADC, Western Cape and Northern Cape.
6.	Working with communities on issues related to biodiversity conservation, sustainable land management and invader plant control	<ul style="list-style-type: none"> Development of a Biodiversity Offset proposal for Transnet Capital Projects Development of an Environmental Sector Master Plan for Metsimaholo Municipality Development of Invader Plant Control Strategies and Action Plans

No	Activity	Key Experience
7.	Technical <ul style="list-style-type: none"> • Sustainable agriculture • Veld management • Invader plant control 	<ul style="list-style-type: none"> • Involved in projects to improve/ensure sustainable veld/range management in rural areas –Department of Agriculture & Namibian Department of Nature Conservation • Involved in projects to control alien invasive trees – Department of Agriculture • Involved in veld rehabilitation projects – Department of Agriculture
8.	Training	<p>Post-graduate education</p> <ul style="list-style-type: none"> • Lecturer, Environmental Management and Environmental Law Masters Programmes - North-West University (2006 – present) • Lecturer, MBA Programmes - School of Business and Governance North-West University (2016 – present) • Lecturer - Environmental Management module in MBA training programme, Tshwane University of Technology (2012) <p>Undergraduate education</p> <ul style="list-style-type: none"> • Lecturer, Environmental management awareness & Environmental Management Systems - North-West University, School of Environmental Sciences and Development, Faculties of Law and Engineering (2002-2005) <p>National, provincial and municipal training programmes</p> <ul style="list-style-type: none"> • Programme developer, co-ordinator & facilitator - EIA reviewer training course of 11 competent authorities for the Department of Environmental Affairs (2016 – 2018) • Programme developer, co-ordinator & facilitator: Municipal Environmental Management Capacity Building Programmes for various provincial and local authorities <p>Online learning programme</p> <ul style="list-style-type: none"> • Course developer, co-ordinator & facilitator– Green Economy E-learning for South Africa in collaboration with the United Nations Institute for Training and Research <p>Short Learning Programmes</p> <ul style="list-style-type: none"> • Technical course developer, co-ordinator & presenter: Environmental law, Mine closure and rehabilitation, Environmental Management Systems, Environmental Impact Assessment, Environmental awareness, EMS auditing, Occupational Health and Safety law, Occupational Health and Safety Management Systems, OHSAS 18001 Auditing, Internal SHE Management System Auditing, Handling & Storage of Dangerous Goods - Centre for Environmental Management, North-West University (2001-present) • Programme developer & presenter: Senior management introduction to Environmental and Occupational Health and Safety Management Systems • Programme developer & presenter: Senior management

No	Activity	Key Experience
		<p>introduction to environmental law and legal liability</p> <ul style="list-style-type: none"> • Lecturer & presenter, formal education & short courses - Grootefontein Agricultural College (1990 – 1994) • Course developer & presenter, short courses - North West Department of Agriculture (1994-2001) • Course developer & presenter, Train the trainer: Veld Management - Boskop Training Centre (1995), Train the trainer: Bush control - National Educational Veld Rehabilitation Programme & North West Province Department of Agriculture (1995–2001) • Lecturer, Bush control - Resource Identification and Utilisation Course, North West Province Department of Agriculture (1995–2000) • Course developer & presenter, Train the trainer: Environmental awareness - Impala Platinum Mine (2000), Jwaneng Diamond Mine, Botswana (2001)

9.3 Specific Professional Experience

Dates	Location	Company	Position
2020 – present	Potchefstroom	Unit for Environmental Science and Management, North-West University	Senior lecturer
Description of experience	<ul style="list-style-type: none"> • Co-ordinator and facilitator of the Masters Programme in Environmental Management • Lecturer in other post graduate educational programmes • Conducting and publishing scientific research in environmental management and related fields • Development, co-ordination and presentation of environmental management and environmental law short courses • External examiner for Masters dissertations 		

Dates	Location	Company	Position
2001 – 2019	Potchefstroom	Centre for Environmental Management, North-West University	Chief Subject Specialist
Description of experience	<ul style="list-style-type: none"> • Development, co-ordination and presentation of environmental management and occupational health and safety management, mine closure and rehabilitation, as well as environmental law courses • Conducting and facilitating Environmental Impact Assessments, public participation, integrated Environmental Authorisation and mine closure and rehabilitation processes • Performing more than 90 environmental legal compliance, environmental performance assessment and environmental management system audits over 170 audit days • Development and implementation of ISO 14001 environmental management systems • Providing support to improve the environmental performance of local authorities, as well as public & private sector organisations • Project management for large, multi-stakeholder projects • Development of a biodiversity offset proposal and Environmental Management Frameworks • Participation in Standards Generation Body for Environmental Sciences, Environmental Management and Waste Management – developing unit standard for post graduate diploma for EAPs • Developing student assessment procedure for CEM Quality Management System • Regular assessment and evaluation of short course training students 		
1994 – 2001	Potchefstroom	North West Department of Agriculture	Senior Agricultural scientist
Description of experience	<ul style="list-style-type: none"> • Planning and execution of research and development projects (grazing capacity, veld management, bush control, veld reclamation) • Development and presentation of training courses on veld management and bush control • Communicating research results through reports, articles and presentations 		
1989 – 1994	Middelburg Eastern Cape	Department of Agriculture, Karoo Region	Agricultural scientist
Description of experience	<ul style="list-style-type: none"> • Planning and execution of research and development projects (grazing capacity, veld management, veld reclamation) • Presentation of training courses on veld management • Formal student training at Grootfontein Agricultural College • Communicating research results through reports, articles and presentations 		
1988 – 1989	Windhoek, Namibia	Directorate Nature Conservation, Namibia Government	Nature Conservation Scientist
Description of experience	<ul style="list-style-type: none"> • Planning and execution of research projects • Development and presentation of training courses on wildlife management • Communicating research results through reports, articles and presentations • Formulation of management recommendations for game reserves 		

10 Environmental impact assessment experience

Conducted numerous EIAs throughout South Africa in terms of the Environmental Conservation Act (No. 73 of 1989), the National Environmental Management Act (No. 107 of 1998) and the Mineral and Petroleum

Resources Development Act (No. 28 of 2002) for shopping malls, PV solar facilities and mining projects. These are summarised below.

Year	EIA project description	Client	EIA Role
2005	ECA Scoping and EIA for the proposed Moirivier shopping mall in Potchefstroom	Moorivier Mall (Pty) Ltd	EAP
2006	MPRDA Metmin Manganese Mining Environmental Management Plan (EMP) amendment	Metmin (Pty) Ltd	EAP
2008	NEMA Scoping and Environmental Impact Assessment for the proposed West Ridge shopping mall in Klerksdorp	West Ridge Mall (Pty) Ltd	EAP
2011	MPRDA Demaneng Mine mining right application		Public participation specialist
2011	9 MPRDA Diamond prospecting right applications in the North-West Province	South East Node (Pty) Ltd	EAP
2011	MPRDA Gold Prospecting prospecting right application	Bookleaf Trade	EAP
2012	NEMA Scoping and Environmental Impact Assessment for the proposed solar facility at the Collett substation near Middelburg, Eastern Cape	AE-AMD (Pty) Ltd	EAP
2012	EIA for the proposed construction of a pollution control dam at the Mponeng Shaft complex, AngloGoldAshanti West Wits Operations	AnglogoldAshanti	EAP
2012	MPRDA Koppie-Aleen Manganese Mining Environmental Management Plan (EMP) amendment	Milnex (Pty) Ltd	EAP
2013	NEMA EIA for the proposed VOPAK development near Heidelberg		Specialist input
2014	NEMA Scoping and Environmental Impact Assessment the proposed construction of a solar facility at Brakfontein near Taung	AE-AMD (Pty) Ltd	EAP
2014	Input in a bid application report - BA for NASREC rooftop solar PV plant	AE-AMD (Pty) Ltd	EAP
2016	NEMA Basic Environmental Impact Assessment for the proposed construction of a solar facility at the Collett substation near Middelburg, Eastern Cape	AE-AMD (Pty) Ltd	EAP
2017	NEMA Scoping and Environmental Impact Assessment for the proposed solar facility at the Collett substation near Middelburg, Eastern Cape	AE-AMD (Pty) Ltd	EAP
2018	NEMA amendment of the Environmental Authorisation for the proposed solar facility at the Collett substation near Middelburg, Eastern Cape	AE-AMD (Pty) Ltd	EAP
2019	NEMA amendment of the Environmental Authorisation for the proposed Olien solar facility near Barkley-West, Northern Cape	Skypower (Pty) Ltd	EAP
2019	NEMA amendment of the Environmental Authorisation for the proposed Swartwater solar facility near Petrusville, Northern Cape	Skypower (Pty) Ltd	EAP
2019	NEMA Basic Environmental Impact Assessment for the proposed decommissioning of the Voorspoed Diamond Mine near Kroonstad, Free State	De Beers (Pty) Ltd	EAP
2020	NEMA amendment of the Environmental Authorisation for the proposed construction of a solar facility at Brakfontein near Taung	Sturdee Energy (Pty) Ltd	EAP
19	Total		

11 Other relevant information

- **External examiner**

- University of the Witwatersrand, Free State University, North-West University and University of Venda (2001-present) - B. Sc Hons, M. Sc. & M. Sc. Agric programmes

- **External moderator**
 - Technikon of Namibia - Botany 1 (1988 – 1989) & Potchefstroom Agricultural College - Pasture Science II & III (1996-2000)
- **Standards Generating Body Executive Committee Member**
 - NSB 10 - Environmental Sciences, Environmental Management & Waste Management, South African Qualifications Authority (2003-2009)
- **Author/co-author of 6 book chapters**
 - Hoffman M.T., Cousins B., Meyer T.C., Petersen A. & Hendricks H. 1998. Historical and contemporary agricultural land use and the desertification of the Karoo. In: Dean W.R.J. & Milton S.J. (eds.) The Karoo: ecological patterns and processes. Cambridge University Press.
 - Meyer, T.C., Kellner, K. & Viljoen, C. 2002. Land transformation and soil quality (Chapter 9). North West State of the Environment Report, 2002. CD ROM. North West Department of Agriculture, Conservation and Environment, Mmabatho.
 - Meyer TC & Le Roux E, 2006. Capacity building for effective municipal environmental management in South Africa. The Sustainable City IV, WIT Press, Southampton, UK.
 - Meyer TC & Roos C, 2015. Hazardous Substances Control. In: Du Plessis A (ed.) Environmental Law and Local Government in South Africa, Juta.
 - Meyer TC, 2015. Soil and Land Management. In: Du Plessis A (ed.) Environmental Law and Local Government in South Africa, Juta.
 - Meyer TC, Verster E, Hattingh A, Snow TV, Olivier NJJ & Du Plessis, W, 2018. Soil, Land and Agriculture. In: King NA, Strydom HA & Retief FP (eds.) Fuggle and Rabie's Environmental Management in South Africa, Juta.
- **Author/co-author of 11 semi-scientific publications**
 - Meyer T.C. & Immelman W.F. 1993. Botaniese dieetsamestelling van Afrino's op Dorre Karooveld. Karoo Agric 5(2): 5-9
 - Hoon J.H. & Meyer, T.C. 1998. Effek van die toediening van 'n kommersiële tannien inhibeerder op die prestasie van Angorabokke op Spekboomveld. Groofontein Agric 1(1): 8-10.
 - Meyer T.C., van den Heever J. 1998. Interactions between livestock farming, human needs and the environment in the communal farming sector – perceptions of field workers in the Ganyesa District of the North West Province. Proceedings of a Symposium on Policy-making for the Sustainable Use of southern African Communal Rangelands. University of Fort Hare, Alice, South Africa.
 - Meyer T.C., Venter I.S. & Van Zijl I.J.M. 1998. The sustainability of livestock farming in communal rangelands in the North West Province – experience from a long term grazing experiment. Proceedings of a Symposium on Policy-making for the Sustainable Use of southern African Communal Rangelands. University of Fort Hare, Alice, South Africa.
 - Meyer T.C., van den Heever J. 1999. Perceptions in Ganyesa on livestock farming. North West Focus, 1999(1): 6-8. Department of Agriculture, North West Province, Potchefstroom.
 - Meyer T.C. & Richter C.G.F. 2000. Die Prosopis bedreiging in die ariede gebiede van Suid-Afrika. North West Focus 2000(2). Department of Agriculture, North West Province, Potchefstroom.
 - Richter C.G.F. & Meyer T.C. 2000. Die beheer en bestryding van Prosopis. North West Focus 2000(2). Department of Agriculture, North West Province, Potchefstroom.
 - Richter C.G.F. & Meyer T.C. 2001. Perspective on bush encroachment in the North West Province. North West Focus 2001(1). Department of Agriculture, North West Province, Potchefstroom.

- Meyer, T.C., C.F.G. Richter & G.N. Smit. 2001. The implications of vegetation dynamics in the Kalahari Thornveld for game ranching. North West Focus 2001(2): 3-10. NW DACE, Potchefstroom.
- Meyer T.C. & Nel J.G. 2002. Towards sustainable development: promoting environmental awareness and training in the mining sector. Proceedings of the First Botswana International Mining Conference, Gaborone, November.
- Meyer T.C. & Le Roux E. 2006. Capacity building for effective municipal environmental management in South Africa. The Sustainable City IV: Urban Regeneration and Sustainability. WITPress, Southampton.
- Author of numerous popular publications
- Delivered 41 platform presentations at national and international professional conferences/symposia

2021-07-28

12.2 APPENDIX B: MINUTES OF PRE-APPLICATION MEETING WITH THE COMPETENT AUTHORITY

Ref: 2020_87_Skypower project pre-app meeting minutes
cc registration number: 2001/038770/23
VAT Registration number: 4290240052



P O Box 2629
Potchefstroom
2520

Fax 086 402 2610
Tell 072 573 8962
E-mail charlotte@globalgreensa.co.za

Date: 03 December 2020

Minutes of pre-application meeting for the proposed Dobbin and Beaufort-West PV solar facilities environmental authorisation applications

1. Dobbin PV solar facility:

Located on Portion 1 of the farm Het Fortuin no. 66, Inxuba Yethemba Local Municipality, Eastern Cape, covering an area of approximately 225 ha.

2. Beaufort West PV solar facility:

Located on Portion 9 of the Farm 161 Kuilspoort, Remainder of Farm 162 Suid-Lemoensfontein, Portion of Portion 1 of the Farm 163 Bulskop, as well as RE/1/163; E7581; RE/185; 4/169; 5/169; 1/168; 10/170 & 31/170, Beaufort West, Western Cape, covering an area of approximately 225 ha.

Date: 01 December 2020, 10:00
Venue: Online - Windows Teams
Attendance: Global Green (EAP)

- Mr. Theunis Meyer [TM]
- Prof. Francois Retief [FR]
- Mrs. Charlotte Cilliers [CC]

DEFF (relevant authority)

- Ms. Thulisile Nyalunga [TN]
- Ms. Fiona Grimett [FG]

Supplementary documents:

Appendix 1: Pre-application meeting power point presentation

Appendix 2: Pre-application meeting Agenda

Appendix 3: Public Participation Plan (as submitted to DEFF on 29 October 2020 and approved on 01 December 2020).

NO.	AGENDA ITEMS	CONTRIBUTOR
1	Opening and welcome: TM welcomed everybody to the meeting and expressed his gratitude for attendance.	Theunis Meyer
2	Introduction and attendees: Everybody introduces themselves	All
3	Purpose of the meeting: TM explained the purpose of the meeting for the pre-application process for two proposed EIA applications: <i>i.</i> EIA for the proposed development of a 75MW photo-voltaic (PV) solar facility (covering an area of approximately 225 ha) and a grid connection line, located on Portion 1 of the farm Het Fortuin no. 66, Inxuba Yethemba Local Municipality, Eastern Cape (<i>herein after refer to as Dobbin PV Plant</i>). <i>ii.</i> EIA for the proposed development of a 75MW photo-voltaic (PV) solar facility (covering an area of approximately 225 ha) and a grid connection line, located on Portion 9 of the Farm 161 Kuilspoot, Remainder of Farm 162 Suid-Lemoensfontein, Portion of Portion 1 of the Farm 163 Bulskop, as well as RE/1/163; E7581; RE/185; 4/169; 5/169; 1/168; 10/170 & 31/170, Beaufort West, Western Cape (<i>herein after refer to as Beaufort West PV Plant</i>).	Theunis Meyer
3.1	TM briefly discussed the agenda items. No comments are made.	Theunis Meyer
4	Dobbin PV Plant	
4.1	Brief overview of proposed application and project: TM provided a site description, background information and proposed PV activities of the.	Theunis Meyer
4.2	a. Previous EIA application / Environmental Authorisation: TM explained that a previous EA was issued on 15 July 2013 for a 75MW photo-voltaic (PV) solar facility. TM further explained that the EA lapsed on 16 July 2016.	Theunis Meyer
4.3	b. Specialist studies: TM indicated that the specialist studies conducted as part of the previous EIA application consisted of: <ul style="list-style-type: none"> • Archaeological Impact Assessment • Paleontological Impact Assessment • Ecological Impact Assessment • Wetland Impact Assessment • Avifauna Impact Assessment • Agricultural Assessment • Socio-economic Impact Assessment • Visual Impact Assessment • Hydrogeological Assessment 	Theunis Meyer

NO.	AGENDA ITEMS	CONTRIBUTOR
4.4	TM further explained that all specialist studies would be reviewed and / or amended in accordance with site sensitivity verification requirements and species protocols.	Theunis Meyer
4.5	TM also indicated that no additional specialist studies was identified by the EAP to be included in the proposed EIA process.	Theunis Meyer
4.6	FG agreed to the review and amendment of specialist studies. She further explained that the specialist protocols should be verified and that a motivation should be provided for protocols that are not applicable.	Fiona Grimett
4.7	TM acknowledged.	Theunis Meyer
4.8	<p>c. Public Participation (PP) Plan</p> <p>TM explained that the PP Plan was compiled in accordance with NEMA and the following regulations:</p> <ul style="list-style-type: none"> • Environmental Impact Assessment Regulations 2014 (as amended) and published on 7 April 2017 in GN.R. 324 – 327. • Directions Regarding Measures to Address, Prevent and Combat the Spread of COVID-19 Relating to National Environmental Management Permits and Licences, published on 05 June 2020 in GN.R. 650. 	Theunis Meyer
4.9	TM further explained that a 30-day period will be provided for registration of I&APs and comments on reports without providing any additional timeframes.	Theunis Meyer
4.10	FG Confirmed that the provision of a 30-day period to be provided for registration of I&APs and comments on reports are sufficient and that no additional timeframes should be incorporated (i.t.o. the COVID-19 Regulations). <i>Since the pre-application meeting, the PP Plan has been approved (on 01 December 2020).</i>	Fiona Grimett
4.11	TM proceeded to explain the specific public participation measures to be followed implemented.	Theunis Meyer
4.12	TM explained that the stakeholders / relevant authorities and registered I&APs from the previous application will be included in the proposed public participation process and asked the DEFF team if any additional stakeholders and / or relevant authorities should be included.	Theunis Meyer
4.13	FG confirmed that the inclusion of the stakeholders / relevant authorities and registered I&APs from the previous application will be sufficient.	Fiona Grimett
4.14	FG raised a question regarding how the EIA reports (Scoping and EIAr) will be made available to registered I&APs.	Fiona Grimett
4.15	TM explained that the EIA reports will be made available through online access and / or that a link will be shared with registered I&APs to download the reports.	Theunis Meyer
4.16	FG recommended that the following additional measures be considered as part of the public participation process:	Fiona Grimett

NO.	AGENDA ITEMS	CONTRIBUTOR
	<ul style="list-style-type: none"> • That an executive summary of the EIA reports be emailed to registered I&APs since the EIA reports might be large download files. • That virtual meetings be considered if required by I&APs. • That social media be used as a platform to notify the public of the proposed EIA application. <p>She further clarified that the above measures are not compulsory and should be considered if required.</p>	
4.17	TN recommended that should any virtual meetings be held, that the meeting minutes be included in the EIA applications / reports.	Thulisile Nyalunga
4.18	TM confirmed that the above public participation measures will be considered as part of the public participation process.	Theunis Meyer
5	EIA process confirmation: TM explained that a full EIA process is to be followed for the Dobbin PV Plant.	Theunis Meyer
6	Discussion and Recommendations: TM opened the floor for discussions, further recommendations, and questions.	All
6.1	FG requested for clarification on the location of the proposed activities outside a REDZ.	
6.2	TM confirmed that that the proposed activities (Dobbin PV Plant) is not located within a REDZ or transmission corridor and a full EIA process is to be followed.	
6.3	TN asked when the application will be submitted to DEFF.	
6.4	TM explained that the EIA application will be submitted early in 2021.	
6.5	TM proceeded to the next proposed EIA application (Beaufort West PV Plant) after no further discussions, recommendations, and questions was raised.	Theunis Meyer
6.6	TM proceeded to the next proposed EIA application (Beaufort West PV Plant) after no further discussions, recommendations, and questions was raised.	Theunis Meyer
7	Beaufort West PV Plant	
7.1	Brief overview of proposed application and project: TM provided a site description, background information and proposed PV activities of the Beaufort West PV Plant.	Theunis Meyer
7.2	a. Previous EIA application / Environmental Authorisation: TM explained that a previous EA was issued on 22 February 2012 for a 60MW photo-voltaic (PV) solar facility. He further explained that the first EA amended was granted on 15 August 2012 to expand the PV Plant from 60MW to 85 MW. He further explained that the second EA amendment was granted on 14 August 2012 to	Theunis Meyer

NO.	AGENDA ITEMS	CONTRIBUTOR
	extent the validation period whereafter the EA lapsed on 14 August 2016.	
7.3	FG requested that the previous EAs for both applications be submitted along with the applications.	Fiona Grimett
7.4	TM confirmed that the previous EAs for both applications be submitted along with the applications.	Theunis Meyer
7.5	<p>b. Location of the project within a REDZ and Strategic Transmission Corridor in terms of the Strategic Environmental Assessment for wind and solar photovoltaic energy in South Africa, 2015:</p> <p>TM explained that the Beaufort West PV Plant is located within the Central Strategic Transmission Corridor.</p> <p>Furthermore, TM explained that the site is also located within a proposed 'phase 2 REDZ' but that the latter is not gazetted and / or promulgated. He concluded that a full EIA process is therefore to be followed unless the 'phase 2 REDZ' are gazetted before submission of the EIA application.</p>	Theunis Meyer
7.6	FG confirmed that a full EIA process should be followed unless the 'phase 2 REDZ' are gazetted before submission of the EIA application. She further recommended that the EAP engage with the applicant to discuss the matter of waiting for the promulgations of the 'phase 2 REDZ' and the subsequent following of a BAR process vs proceeding with a full EIA.	Fiona Grimett
	TM confirmed that the EAP will engage with the applicant.	Theunis Meyer
7.7	TN raised a question on whether the MWs of the proposed Beaufort West PV Plant would increase from the previous application.	Thulisile Nyalunga
7.8	TM explained that it is not likely that the MW's will increase due to the size of the property, however the EAP will confirm the latter with the applicant before the application is submitted to DEFF.	Theunis Meyer
7.9	<p>c. Specialist studies:</p> <p>TM indicated that the specialist studies conducted as part of the previous EIA application consisted of:</p> <ul style="list-style-type: none"> • Agricultural Potential Assessment • Biophysical Sensitivity Analysis • Geological Impact Assessment Report • Heritage Impact Assessment • Archaeological Impact Assessment • Paleontological Impact Assessment • Visual Impact Assessment • Traffic Impact Assessment • Town Planning Report (Consent Use) • Tourism Opinion Statement • Borehole Water Analysis 	Theunis Meyer

NO.	AGENDA ITEMS	CONTRIBUTOR
7.10	<p>TM further explained that all specialist studies would be reviewed and / or amended in accordance with site sensitivity verification requirements and species protocols.</p>	Theunis Meyer
7.11	<p>FG agreed to the review and amendment of specialist studies. She further explained that the same principle will apply for this application i.t.o specialist protocols that should be verified and motivation if protocols are not applicable.</p>	Fiona Grimett
7.12	<p>TM acknowledged.</p>	Theunis Meyer
7.13	<p>TM further explained that the EAP identified the following additional specialist studies to be included as part of the EIA application for the Beaufort West PV Plant:</p> <ul style="list-style-type: none"> • Surface Hydrology • Avi-fauna Specialist Study • Socio-economic Impact Assessment (SEIA) • Glint & Glare Specialist Study 	Theunis Meyer
7.14	<p>TM proceeded to explain that the EAP is still reflecting on whether a SEIA should form part of the EIA application.</p>	Theunis Meyer
7.15	<p>FG replied that the inclusion of a SEIA should be determined by the comments received during the public participation process and the judgement of the EAP.</p>	Fiona Grimett
7.16	<p>TM confirmed that the EAP would reflect on the inclusion of a SEIA.</p>	Theunis Meyer
7.17	<p>TM proceeded to explain that the public participation process to be followed is similar to the process explained for the Dobbin PV Plant and that all comments from DEFF raised for the Dobbin PV Plant be relevant for the Beaufort-West PV Plant public participation.</p>	Theunis Meyer
7.18	<p>FG Confirmed that the provision of a 30-day period to be provided for registration of I&APs and comments on reports are sufficient and that no additional timeframes should be incorporated (i.t.o. the COVID-19 Regulations). <i>Since the pre-application meeting, the PP Plan has been approved on 01 December 2020.</i></p> <p>FG confirmed that the inclusion of the stakeholders / relevant authorities and registered I&APs from the previous application will be sufficient.</p> <p>FG recommended that the following additional measures be considered as part of the public participation process:</p> <ul style="list-style-type: none"> • That an executive summary of the EIA reports be emailed to registered I&APs since the EIA reports might be large download files. • That virtual meetings be considered if required by I&APs. • That social media be used as a platform to notify the public of the proposed EIA application. <p>She further clarified that the above measures are not compulsory and should be considered if required.</p>	Fiona Grimett

NO.	AGENDA ITEMS	CONTRIBUTOR
	TN recommended that should any virtual meetings be held, that the meeting minutes be included in the EIA applications / reports.	Thulisile Nyalunga
8	EIA process confirmation: TM ones again explained (no. 7.4) and confirmed that the site is located within a proposed 'phase 2 REDZ' but that the latter is not gazetted and / or promulgated. He concluded that a full EIA process is therefore to be followed unless the 'phase 2 REDZ' are gazetted before submission of the EIA application.	Theunis Meyer
9	Discussion and Recommendations: TM opened the floor for discussions, further recommendations, and questions. No questions were raised and no further recommendations made.	All
10	Closure: TM thanked everybody for their contributions and adjourned the meeting.	Theunis Meyer

12.3 APPENDIX C: PROOF OF COMMUNICATION WITH I&APS REGARDING THE EIA APPLICATION

12.3.1 Appendix C1: Written notices with invitations to register as Interested and Affected Parties (I&APs) were e-mailed to all I&APs.

Ref: 2020_87_Noticie of EIA
cc registration number: 2001/038770/23
VAT Registration number: 4290240052



P O Box 2629
Potchefstroom, 2520

Notice to:
Relevant Authorities with jurisdiction / Identified Stakeholders / potential Interested and Affected Parties, etc.

Fax 086 402 2610
Cell 072 573 8962
E-mail charlotte@globalgreensa.co.za

14 January 2021

NOTICE: ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A 75MW PHOTOVOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE, LOCATED ON PORTION 1 OF THE FARM HET FORTUIN NO. 66, INXUBA YETHEMBA LOCAL MUNICIPALITY, EASTERN CAPE TO BE KNOWN AS DOBBIN PV PLANT

1. With reference to the above-mentioned EIA application, notice is hereby given, in terms of the National Environmental Management Act (Act No. 107 of 1998) and the EIA Listing Notices dated 04 December 2014 (as amended), of the following EIA application:
 - Description: Proposed development of a 75MW photo-voltaic (PV) solar facility (covering an area of approximately 225 ha) and the related distribution network.
 - Location: Portion 1 of the farm Het Fortuin no. 66, Eastern Cape (refer to the attached locality plan).
 - Applicant: SkyPower Solar Pty Ltd
 - Environmental Assessment Practitioner (EAP):
Global Green Environmental Consultants
Contact Person: Charlotte Cilliers
Cell: 072 573 8962
Fax: 086 402 2610
E-mail: charlotte@globalgreensa.co.za
Postal Address: P O Box 2629, Potchefstroom, 2520
 - EIA process to be followed: Scoping and Environmental Impact Reporting.
2. In terms of Regulation 41 of the EIA Regulations (GN.R. 326) all I&APs, surrounding landowners and occupiers as well as organs of state that may have jurisdiction over any aspect of the activities, need to be given the opportunity to comment and register as I&APs.

Therefore, we kindly request that if you wish to comment on the EIA application and register as an interested and/or affected party that you provide us with your comments and contact details no later than **16 February 2021**.

3. If there are any uncertainties or additional information required, please feel free to contact the undersigned.

Kind regards,

A handwritten signature in black ink, appearing to read 'C. Cilliers', enclosed within a circular scribble.

C. Cilliers

M. Env. Man.

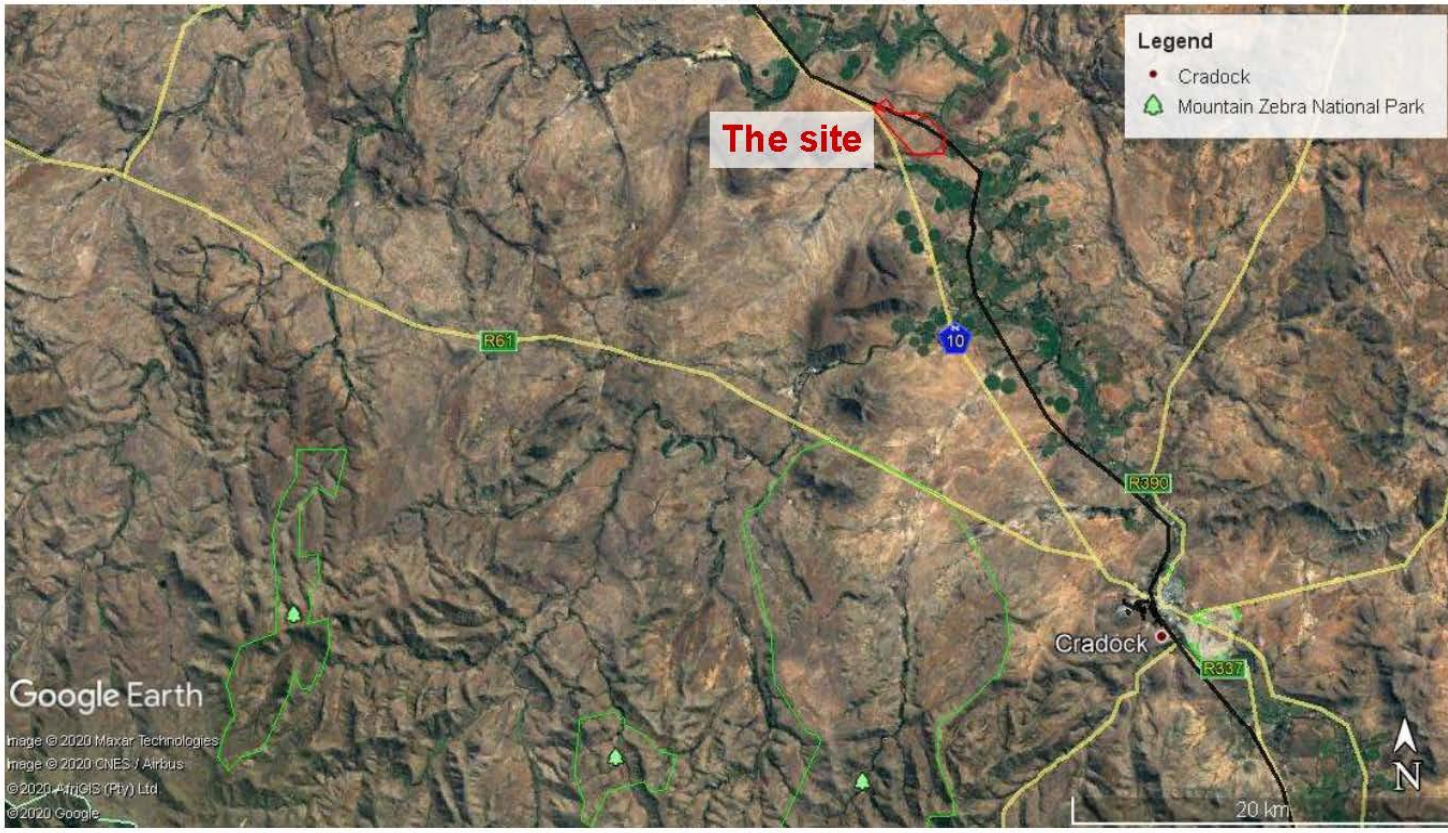
Registered Environmental Assessment Practitioner: Number 2019/1418

s



LOCALITY PLAN:

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A 75MW PHOTO-VOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE, LOCATED ON PORTION 1 OF THE FARM HET FORTUIN NO. 66, INXUBA YETHEMBA LOCAL MUNICIPALITY, EASTERN CAPE TO BE KNOWN AS DOBBIN PV PLANT



3

12.3.2 Appendix C2: Registrations and comments received from I&APs

Charlotte Cilliers - Resolute

From: charlotte@globalgreensa.co.za
Sent: Tuesday, 19 January 2021 10:03 PM
To: 'John Geeringh'
Subject: RE: Notice: EIA public participation process_Dobbin PV Plant
Attachments: Dobbin.kmz

John,

Thank you for your response, we herewith acknowledge your registration as I&AP to the EIA process. Thank you for the procedures and information provided.

As requested please find herewith attached the kmz. for the property boundary, the layout and grid connection is yet to be confirmed and will be provided on receipt from the applicant.

Trust that you find the above in order.

Kind Regards

Charlotte Cilliers

M.Env.Man.

Registered Environmental Assessment Practitioner: Number 2019/1418



GLOBAL GREEN

Environmental Consultants

P.O. Box 2629, Potchefstroom, 2520

Tel: 072 573 8962 – Fax: 086 402 2610

From: John Geeringh <GeerinJH@eskom.co.za>
Sent: Friday, 15 January 2021 12:13 PM
To: charlotte@globalgreensa.co.za
Subject: RE: Notice: EIA public participation process_Dobbin PV Plant

Please find attached Eskom general requirements for works at or near Eskom infrastructure and servitudes as well as an Eskom setbacks guideline for consideration by the applicant during the planning process. Please send me a KMZ file of the affected property, proposed development layout and proposed grid connection.

Kind regards

John Geeringh (Pr Sci Nat)(EAPASA)
Senior Consultant Environmental Management
Land and Rights
Eskom Transmission Division
Megawatt Park, D1Y42, Maxwell Drive, Sunninghill, Sandton.
P O Box 1091, Johannesburg, 2000.

Tel: 011 516 7233
Cell: 083 632 7663
Fax: 086 661 4064
E-mail: john.geeringh@eskom.co.za

From: charlotte@globalgreensa.co.za <charlotte@globalgreensa.co.za>
Sent: Friday, 15 January 2021 12:07
To: cilliers.charlotte@gmail.com
Subject: Notice: EIA public participation process_Dobbin PV Plant
Importance: High

Dear Relevant Authorities with jurisdiction / Identified Stakeholders / potential Interested and Affected Parties, etc.

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A 75MW PHOTOVOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE, LOCATED ON PORTION 1 OF THE FARM HET FORTUIN NO. 66, INXUBA YETHEMBA LOCAL MUNICIPALITY, EASTERN CAPE TO BE KNOWN AS DOBBIN PV PLANT

Please find herewith attached a notice for Environmental Impact Assessment for your attention.

Trust that you find the above in order, please do not hesitate to contact s should you require any additional information.

Kind Regards

Charlotte Cilliers

M.Env.Man.

Registered Environmental Assessment Practitioner: Number 2019/1418



GLOBAL GREEN

Environmental Consultants

P.O. Box 2629, Potchefstroom, 2520

Tel: 072 573 8962 – Fax: 086 402 2610

NB: This Email and its contents are subject to the Eskom Holdings SOC Ltd EMAIL LEGAL NOTICE which can be viewed at http://www.eskom.co.za/Pages/Email_Legal_Spam_Disclaimer.aspx

Charlotte Cilliers - Resolute

From: charlotte@globalgreensa.co.za
Sent: Tuesday, 19 January 2021 10:37 PM
To: 'Cat Conservation Trust'
Subject: RE: Notice: EIA public participation process_Dobbin PV Plant

Marion,

Thank you for your email. We herewith acknowledge your registration as I&AP to the project, you will subsequently receive all related correspondence and reports.

Trust that you find the above in order.

Kind Regards

Charlotte Cilliers

M.Env.Man.

Registered Environmental Assessment Practitioner: Number 2019/1418



GLOBAL GREEN
Environmental Consultants

P.O. Box 2629, Potchefstroom, 2520
Tel: 072 573 8962 – Fax: 086 402 2610

From: Cat Conservation Trust <info@karoocats.org>
Sent: Sunday, 17 January 2021 9:28 AM
To: charlotte@globalgreensa.co.za
Subject: RE: Notice: EIA public participation process_Dobbin PV Plant

Charlotte,

Thank you for the email. Could you please register me as an I&AP.

Thank you.

Marion Holmes

Pr.Sci.Nat

Cat Conservation Trust
Clifton Farm
Cradock, 5880, South Africa
Tel: +27 (0)87 550 1072
Cell: +27 (0)82 868 1936 – CALLS ONLY



and



+27(0)79 695 9108

From: charlotte@globalgreensa.co.za <charlotte@globalgreensa.co.za>

Sent: Friday, 15 January 2021 12:07

To: cilliers.charlotte@gmail.com

Subject: Notice: EIA public participation process_Dobbin PV Plant

Importance: High

Dear Relevant Authorities with jurisdiction / Identified Stakeholders / potential Interested and Affected Parties, etc.

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A 75MW PHOTOVOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE, LOCATED ON PORTION 1 OF THE FARM HET FORTUIN NO. 66, INXUBA YETHEMBA LOCAL MUNICIPALITY, EASTERN CAPE TO BE KNOWN AS DOBBIN PV PLANT

Please find herewith attached a notice for Environmental Impact Assessment for your attention.

Trust that you find the above in order, please do not hesitate to contact us should you require any additional information.

Kind Regards

Charlotte Cilliers

M.Env. Man.

Registered Environmental Assessment Practitioner: Number 2019/1418



GLOBAL GREEN

Environmental Consultants

P.O. Box 2629, Potchefstroom, 2520

Tel: 072 573 8962 – Fax: 086 402 2610



Virus-free. www.avast.com

Charlotte Cilliers - Resolute

From: charlotte@globalgreensa.co.za
Sent: Tuesday, 19 January 2021 10:16 PM
To: 'Michelle Nicol'; 'Siyabonga Nsele'
Cc: 'cilliers.charlotte@gmail.com'
Subject: RE: Notice: EIA public participation process_Dobbin PV Plant

Michelle, Siya,

Thank you for your email, we herewith acknowledge your registration as I&APs to the project. Subsequently, you will receive all correspondence / reports, etc. on the project.

Trust that you find the above in order.

Kind Regards

Charlotte Cilliers

M.Env.Man.

Registered Environmental Assessment Practitioner: Number 2019/1418



GLOBAL GREEN

Environmental Consultants

P.O. Box 2629, Potchefstroom, 2520

Tel: 072 573 8962 – Fax: 086 402 2610

From: Michelle Nicol <NICOLM@eskom.co.za>
Sent: Friday, 15 January 2021 1:05 PM
To: charlotte@globalgreensa.co.za; Siyabonga Nsele <NseleSi@eskom.co.za>
Cc: cilliers.charlotte@gmail.com
Subject: RE: Notice: EIA public participation process_Dobbin PV Plant

Good Afternoon Charlotte,

Your email is received safely. Please Note all reminder follow ups are welcome.

Good Afternoon Siya;

Email for your action.

Thank you and regards

Michelle Nicol

Lands and Rights Deeds Registration Officer
Land Development Department,
KwaZulu Natal Operating Unit
Distribution Division
25 Valley View Road New Germany
P O Box 66, New Germany, 3620.
Tel: +27 (0)31-7105404 PAX 8321 5404
E-mail nicolm@eskom.co.za



Please be safe around electricity.

From: charlotte@globalgreensa.co.za <charlotte@globalgreensa.co.za>
Sent: Friday, 15 January 2021 12:07
To: cilliers.charlotte@gmail.com
Subject: Notice: EIA public participation process_Dobbin PV Plant
Importance: High

Dear Relevant Authorities with jurisdiction / Identified Stakeholders / potential Interested and Affected Parties, etc.

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A 75MW PHOTOVOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE, LOCATED ON PORTION 1 OF THE FARM HET FORTUIN NO. 66, INXUBA YETHEMBA LOCAL MUNICIPALITY, EASTERN CAPE TO BE KNOWN AS DOBBIN PV PLANT

Please find herewith attached a notice for Environmental Impact Assessment for your attention.

Trust that you find the above in order, please do not hesitate to contact s should you require any additional information.

Kind Regards

Charlotte Cilliers

M. Env. Man.

Registered Environmental Assessment Practitioner: Number 2019/1418



GLOBAL GREEN

Environmental Consultants

P. O. Box 2629, Potchefstroom, 2520

Tel: 072 573 8962 – Fax: 086 402 2610

NB: This Email and its contents are subject to the Eskom Holdings SOC Ltd EMAIL LEGAL NOTICE which can be viewed at http://www.eskom.co.za/Pages/Email_Legal_Spam_Disclaimer.aspx

12.4 APPENDIX D: PROOF OF NEWSPAPER ADVERTISEMENTS

12.4.1 Appendix D1: Text of the site notices and newspaper advertisements.

NOTICE: ENVIRONMENTAL IMPACT ASSESSMENT (EIA) APPLICATION

In terms of the National Environmental Management Act (Act No. 107 of 1998) and the EIA Listing Notices dated 04 December 2014 (as amended), notice is given of the following EIA application:

- ❖ Description: Proposed development of a 75MW photo-voltaic (PV) solar facility (covering an area of approximately 225 ha) and the related distribution network.
- ❖ Location: Portion 1 of the farm Het Fortuin no. 66, Eastern Cape (site coordinates: 31°56'27.65"S; 25°29'11.42"E).
- ❖ Applicant: SkyPower Solar Pty Ltd
- ❖ Environmental Assessment Practitioner (EAP):
 - Global Green Environmental Consultants
 - Contact Person: Charlotte Cilliers
 - Cell: 072 573 8962
 - Fax: 086 402 2610
 - E-mail: charlotte@globalgreensa.co.za
 - Postal Address: P O Box 2629,
Potchefstroom, 2520
- ❖ EIA process to be followed: Scoping and Environmental Impact Reporting.

The EIA application will be submitted to the National Department of Environment, Forestry and Fisheries.

In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter, in writing, to the EAP by end of business on **02 February 2021**. Relevant information about the proposed developments will be made available to registered interested and affected parties, while they will also be provided the opportunity to comment on all documents before these are submitted to the competent authority.

12.4.2 Appendix D2: Proof of notice published in the Hartland Nuus on 10 December 2020

2

Donderdag / Thursday 10 Desember/December 2020

DOCUMENT / BATH NOTICE

Met behoeve van herinnering aan Nicolaas Hendrik Johannes Lambert.
Gedees 1 September 1987, en overleed op 5 Desember 2020.
Die rouperiodes sal op Vrydag 11 Desember 2020 om 14:00 uur, vanuit die NG Kerk te Somerset-Oos plaasvind. Tersaakbestelling priewé.

Diens gelees deur Lita Aftor Lita Fermanis
042 243 3142 Somerset-Oos

TE KOOP / FOR SALE

ANTIEKE TRAP NAAMSAJEN - SINGEL
Klein - 9 tredes
Werkende toestand.
Maak 'n offer.
Streekl 071 851 4046
Somerset-Oos.

VERKOOPING / NOTICE

Hiermee word kennis gegee van die AGM van die Somerset-Oos Landbougenootskap wat sal plaasvind op Dinsdag 15 Desember 2020 om 17h15 te Somerset-Oos Sissies.

ACCOMMODATION / ACCOMMODATION

Jacky's B&B
2 fully equipped self garden flats. Walnut, Port Elizabeth.
Continental breakfast supplied, secure parking, private entrance, close to schools, hospital & airport.
Tariff: R400 single / R600 double per night.
Contact Jacky Heintz
041-591 8908 / 083 485 2890
www.jackysbnb.co.za
Tel: 041 591 8908 / 083 485 2890

VERKOOPING / NOTICE

The Department of Social Development Adeline's Service Clinic is supporting anyone with information with regards to the biological father of children whose whereabouts are reported to be unknown by the family that is looking for the children concerned, to contact Social Worker, L.A. Meeuwse at 048 884 0211 during office hours (0730-1630).
To our knowledge the reported father of the children is Verthandilus Ester Oelme of Red Location, who is the maternal grandfather to the children concerned. Biological mother is Cecilia Oelme who is deceased.

NOTICE: ENVIRONMENTAL IMPACT ASSESSMENT (EIA) APPLICATION

In terms of the National Environmental Management Act (Act No. 107 of 1998) and the EIA Listing Notices dated 04 December 2014 (as amended), notice is given of the following EIA Application:

- Description: Proposed development of a 75MW photovoltaic (PV) solar facility (covering an area of approximately 225 ha) and the related distribution network.
- Location: Portion 1 of the farm Het Fortuin no. 66, Eastern Cape (site coordinates: 31°56'27.85"S; 25°29'11.42"E).
- Applicant: SkyPower Solar Pty Ltd
- Environmental Assessment Practitioner (EAP): Global Green Environmental Consultants
Contact Person: Charlotte Cilliers
Cell: 072 573 8962
Fax: 088 422 2810
E-mail: charlotte@globalgreens.co.za
Postal Address: P O Box 2629, Potchefstroom, 2520

EIA process to be followed: Scoping and Environmental Impact Reporting.

The EIA application will be submitted to the National Department of Environment, Forestry and Fisheries.

In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter, in writing, to the EAP by end of business on 02 February 2021. Relevant information about the proposed developments will be made available to registered interested and affected parties, while they will also be provided the opportunity to comment on all documents before these are submitted to the competent authority.

ADVANS HUIS DOORNE DREYER ADELIADE

Bereid te dienste van 'n **Geregistreerde Verpleegkundige (Suster) / Ingeklewde Verpleegassistent (Stafverpleegster)**

Formasie: Registreer by SA Reed op Verpleging
Aanbidding: Kennis van Inrigtingsorg
Kennis van Bejaersorg

Bekleedingsdatum vir aanstelling: 18 Desember 2020
Datum van die aanstelling: 1 Januarie 2021

Aanwettende leier, party word vers:
Die Beheerder - ADVANS Huis Carrie Dreyer
Kerkstraat 24, ADELIADE 6780

Tel : 046-994 0226
Tel : 076 032 3544
E-pos : nurulidoo@advans.com

**SAAM BEREIK ONS MEER
TOGETHER WE ACHIEVE MORE**

WOLMARKVERSLAG

FORT ELIZABETH - 02 DESEMBER 2020

MARKSOMATIEK
Die 1de wolkval van die 2020/21 woiestien het hierdie week, op 02 Desember plaasgevind en was dit ook die laaste wolkval van 2020. Die Cape Woods Merino aanwyser het met 1.9% versterk teenoor die vorige wolkval en teen 'n aanwysing van R144.23/kg geëindig. Die Australiese 200 het met 1.04% versterk teenoor die vorige wolkval. Die Rand het, ooreenstemmend daarmee tyd van die vorige wolkval, 0.2% aanwysing versterk teen die VSA Dollar en 1.6% teenoor die Euro. Die grootheidsging van 2.2%, was in die 22 miljoen segment Lantana SA het op hierdie wolkval die grootste hoërswaard baie gekoop, gevolg deur Glodiano SA, Standard Wool SA en Tanyu SA. Daar is in totaal 13 706 bales aangekoop, waarvan 66.3% verkoop is. Op die OVK wolkval is 9 910 bales aangekoop waarvan 97.9% verkoop is. Die hoogste prys op die OVK wolkval, van R171.00/kg, is behaal vir 'n bal tot AFFH van 18.2 miljoen, uit die steerwal van Faskally Farms, Barkly-Oos. Die koper was Standard Wool SA. Bala geëindig met hierdie prestasie!

BLUE CRANE ROUTE MUNICIPALITY

NOTICE NO 46/2020

WORKING HOURS DURING CHRISTMAS RECESS 2020

Notice is hereby given that the following working hours at all Blue Crane Route Municipal offices will be applicable during the 2020 Christmas recess, namely:-

Management therefore proposed that the Municipal Offices be closed as follows:-

(a) Offices remain closed for business on:-

- (i) Thursday, 24 December 2020;
- (ii) Monday, 28 December 2020;
- (iii) Tuesday, 29 December 2020;
- (iv) Wednesday, 30 December 2020
- (v) Thursday, 31 December 2020;

Day	Date	Working Hours
Thursday	24 December 2020	Closed for business
Friday	25 December 2020	Public Holiday
Monday	28 December 2020	Closed for business
Tuesday	29 December 2020	Closed for business
Wednesday	30 December 2020	Closed for business
Thursday	31 December 2020	Closed for business
Friday	1 January 2021	Public Holiday

The offices will re-open on Monday, 4 January 2021, at 07.45.

Please note that during this period prepaid electricity can be purchased at various vendor points situated in the Blue Crane Route Municipal area, including the ATM's of the following banks, namely:-

- Standard Bank
- FNB
- ABSA
- Capitec.

Municipal accounts can be paid at ABSA Bank, Account Number 22-0000-0008, Branch Number 632005, using your municipal account number as reference and emailing the deposit slip to lsnr@bcrm.gov.za / tbluet@bcrm.gov.za.

The arrangement and payment on **Burial Plots**, is as follows:

- Mr Francois Triegaardt is the contact person, his cell number is 083 786 8981, to make the necessary arrangements on obtaining a Burial Plot and the exact amount that must be deposited into the municipality's bank account.
- The banking details is ABSA Bank, Account Number 22-0000-0008, Branch Number 632005, using your/the deceased name as reference. Note the bank deposit slip must then be issued to Mr Triegaardt to make the final arrangements on the burial.

The **Prepaid Electricity Vending points** are as follows:

TOWN	TIME FRAMES
PEARSTON TOWN	
1. U-Save, Voortrekker Street	Monday to Sunday during Normal Business Hours
SOMERSET EAST TOWN	
1. De Freitas Spar, Njoli Street	Monday to Sunday during Normal Business Hours
2. U-Save, Njoli Street	Monday to Sunday during Normal Business Hours
COOKHOUSE TOWN	
1. Mbizana Cash Store, Vuyo Street	Monday to Sunday during Normal Business Hours
2. Cookhouse Supermarket, Somerset Road	Monday to Sunday during Normal Business Hours
3. U-Save, Cnr of Peter Street & Somerset Road	Monday to Sunday during Normal Business Hours

Merry Christmas to everyone! May your holiday season and the New Year be filled with much joy, happiness and success. COVID - Stay Safe.

SOMERSET EAST 11/12/2020

THABISO KLAAS MUNICIPAL MANAGER
67 Njoli Street
P.O. Box 21
SOMERSET EAST 5850
Tel : 042 243 6400
Fax : 042 243 3392

KENNISGEWING / NOTICE



Donderdag 17 Desember 2020

verskyn die laaste Hartlandnuus vir die jaar.


Indien u wil adverteer, moet u advertensie ons bereik teen Dinsdag 17:00

12.4.3 Appendix D3: Proof of notice published on the Cradock Community Facebook page on 8 December 2020

7/5/2021 (20+) Cradock Community | Facebook

Cradock Community
 Private group · 883 members



Invite

About Discussion Rooms Topics Members Events Media

Charlotte Cilliers
 December 8, 2020

**NOTICE:
 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
 APPLICATION**

In terms of the National Environmental Management Act (Act No. 107 of 1998) and the EIA Listing Notices dated 04 December 2014 (as amended), notice is given of the following EIA application:

- ✦ Description: Proposed development of a 75MW photo-voltaic (PV) solar facility (covering an area of approximately 225 ha) and the related distribution network.
- ✦ Location: Portion 1 of the farm Het Fortuin no. 66, Eastern Cape (site coordinates: 31°56'27.65"S; 25°29'11.42"E).
- ✦ Applicant: [SkyPower Solar Pty Ltd](#)
- ✦ Environmental Assessment Practitioner (EAP):
 Global Green Environmental Consultants
 Contact Person: Charlotte Cilliers
 Cell: 072 573 8962
 Fax: 086 402 2610
 E-mail: charlotte@globalgreensa.co.za
 Postal Address: P O Box 2629,
 Potchefstroom, 2520
- ✦ EIA process to be followed: Scoping and Environmental Impact Reporting.

The EIA application will be submitted to the National Department of Environment, Forestry and Fisheries.

In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter, in writing, to the EAP by end of business on **02 February 2021**. Relevant information about the proposed developments will be made available to registered interested and affected parties, while they will also be provided the opportunity to comment on all documents before these are submitted to the competent authority.

Like Comment

Write a comment...

<https://www.facebook.com/groups/683053095829843/permalink/900622007406283>

1/1

12.4.4 Appendix D4: Proof of notice published on the Cradock Community Facebook page on 8 January 2021

7/5/2021 (20+) Cradock Community | Facebook

Cradock Community
 Private group · 883 members

Charlotte Cilliers
 January 8 · 1

**NOTICE:
 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
 APPLICATION**

In terms of the National Environmental Management Act (Act No. 107 of 1998) and the EIA Listing Notices dated 04 December 2014 (as amended), notice is given of the following EIA application:

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- ✦ Location: Portion 1 of the farm Het Fortuin no. 66, Eastern Cape (site coordinates: 31°56'27.65"S; 25°29'11.42"E).
- ✦ Applicant: SkyPower Solar Pty Ltd
- ✦ Environmental Assessment Practitioner (EAP):
 Global Green Environmental Consultants
 Contact Person: Charlotte Cilliers
 Cell: 072 573 8962
 Fax: 086 402 2610
 E-mail: charlotte@globalgreensa.co.za
 Postal Address: P O Box 2629,
 Potchefstroom, 2520
- ✦ EIA process to be followed: Scoping and Environmental Impact Reporting.

The EIA application will be submitted to the National Department of Environment, Forestry and Fisheries.

In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter, in writing, to the EAP by end of business on **02 February 2021**. Relevant information about the proposed developments will be made available to registered interested and affected parties, while they will also be provided the opportunity to comment on all documents before these are submitted to the competent authority.

1 Like Comment

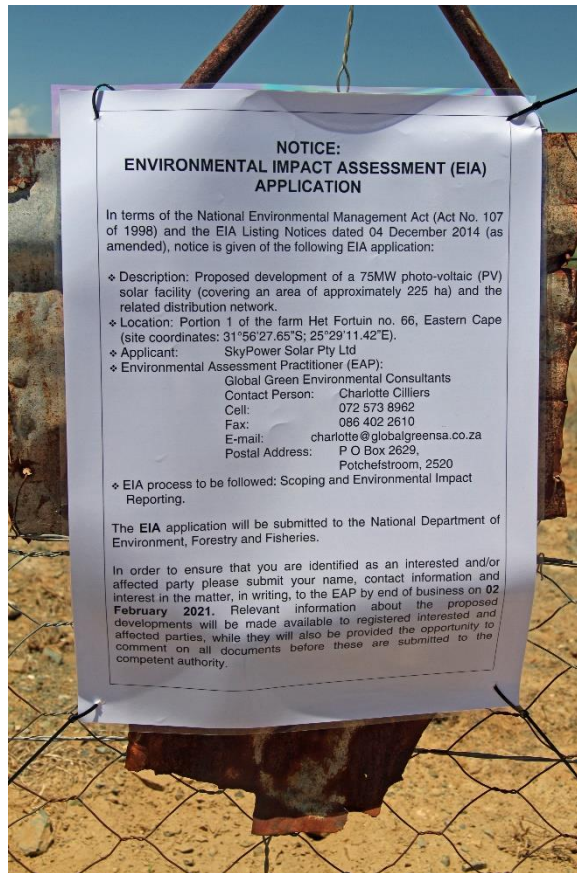
Write a comment...

<https://www.facebook.com/groups/683053095829843/permalink/920460865422397>

1/1

12.5 APPENDIX E: PHOTOGRAPHIC PROOF OF SITE NOTICES

12.5.1 E1. Site notices displayed at the preferred site for the proposed development



12.5.2 E2. Site notice displayed along the N10 national road between Middelburg and Cradock, at the entrance gate to the microwave tower



12.5.3 E3. Site notice displayed on a gate on the gravel road from the N10 to the Knutsford siding, on the southern boundary of the preferred site for the proposed development

