DRAFT BASIC ASSESSMENT REPORT

for

KAREEKLOOF ENERGY PV AND BESS ELECTRICAL GRID INFRASTRUCTURE

on

Portion 1 of the farm Bas Berg 88, Portions 11 of the Farm Karee Kloof 85, Portion 6 of the farm Karee Kloof 85, Portion 17 of the Farm Karee Kloof 85, Portion 2 of Farm Koppy Alleen 83, Portion 3 of Bas Berg 88, Portion 1 of Farm Koppy Alleen 83, and Portion 5 of Farm Koppy Alleen 83

In terms of the

National Environmental Management Act (Act No. 107 of 1998, as amended) & 2014 Environmental Impact Regulations

Prepared for Applicant: **Kareekloof Energy (Pty) Ltd**

Date: **2 August 2024**

Author of Report: Mr Dale Holder
Author Email: dale@cape-eaprac.co.za

Report Reference: **PIX796/16**
Department Reference: **To be allocated**
Case Officer: **To be allocated**

Cape EAPrac
Cape Environmental Assessment Practitioners

Tel: +27 44 874 0365 PO Box 2070, George 6530
Fax: +27 44 874 0432 17 Progress Street, George

www.cape-eaprac.co.za

APPOINTED ENVIRONMENTAL ASSESSMENT PRACTITIONER:

***Cape EAPrac* Environmental Assessment Practitioners**

PO Box 2070

George

6530

Tel: 044-874 0365

Fax: 044-874 0432

Report written & compiled by: Mr Dale Holder (Ndip NatCon), who has 20 years' experience as an environmental practitioner.

Registration: Registered Environmental Assessment Practitioner with the Environmental Assessment Practitioners of South Africa, EAPASA, Registration Number **2019/301**.

PURPOSE OF THIS REPORT:

Stakeholder Engagement

APPLICANT:

Kareekloof Energy (Pty) Ltd

CAPE EAPRAC REFERENCE NO:

PIX796/16

SUBMISSION DATE

02 July 2024

PUBLIC PARTICIPATION

By participating in this environmental process, whether it be through written submissions, telephonic enquiries, registrations or attendance of meetings, you are automatically giving consent for your full contact details and/or any submissions/inputs to be used and published in all matters pertaining to this application i.e. reports/notifications/communication for review or decision-making.

DOCUMENT TRACKING

DOCUMENT HISTORY

DOC REF	REVISION	DATE	AUTHOR
PIX796/16	Draft BAR for I&AP review.	2024-08-02	Mr Dale Holder

APPROVAL FOR RELEASE

NAME	TITLE	SIGNATURE
Mr Dale Holder	Senior Environmental Assessment Practitioner	

DISTRIBUTION

DESIGNATION	NAME	EMAIL / FAX
Registered Interested and Affected Parties	Various	Various
Potential Interested and Affected parties	Various	Various
Kareekloof Energy (Pty) Ltd	Marshall Mabin	marshall@merchant.energy
Department of Agriculture, Environmental Affairs, Rural Development and Land Reform	Kimberley Office c/o Ms Gail Letimela.	Via Courier.

DRAFT BASIC ASSESSMENT REPORT

in terms of the
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended &
Environmental Impact Regulations 2014

KAREEKLOOF ENERGY PV AND BESS ELECTRICAL GRID INFRASTRUCTURE

Portion 1 of the farm Bas Berg 88, Portions 11 of the Farm Karee Kloof 85, Portion 6 of the farm Karee Kloof 85, Portion 17 of the Farm Karee Kloof 85, Portion 2 of Farm Koppy Alleen 83, Portion 3 of Bas Berg 88, Portion 1 of Farm Koppy Alleen 83, and Portion 5 of Farm Koppy Alleen 83

Submitted for:
Stakeholder Review & Comment

Report Issued by:
Cape Environmental Assessment Practitioners

Tel: 044 874 0365
Fax: 044 874 0432
Web: www.cape-eaprac.co.za

PO Box 2070
17 Progress Street
George 6530

ORDER OF REPORT

Appendix A	:	Maps – Location Plan, Topographical Map, Biodiversity Overlays
Appendix B	:	Site Photographs
Appendix C	:	Facility illustration(s)
Appendix D	:	Specialist and Technical Reports
Appendix D1	:	Terrestrial Biodiversity Impact Assessment (Enviro Insight, 2024)
Appendix D2	:	Avifaunal Impact Assessment (Enviro Insight, 2024)
Appendix D4	:	Visual Impact Assessment (VRMA, 2024)
Appendix D5	:	Aquatic Biodiversity Compliance Statement (Tate, 2024)
Appendix D6	:	Agricultural Impact Assessment (Lanz, 2024)
Appendix E	:	Public Participation
Appendix E1	:	I&AP Register
Appendix E2	:	Adverts and Site Notices (to be included in Final BAR after completion of public participation process)
Appendix E3	:	Comments and Responses Report (to be included in Final BAR after completion of public participation process)
Appendix E4	:	Notification of Availability of Draft Basic Assessment Report (to be included in Final BAR after completion of public participation process)
Appendix E5	:	Proof of Availability of Draft Basic Assessment Report (to be included in Final BAR after completion of public participation process)
Appendix E6	:	Comments received (to be included in Final BAR after completion of public participation process)
Appendix F	:	Impact Assessment
Appendix G1	:	Environmental Management Programme (EMPr) Powerline Infrastructure.
Appendix G2	:	Environmental Management Programme (EMPr) Substation Infrastructure.
Appendix H	:	Details of EAP and expertise
Appendix I	:	Specialist's declaration of interest
Appendix J	:	Additional Information
Appendix J1	:	Landowner Consent
Appendix J2	:	Title Deed
Appendix J3	:	Screening Tool Report and Site Sensitivity Verification Report
Appendix J4	:	Environmental Authorisations for PV facility, BESS and associated infrastructure
Appendix K	:	Application Form

FIGURES

Tables

1. CONTENT OF BASIC ASSESSMENT REPORTS

Appendix 1 of the 2014 EIA Regulations (as amended) contains the required contents of a Basic Assessment Report. The checklist below serves as a summary of how these requirements were incorporated into this Basic Assessment Report.

Requirement	***Details***
(a) Details of - *(i) The EAP who prepared the report; and* *(ii) The expertise of the EAP, including, curriculum vitae.* *(iii) Applicant Details*	(i) Mr Dale Holder (ii) Ndip NatCon, 20 years' experience in Environmental Management, CV attached in Appendix H. EAPASA Registration Nr: 2019/301. (iii) Kareekloof Energy (Pty) Ltd
(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;* *(iii) Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.*	(i) C05700000000008800001, C05700000000008300002, C05700000000008500006, C05700000000008500011, C05700000000008500017, C05700000000008800003, C05700000000008300001, C05700000000008300005. (ii) Portion 1 of the farm Bas Berg 88, Portions 11 of the Farm Karee Kloof 85, Portion 6 of the farm Karee Kloof 85, Portion 17 of the Farm Karee Kloof 85, Portion 2 of Farm Koppy Alleen 83, Portion 3 of Bas Berg 88, Portion 1 of Farm Koppy Alleen 83, and Portion 5 of Farm Koppy Alleen 83
(c) a plan which locates the proposed activity, or activities applied for as well as the associated structures and infrastructure 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; or* *(ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.*	(i) Please refer to layout plans in Appendices A and C.
(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.*	(i) Please refer to Section A2 of this report (ii) Please refer to Section A2 of this report
(e) A description of the policy and legislative context within which the development is proposed, including –	(i) Please refer to Section A11 of this report. (ii) Please refer to Section A11 of this report

Requirement	***Details***
(i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and *(ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks and instruments.*	
(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.	Please refer to Section A3 of this report
(g) A motivation for the preferred site, activity and technology alternative.	Please refer to Section A3 of this report
(h) A full description of the process followed to reach the proposed preferred alternative within the site, including - *(i) Details of all alternatives considered;* *(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;* *(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;* *(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.* *(vi) The methodology used in determining 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;* *(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.*	(i) Section A3 (ii) Section C and Appendices E1 to E6 (iii) Section C3 (iv) Section B (v) Section D1 (vi) Section D1 (vii) Appendix F (viii) Appendix F and Section D1 (ix) Section A3 (x) Section A3 (xi) Section E (xii) Appendix F
(i) A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including –	Appendix F

Requirement	***Details***
(ii) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and *(iii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.*	
(j) An assessment of each identified potentially significant impact and risk, including - *(i) Cumulative impacts;* *(ii) The nature, significance and consequences of the impact and risk;* *(iii) The extent and duration of the impact and risk;* *(iv) The probability of the impact and risk occurring;* *(v) The degree to which the impact and risk can be reversed;* *(vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and* *(vii) The degree to which the impact and risk can be mitigated.*	Appendix F and Section D1 and D2
(k) Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report.	Section D1
(l) An environmental impact statement which contains: *(i) A summary of the key findings of the environmental impact assessment;* *(ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and* *(iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.*	Section D2
(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr.	Appendix G
(n) Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.	Section E
(o) A description of assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed.	Section D
(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	Section E
(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised.	It is requested that the Environmental Authorisation be valid for the full 10-year period contemplated in the regulations. Construction should be completed within 5 years of commencement. The activity does not include any operational activities.
(r) An undertaking under oath or affirmation by the EAP in relation to: *(i) The correctness of the information provided in the reports;*	Appendix H

Requirement	***Details***
(ii) The inclusion of comments and inputs rom stakeholders and I&APs; *(iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and* *(iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.*	
(s) Where applicable, details of any financial provisions for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts.	Not Applicable
(t) Any specific information that may be required by the competent authority.	The competent authority was provided with an opportunity to comment on the Draft Basic Assessment Report. Any additional information in terms of this requirement will be provided.
(u) Any other matters required in terms of section 24(4)(a) and (b) of the Act.	None to date

the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Private Bag X6102, Kimberley, 8300, Metlife Towers, T-Floor, Tel: 053 807 7300, Fax: 053 807 7328

Project applicant:	Kareekloof Energy (Pty) Ltd.		
Business reg. no. /ID. no.:	2023 / 725974 / 07		
Contact person:	Mr Marshall Mabin		
Postal address:	240 Main Road, Rondebosch, Cape Town, 7700		
Telephone:	0795784511	Cell:	0795784511
E-mail:	marshall@merchant.energy	Fax:	None

Prepared by:

Environmental Assessment Practitioner/Firm:	Cape Environmental Assessment Practitioners (Cape EAPrac)		
Business reg. no. /ID. no.:	2008/004627/07		
Contact person:	Mr Dale Holder		
Postal address:	PO Box 2070, George, 6530		
Telephone:	044 874 0365	Cell:	082 448 9225
E-mail:	dale@cape-eaprac.co.za	Fax:	044 874 0365
EAPASA registration no	Registered Environmental Assessment Practitioner with the Environmental Assessment Practitioners of South Africa, EAPASA, Registration Number **2019/301**.		

(For official use only)

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	✓YES	~~NO~~

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

2. ACTIVITY DESCRIPTION

a) Describe the project associated with the listed activities applied for

The Applicant, Kareekloof Energy (Pty) Ltd, is proposing the construction of Electrical Grid Infrastructure to support the authorised Kareekloof PV Energy and BESS Project. The proposed Electrical Grid Infrastructure to support the Kareekloof Energy PV and BESS Project consists of 3 on-site substations as well as three powerlines (strung on two routes of monopoles) from the on-site substations to the proposed Krypton Major Transmission Substation (MTS). The total length of the powerline is approximately 11.5 kilometres.

This Grid Connection infrastructure will occur on the following properties.

- Portion 1 of the farm Bas Berg 88,
- Portions 11 of the Farm Karee Kloof 85,
- Portion 6 of the farm Karee Kloof 85,
- Portion 17 of the Farm Karee Kloof 85,
- Portion 2 of Farm Koppy Alleen 83,
- Portion 3 of Bas Berg 88,
- Portion 1 of Farm Koppy Alleen 83, and
- Portion 5 of Farm Koppy Alleen 83

The project will entail connection to the associated electrical infrastructure at the Proposed Krypton Substation, including associated works within the substation.

The Detailed Technical Information Checklist is included along with the site layout plan attached in Appendix C.

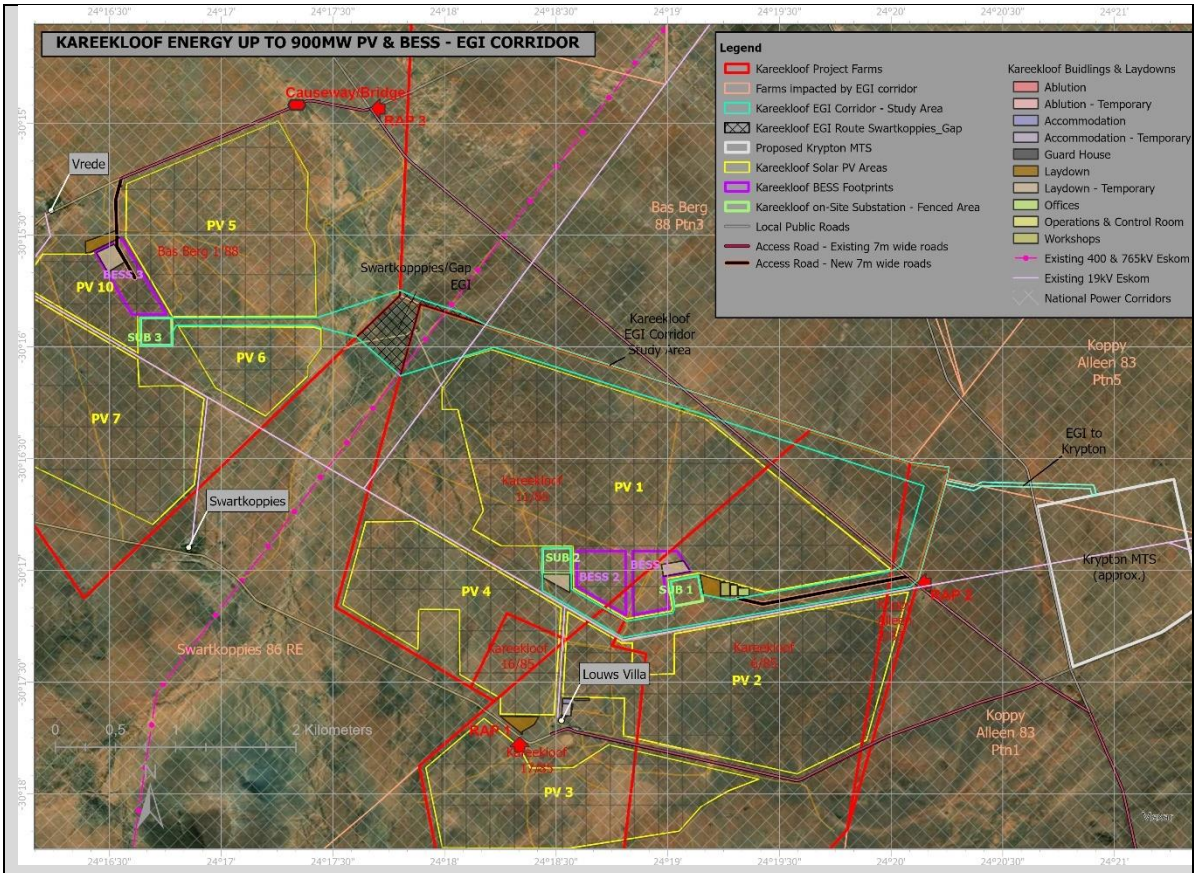


Figure 1: Proposed EGI corridor (turquoise polygon) in relation to the Authorised PV and BESS Facility.

Please refer to Appendix C for a full-scale version of this plan.

b) Provide a detailed description of the listed activities associated with the project as applied for:

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.
11(i)	The development of facilities or infrastructure for the transmission and distribution of electricity— (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts;	At the On-Site / Facility Substations the 33kV electricity will be transformed to 132kV. The three onsite substations will have a capacity of up to 300MVA each. The powerlines from the on-site substations to the MTS will have a capacity of up to 132 Kilovolts.
12(ii)(c)	The development of— (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs—	The proposed powerline crosses a wetland / watercourse between portions 1 and 3 of Bas Berg 88. Although the pylons will be situated outside of the

	(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	watercourse, the lines will straddle this watercourse.
28(ii)	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: (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;	The proposed Substations will exceed 1ha and constitutes Commercial / Industrial use which will occur on a property currently used for limited agricultural purposes.
Activity No(s):	**Provide the relevant Scoping and EIA Activity(ies) as set out in Listing Notice 2 of the EIA Regulations, 2014 as amended**	**Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.**
No Activities listed in terms of Listing Notice 1 are applicable to the Electrical Grid Infrastructure to support the Kareekloof Energy PV and BESS.		
Activity No(s):	**Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3 of the EIA Regulations, 2014 as amended**	**Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.**
18(g)(ii)(ii)	The widening of a road by more than 4m, or the lengthening of a road by more than 1km. g. Northern Cape ii. Outside urban areas: (ii) Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland;	The local public gravel roads are sufficiently maintained and wide enough to access the road access points. From the public gravel road access points to the substation has been authorised as part of the EA for the Kareekloof Energy PV and BESS. These existing roads will be extended to include an access track of up to 4m within the powerline servitude for the purposes of construction and operational Maintenance.

3. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014.Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Kindly note that site alternatives are not under consideration as part of this Application and Basic Assessment Process. The proposed Kareekloof Energy PV and BESS EGI is specifically required to evacuate power from the Authorised Kareekloof Energy PV and BESS project to the National Grid via the proposed Krypton Major Transmission Substation (MTS). The start point and end point of the Grid Connection Infrastructure is pre-defined by the authorised position of the Kareekloof Energy PV and BESS project as well as the proposed position of the Krypton MTS. The alignment of the infrastructure between these two predefined points was determined taking into account the environmental sensitivities as well as route negotiations with affected landowners.

~~**Alternative 1 (preferred alternative)**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~
~~**Alternative 2**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~
~~**Alternative 3**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~

~~In the case of linear activities:~~

~~Alternative:~~	**~~Latitude (S):~~**	**~~Longitude (E):~~**
~~Alternative S1 (preferred)~~		
• ~~Starting point of the activity~~		
• ~~Middle/Additional point of the activity~~		
• ~~End point of the activity~~		
~~Alternative S2 (if any)~~		
• ~~Starting point of the activity~~		
• ~~Middle/Additional point of the activity~~		
• ~~End point of the activity~~		
~~Alternative S3 (if any)~~		
• ~~Starting point of the activity~~		
• ~~Middle/Additional point of the activity~~		
• ~~End point of the activity~~		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Please note: On the 16 February 2018 Minister Edna Molewa published Government Notice No. 113 in Government Gazette No. 41445 which identified 5 strategic transmission corridors important for the planning of electricity transmission and distribution infrastructure as well as procedure to be followed when applying for environmental authorisation for electricity transmission and distribution expansion when occurring in these corridors.

In March 2019, a generic environmental management programme (EMPr) relevant to an application for environmental authorisation for substations and overhead transmission and distribution electricity transmission infrastructure was published in Government Notice No. 435 in Government Gazette No, 42323. The EMPr is relevant to substations or overhead transmission and distribution infrastructure when developed within or outside of the strategic transmission corridors.

On 29 April 2021, Minister Barbara Dallas Creecy published Government Notice No. 383 in Government Gazette No. 44504, which expanded the eastern and western transmission corridors and gave notice of the applicability of the application procedures identified in Government Notice No. 113, to these expanded corridors.

In Terms of these regulations, an application for Electrical Grid Infrastructure within these Strategic Corridors (such as the Karekloof Energy PV and BESS EGI) must include a pre-negotiated route and as such cannot further assess alignment alternatives (i.e. in addition to those determined and outlined in the pre-negotiated route, which already consider landowner requirements as well as biophysical constraints and sensitivities)

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The activity constitutes a linear activity with multiple bend points that cannot be depicted by a single co-ordinate point. Please refer to the table below which includes all bend points along the approximate centre line of the Grid Connection Corridor.		
~~**Alternative 2**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~
~~**Alternative 3**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~

Table 1: Co-ordinates of the centreline of the Kareekloof Energy PV and BESS EGI.

From Substation 1 to Krypton MTS	A	024° 19' 5.03" E	30° 17' 5.46" S
	B	024° 19' 5.43" E	30° 17' 8.11" S
	C	024° 19' 13.26" E	30° 17' 11.13" S
	D	024° 19' 17.1" E	30° 17' 10.35" S

	E	024° 20' 4.58" E	30° 17' 1.84" S
	F	024° 20' 11.45" E	30° 16' 38.15" S
	G	024° 20' 14.75" E	30° 16' 36.4" S
	H	024° 20' 22.13" E	30° 16' 38.0" S
	I	024° 20' 24.53" E	30° 16' 36.76" S
	J	024° 20' 53.97" E	30° 16' 37.53" S
	K	024° 20' 54.6" E	30° 16' 39.79" S
From Substation 2 to Substation 1	2A	024° 18' 30.21" E	30° 16' 57.42" S
	2B	024° 18' 30.21" E	30° 17' 5.17" S
	2C	024° 18' 48.39" E	30° 17' 15.83" S
	2D	024° 19' 1.59" E	30° 17' 13.51" S
From Substation 3 joining at point G	3A	024° 16' 42.55" E	30° 15' 55.87" S
	3B	024° 16' 47.75" E	30° 15' 53.23" S
	3C	024° 17' 25.22" E	30° 15' 53.22" S
	3D	024° 17' 42.29" E	30° 15' 51.11" S
	3E	024° 17' 51.01" E	30° 15' 57.48" S
	3F	024° 18' 4.81" E	30° 15' 56.7" S
	3G	024° 18' 13.38" E	30° 15' 57.45" S
	3H	024° 20' 4.54" E	30° 16' 33.35" S
	3I	024° 20' 9.45" E	30° 16' 34.58" S

Figure 2: Spatial depiction of the co-ordinates reflected in the above table.

c) Technology alternatives

Alternative 1 (preferred alternative)
Only a single technology alternative is under consideration. This includes 3 x 132 kV overhead powerlines mounted on two sets of monopole structures, a service road of approximately 4 m wide, 3 x on-site switching stations, adjacent to the authorised IPP substations and associated electrical infrastructure at the proposed Krypton MTS as per the project description. The technology in this case is pre-defined by the need – i.e. the infrastructure that is needed to evacuate electricity from the Authorised Kareekloof Energy PV and BESS project to the National Grid. The preferred pylon type is monopoles. The main difference between the Monopole and Lattice pylons is associated with visual impact, whereby the former is preferred due to lower visual intrusion.
Alternative 2
None
Alternative 3
None

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
None
Alternative 2
None
Alternative 3
None

e) No-go alternative

The no-go alternative (i.e. the option of not proceeding with the activities in this environmental process) in this instance would be to not develop the proposed Electrical Grid Infrastructure to support the Authorised Kareekloof Energy PV and BESS facility. In such an instance, the Social and Economic benefits associated with this project would not be realised.

Without this grid infrastructure upgrades, the ability to integrate the Kareekloof Energy PV and BESS project into the National grid would be restricted, hindering the transition to a low-carbon energy system.

The no go alternative, even though less desirable from an economic and social point of view, was used as a baseline against which impacts were assessed.

Paragraphs 3 – 13 below should be completed for each alternative.

4. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)[2]	64000[3] m^2
~~Alternative A2 (if any)~~	m^2
~~Alternative A3 (if any)~~	m^2

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	11500 m
~~Alternative A2 (if any)~~	~~m~~
~~Alternative A3 (if any)~~	~~m~~

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	476500[4]m^2
~~Alternative A2 (if any)~~	~~m^2~~
~~Alternative A3 (if any)~~	~~m^2~~

[1] "Alternative A.." refer to activity, process, technology or other alternatives.
[2] The activity is linear in nature, but does include 3 on-site substations/switching stations, the size thereof is depicted in this section.
[3] Each substation has a footprint of approximately 0.6ha (i.e. a total footprint of 1.8ha for all 3). In addition to the substation footprint, a 4m wide disturbance zone underneath the powerline for the purposes of an access track and pylons is included in this figure.
[4] The figures in this table depict the full extent of the 31m wide servitude as well as the 4 ha fenced off area associated with each of the on-site substations within which all infrastructure will be contained. The physical transformation associated with the project will be far less, as the full extent of the servitude will not be transformed for the installation of the powerline.

5. SITE ACCESS

Does ready access to the site exist?	✓YES	~~NO~~
If NO, what is the distance over which a new access road will be built	A construction and maintenance track of up to 4m wide will be required within the powerline servitude (this is required for the construction of the powerline and for routine maintenance activities during operation). This track will have an approximate length of 11.5km	

Describe the type of access road planned:

Access to the substation is via existing public roads as well as via roads authorised as part of the Kareekloof Energy PV and BESS project.

An access track under a power line, also known as a (transmission line right-of-way), will be a designated path that allows for the construction of the pylons and stringing of conductors. This same track will also be utilised by Eskom maintenance personnel to access the power line and its associated infrastructure.

Construction methodology

- The construction of the access track will begin with the surveying and pegging of the extent of the track. Construction and fauna and flora rescue will take place within the extent of this demarcation.
- The site camp for the access road construction will be established as in the authorised laydown for the Kareekloof Energy PV and BESS development.
- No clear and grub will take place for the majority of the route and the road will just be in the form of a Jeep Track.
- Gravel or wearing course will only be utilised in selected areas where existing substrate hinders suitable access.

The following key Environmental Impact Management Actions are required in this regard[5].

1. **Materials supply**

Any gravel / Wearing course must come from existing lawful commercial sources.

2. **Topsoil management**

In areas where gravel must be placed, the topsoil shall be removed to a depth of 300 mm.

[5] Further details on the required environmental impact management actions and outcomes for the access track are included in the EMP attached in Appendix G1.

3. Drainage and stormwater management

No major cut and fill activities will take place and the road must remain as a track. The developer will however implement measures as contained in the EMPr to control stormwater, where necessary.

4. Erosion control and management

The developer shall follow all erosion control and management guidelines as per the EMPr.

5. Dust control and management

The developer shall undertake every effort to minimise dust pollution on the site and shall implement the dust control measures as required in the EMPr.

6. Procedures for containment of leaks and spills emergency plans

This will be implemented as per the approved EMPr in respect of the project.

Figure 3: Showing Existing roads that will be utilised to access the Kareekloof Energy PV and BESS EGI

Figure 4: Site Access (black) and internal road network (white) authorised for the Kareekloof Energy PV and BESS project. These authorised roads will also be utilised to access the EGI where necessary.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;

✓These are shown on the locality plans attached in appendix A

- indication of all the alternatives identified;

✓These are shown on the locality plans attached in appendix A

- closest town(s;)

✓The closest town to the site is de Aar as shown on the Locality Plan in Appendix A

- road access from all major roads in the area;

✓All existing main and secondary roads are shown on the Locality Plan attached in appendix A

- road names or numbers of all major roads as well as the roads that provide access to the site(s);

✓The road names of all main roads are shown on the locality plans attached in appendix A.

- all roads within a 1km radius of the site or alternative sites; and

✓ All main and secondary roads are within the total extent of the map area are shown in the locality plans attached in appendix A.

- a north arrow;

✓The locality plans attached in Appendix A include a North Arrow

- a legend; and

✓The locality plans attached in Appendix A includes a legend.

- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

× The locality plan attached in Appendix A does not include as activity is linear in nature. Co-ordinates of all bend points within the proposed powerline are shown in table 1 above.

7. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites[6];
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

[6] The Land-use and Zoning of the affected properties as well at the adjacent properties is Agriculture and as such is not depicted on the plans.

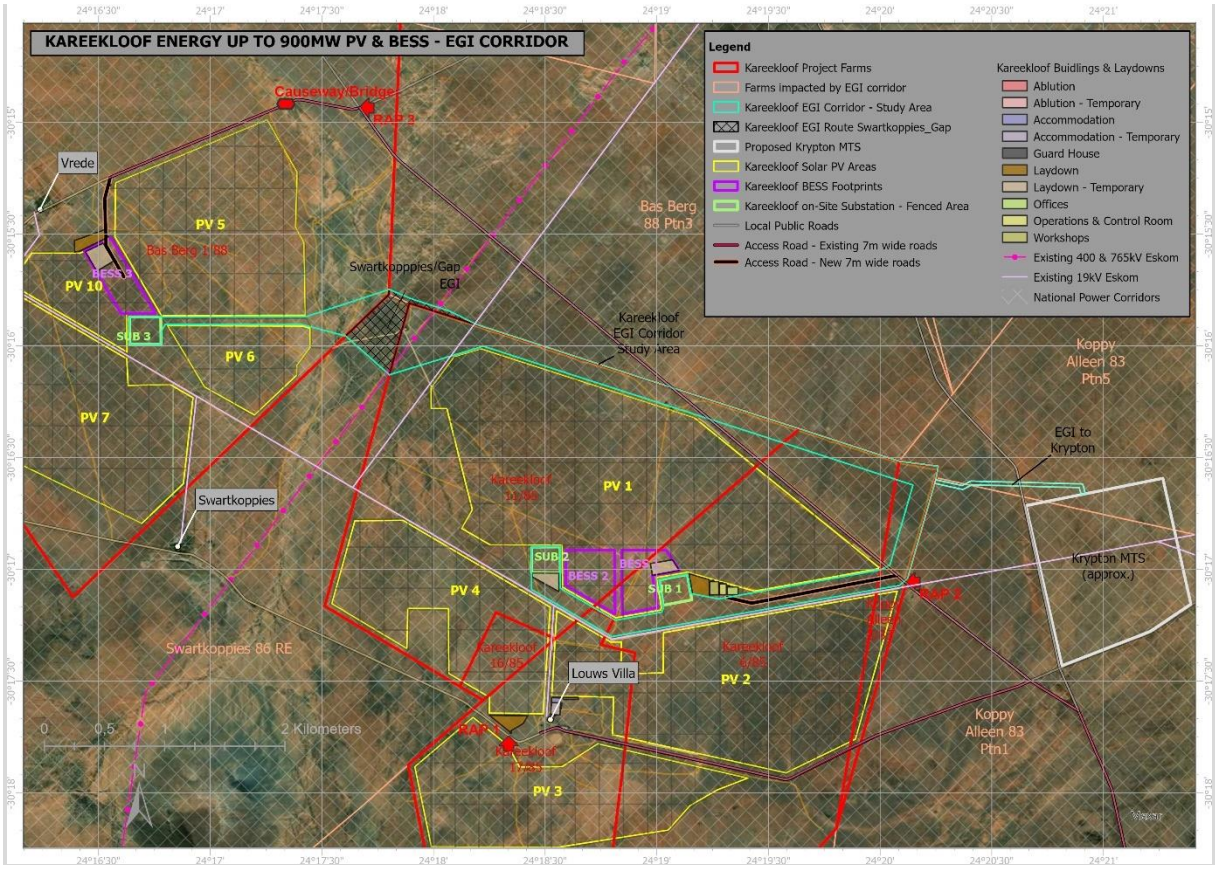


Figure 5: Site Layout Plan for the Kareekloof Energy PV and BESS EGI. A full-scale version of this plan is attached in Appendix C.

8. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100-year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

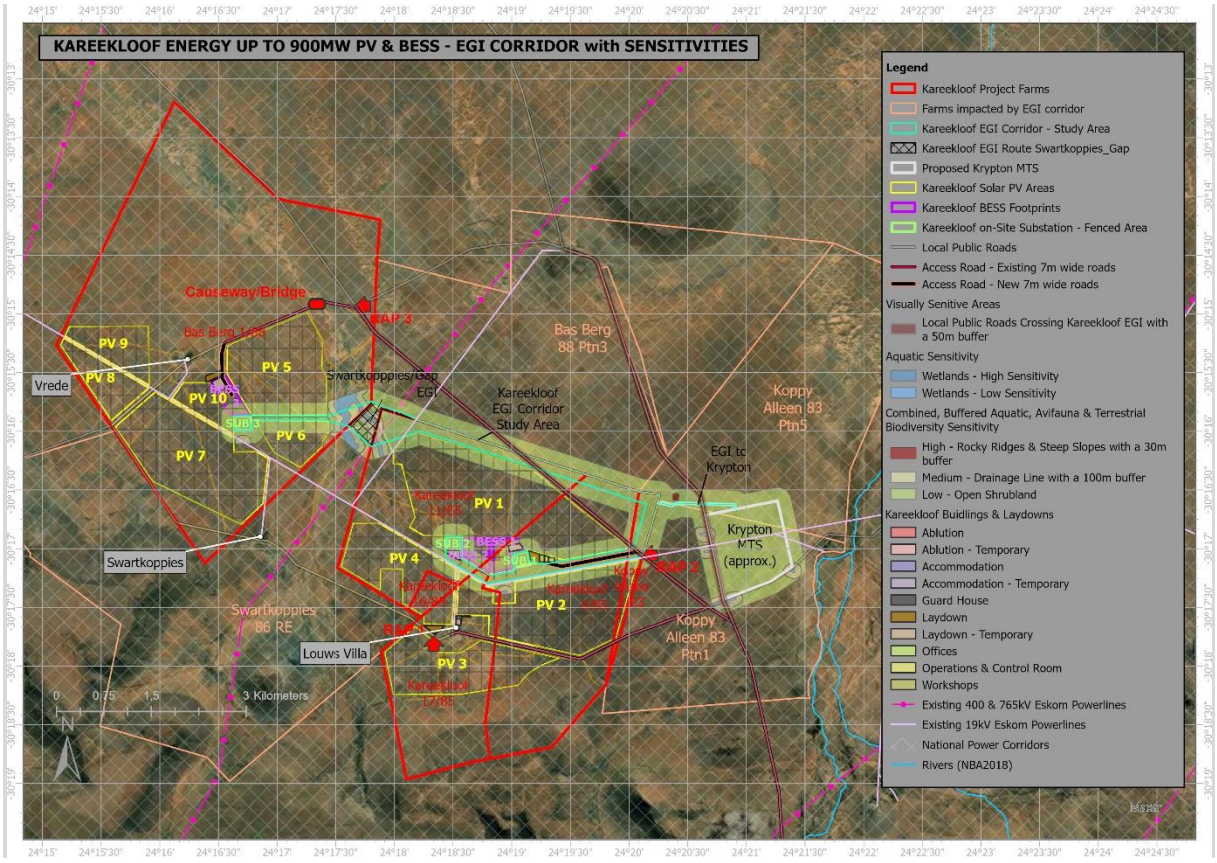


Figure 6: Kareekloof Energy PV and BESS - EGI showing sensitivities identified by the participating specialists.

A full-scale copy of this plan is included in Appendix A.

9. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

The site photographs are attached in **Appendix C**. Since the activity is linear in Nature, the photographs are taken sequentially along the EGI corridor and not from the centre of the site.

Other than the photographic record attached in **Appendix C**, please also refer to the photographs in the report where specific environmental aspects are discussed.


Figure 7: Major habitat on and adjacent to of the Kareekloof EGI: Grassland on soft sandy soils (Enviro Insight, 2024)


Figure 8: Major habitat on and adjacent to the Kareekloof EGI: Scrubland (Enviro Insight, 2024).


Figure 9: Major habitat adjacent to the Kareekloof EGI: Rocky ridges & steep slopes (Enviro Insight, 2024)

Figure 10: Major habitat adjacent to the Kareekloof EGI: Drainage, wetlands & dams (Enviro Insight, 2024)

10. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

The facility illustrations, showing site layout plan is included in Appendix C. A cross section and photograph of Typical Monopole pylon is included below for reference.

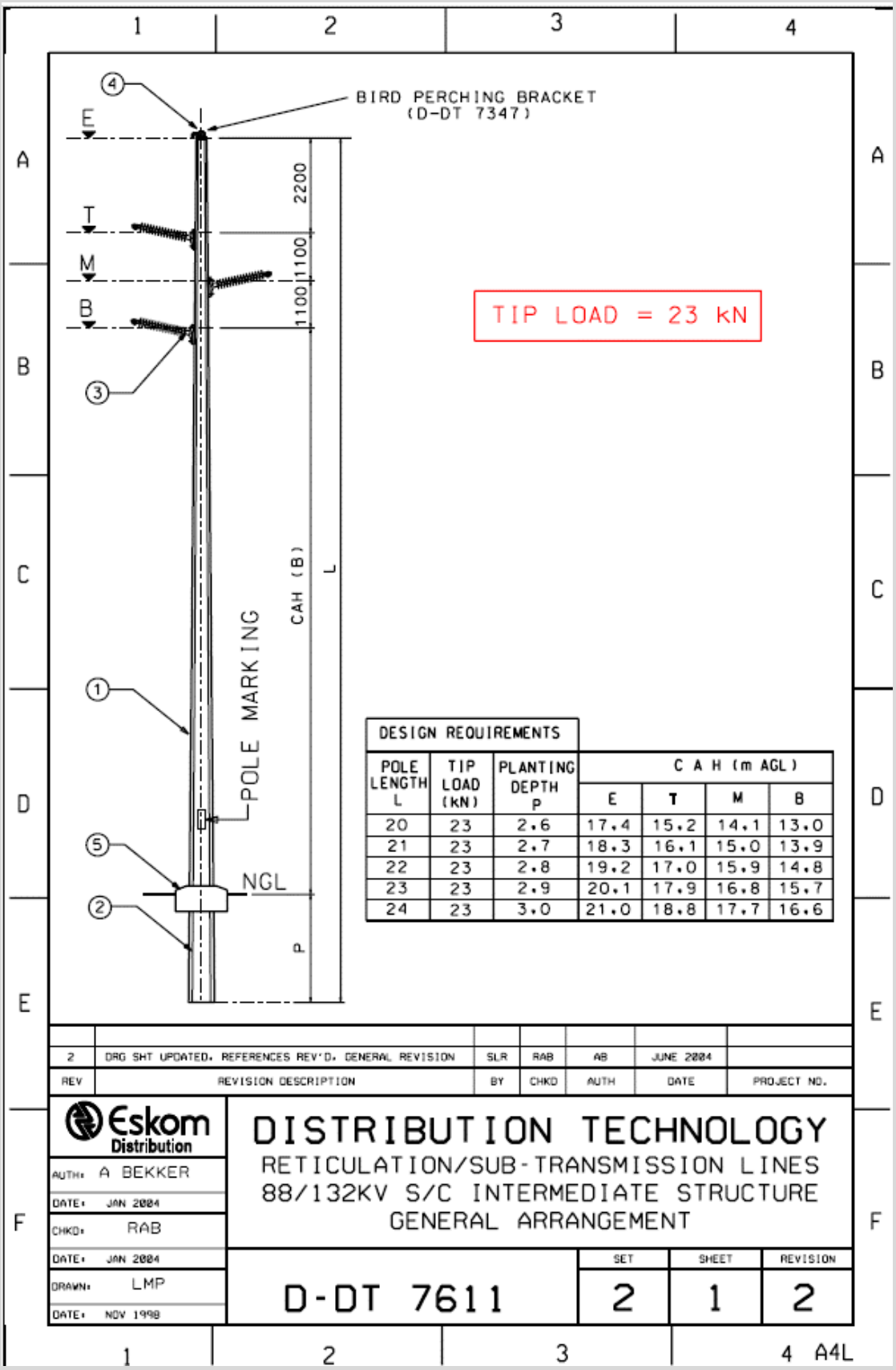


Figure 11: Cross section of a typical 132kv Monopole Pylon (Eskom)

Figure 12: Photographic Example of 132Kv Monopole Pylon

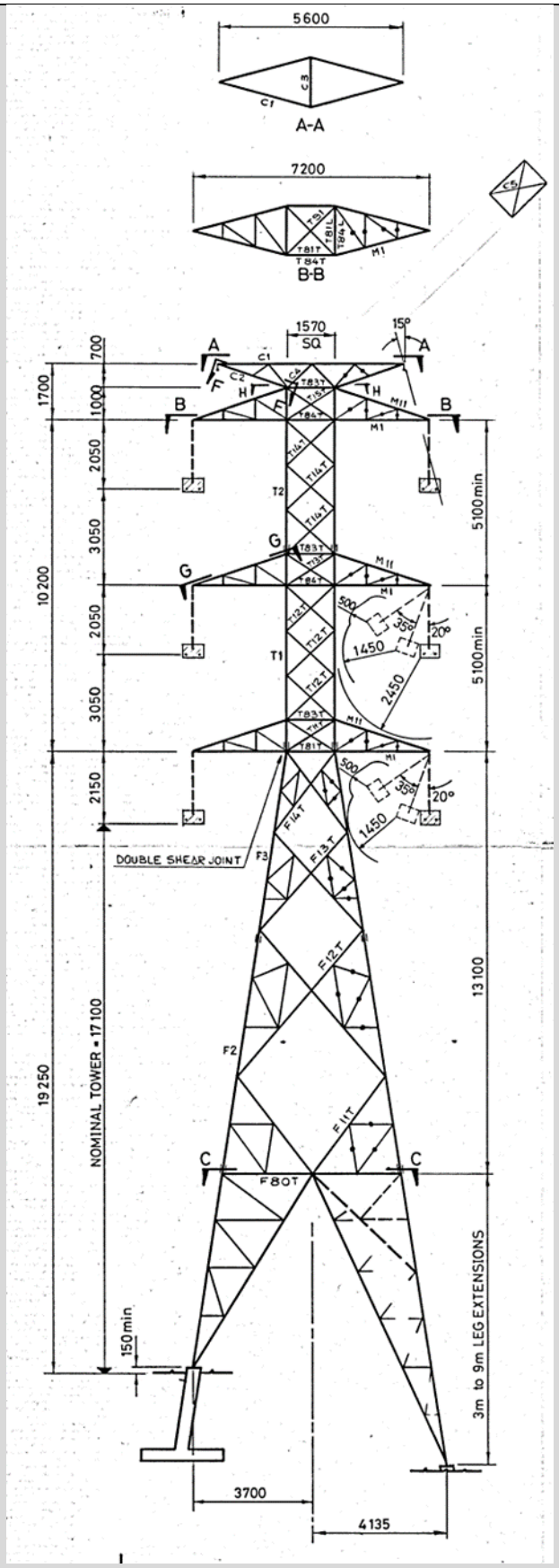


Figure 13: Typical Cross section of Lattice Pylon (Technology Alternative).

1. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	✓YES	NO	Please explain
The proposed activity entails the construction of grid connection infrastructure as such does not require the change in land use rights of the properties in question. A servitude over the affected properties will need to be registered for the purposes of the overhead powerline.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	✓YES	NO	Please explain
According to the Northern Cape Provincial Development Plan 2030, alternative energies, will play an increasingly important role in the following two decades and will contribute a much greater share of provincial energy consumption. In terms of electricity infrastructure related to forms of energy, the spatial distribution of supply should aim to follow clearly defined corridors, with electricity services being highly concentrated close to the major routes and high-capacity electricity infrastructure (PSDF, 2011). The project for which this EGI is proposed aims to link to approved BESS and the Eskom national grid network (via the proposed Krypton MTS). One of the sustainable development objectives of the PSDF is to utilize renewable resources as opposed to non-renewable resources. This Electrical Grid Infrastructure is associated with the provision electricity from a BESS. It also promotes the concept of Bioregionalism as enshrined in the PSDF. Furthermore, The Northern Cape Provincial Development Plan 2030 prioritizes the development of electrical grid infrastructure to support economic growth and social development. Key aspects include: • **Grid expansion and upgrade:** The plan seeks to expand and upgrade the existing grid infrastructure to ensure reliability, efficiency, and capacity to meet growing demand. • **Energy storage and backup:** The plan recognizes the importance of energy storage and backup systems to ensure grid stability and reliability. • **Private sector investment:** The plan encourages private sector investment in grid infrastructure development to leverage resources and expertise. • **Skills development and job creation:** The plan aims to develop skills and create jobs in the energy sector, particularly in renewable energy and grid maintenance. • **Grid resilience and security:** The plan prioritizes the improvement of grid resilience and security to minimize the risk of power outages and ensure a reliable supply of electricity. The proposed Kareekloof Energy PV and BESS EGI also aligns with the National Integrated Resource Plan (IRP) for electricity and the provincial government's commitment to sustainable development and economic growth.			
(b) Urban edge / Edge of Built environment for the area	✓YES	NO	Please explain
The proposed access road is outside of the Urban Edge of de Aar, however, the nature of Electrical Grid Infrastructure dictates that they need not be situated within an urban edge or within the edge of built-up areas.			

(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	✓YES	NO	Please explain
The IDP defines public infrastructure development such as energy security (and associated infrastructure) as a critical action within the municipal area. This proposed EGI is directly linked to the authorised Kareekloof Energy PV and BESS project.			
(d) Approved Structure Plan of the Municipality	✓YES	NO	Please explain
To the best of our knowledge, there is no Approved Structure Plan for the Renosterberg Municipality. The project however aligns with relevant planning policies.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	✓YES	NO	Please explain
According to the screening tool report, the proposed Kareekloof Energy PV and BESS EGI does not intersect with any Environmental Management Framework.			
(f) Any other Plans (e.g. Guide Plan)	✓YES	NO	Please explain
To the best of our knowledge, there is no specific guide plan adopted for the Renosteberg local municipality. The project is however compliant with other relevant planning policies.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	✓YES	NO	Please explain
The spatial development framework defines the energy sector (to which this EGI directly relates) as a focus area for this municipal district.			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	✓YES	NO	Please explain
This proposed EGI provides a means for the approved Kareekloof Energy PV and BESS to connect to the National Energy Grid. Given the extent of Energy Developments in the local context, the proposed Kareekloof Energy PV and BESS EGI can be considered to be in-line / associated with the local investment already placed in this emerging energy landscape. Care has been taken to avoid significantly impacting ecological pattern and process by minimising the distance of the proposed Gridline, while avoiding highly significant Biophysical and Heritage Features. On a strategic level, the proposed EGI aligns with the regional, national and international need for the energy generation, load balancing and distribution of energy in support of Socio-Economic Development.			

5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	✓YES	NO	Please explain
This activity is considered in support of a primary service, i.e. the provision of electricity. No additional services are required to support the activity. The construction of the EGI may generate minimal amount of organic waste in the form of vegetation generated from clear and grub of the Switching Station (and to a lesser degree the pylon positions). This vegetation from the clear and grub activities will be utilised as part of the rehabilitation of the greater site, in compliance with the Environmental Management Plan. Any excess spoil material from pylon excavations will be required to be spoiled at a registered landfill or where appropriate and allowable in terms of the EMPR, utilised during the construction activities for the overall PV and BESS facility.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	✓YES	NO	Please explain
Not Applicable. The activity in itself is infrastructure development			
7. Is this project part of a national programme to address an issue of national concern or importance?	✓YES	NO	Please explain
The generation of new electricity and the balancing of energy demand (by technologies such as PV and BESS) forms part of a national programme to ensure energy availability and stability. The proposed EGI will connect the approved Kareekloof Energy PV and BESS to the National Grid and will thus support this notion. Securing a greater energy sources into the overall energy matrix has been highlighted as a priority by the Department of Energy in the IRP.			

8. **Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)**	✓YES	NO	Please explain

The proposed EGI falls within a Strategic EGI Corridor (Central Corridor) and as such is deemed favourable for the development of Large-Scale Electrical Transmission and Distribution infrastructure. These corridors aim to reduce transmission losses, improve grid resilience, and enable the integration of multiple energy sources, ultimately promoting a more sustainable and efficient energy system for South Africa.

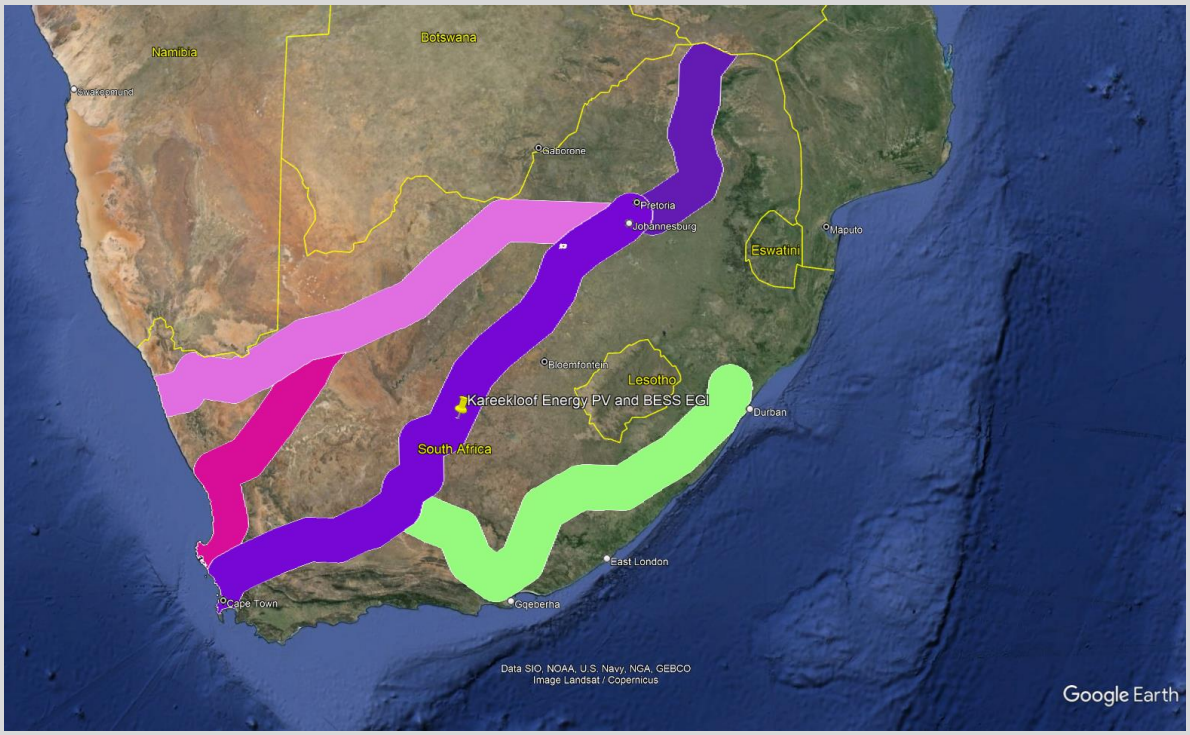


Figure 14: Showing the Kareekloof Energy PV and BESS EGI in within a Strategic powerline corridor (Central Corridor)

9. **Is the development the best practicable environmental option for this land/site?**	✓YES	NO	Please explain

Much of the target properties already have an authorised PV and BESS facility. The EGI proposed as part of this environmental process provides the most practical environmental option to evacuate power from the Authorised Kareekloof Energy PV and BESS to the National grid. All participating specialists (please refer to appendices D1 – D5) have confirmed that no high post mitigation impacts are likely to result from the construction and operation of the Kareekloof Energy PV and BESS EGI.

10. **Will the benefits of the proposed land use/development outweigh the negative impacts of it?**	✓YES	NO	Please explain

The potential negative impacts associated with the Kareekloof Energy PV and BESS EGI were found to be generally low (with mitigation), and thus acceptable, given the context. Aside from the employment benefits associated with the construction and operation / maintenance of the EGI, the benefit of allowing the input of electricity from the authorised PV and BESS into the national grid is considerable.

11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	✓YES	NO	Please explain
A number of other Renewable Energy and BESS developments been approved for development in this area. All of these facilities will be required to evacuate their electricity into the National Grid. Considering the manner in which the EGI has been designed to avoid impacting on the land use and sensitive features (environmental and heritage/cultural) as far as possible, it can be argued that it will set a positive precedent for any future Grid connection Infrastructure in the area.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	✓NO	Please explain
Detailed public participation processes took place as part of the Scoping and EIR process (for the PV/BESS facility) and no major objection was raised, nor significant impacts identified. This BAR will include further detailed public participation.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	✓NO	Please explain
Although falling outside of the developed areas of De Aar, as a linear activity, the proposed EGI will not compromise the urban edges of the Renosterberg Local Municipality.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	✓YES	NO	Please explain
Once a power purchase agreement is secured for the greater project, it contributes to two SIP's identified in the IRP.			
15. What will the benefits be to society in general and to the local communities?			Please explain
Addition of much needed electricity stability into the national grid as well as the provision of socio-economic benefits for the local area.			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
The studies undertaken as part of this environmental process, as well as those associated with the PV energy facility / BESS contribute to a greater understanding of the landscape and context and the sensitive elements within it (e.g. remnant natural vegetation and watercourses, cultural heritage areas, archaeological and palaeontological resources, avifaunal species and populations etc.), as well as the protection and rehabilitation of these elements (e.g. implementation of buffers, removal and monitoring of alien vegetation etc.).			
17. How does the project fit into the National Development Plan for 2030?			Please explain
Contribution to the provision of electricity to the nation, and investment in electrical infrastructure for its distribution (as part of the strategy to remedy the electricity crisis of 2008 and that associated with the future demands). This EGI is part of a number of projects that align with the one of the prioritised infrastructure investments listed in the NDP: "Procuring at least 20 000MW of renewable electricity by 2030, importing electricity from the region, decommissioning 11 000MW of ageing coal-fired power stations and stepping up investments in energy-efficiency", as well as one the key proposals to "Implement the 2010 Integrated Resource Plan (procuring at least 20 000MW of electricity from renewables) to reduce carbon emissions from the electricity industry from 0.9kg per kilowatt-hour to 0.6kg per kilowatt-hour.			

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

(1) The purpose of this Chapter is to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities,

(2) The general objective of integrated environmental management is to:

(a) promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment:

(b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impacts, maximizing benefits and promoting compliance with the principles of environmental management set out in section 2;

The assessment of impacts is included in Part D of this Basic Assessment Report. These potential impacts were determined with input from specialists with the following disciplines:

- **Terrestrial Ecology (inclusive of animal and plant species)**
- **Avifauna**
- **Aquatic Biodiversity**
- **Visual**
- **Avifauna**

(c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them.

The baseline sensitivities as determined in the previous environmental processes (and further refined through the current environmental process) were explicitly used to inform the positioning of the proposed EGI in such a way that potential impacts on the receiving environment were avoided as far as possible. This risk adverse approach has resulted in generally low significance of all impacts assessed.

(d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment.

The Draft Basic Assessment Report is subjected to Public Participation as outlined in Part c of this report.

(e) ensure the consideration of environmental attributes in management and

The environmental attributes as determined by the participating specialists and as outlined in Part B of this report have been used to determine the additional environmental management outcomes of the EMPr (Appendix G1 and Appendix G2).

(f) decision-making which may have a significant effect on the environment; and identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.

All State Departments and Organs of State who may have jurisdiction in respect of this activity have been given an opportunity to provide comment on the Draft Basic Assessment Report. All comments received from these parties will be included in the Final Basic Assessment Report.

(3) The Director-General must coordinate the activities of organs of state referred to in section 24(1) and assist them in giving effect to the objectives of this section and such assistance may include training, the publication of manuals and guidelines and the co-ordination of procedures.

The State Departments who were consulted are listed in Part C, Section 5. In order to give effect to Section 24(1), the Competent Authority should engage directly with those parties listed.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

Development must be socially, environmentally and economically sustainable.

Sustainable development requires the consideration of all relevant factors including the following:

- That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

The proposed EGI and associated PV and BESS Development assists in meeting these objectives as follows:

1. **Protection of the environment: Reduction of greenhouse gas emissions, mitigate climate change, and promote renewable energy.**

2. **Sustainable use of natural resources: optimizing energy resilience, reduce water usage (associated with generation from Fossil Fuels), and promote sustainable land use.**
3. **Conservation of biodiversity: The facility and BESS has been designed to minimize habitat disruption, protect endangered species, and promote ecological restoration.**
4. **Protection of human health: PV and BESS can improve air quality, reduce health risks associated with fossil fuels, and promote energy access.**
5. **Promotion of sustainable development: This development can support economic growth, energy security, and sustainable infrastructure development.**

By meeting these objectives, a PV and BESS development with its associated EGI can contribute to a more sustainable and environmentally responsible energy future.

The sharing of the information obtained during this investigation, as well as the input from interested and affected parties is aimed at ensuring that all relevant parties have access to all information and are able to improve their awareness of the impacts associated with this development.

This Basic Assessment Report (BAR) has been developed to ensure that all relevant information can be considered, assessed and evaluated in order for the competent to make their decision.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

All aspects of this environmental process are under the competence of the Northern Cape Department Environmental Affairs, Rural Affairs and Land Reform. The National Department of Forestry, Fisheries and the Environment will serve a commenting role in respect of this environmental process.

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act (Act 107 of 1998)	Competent authority for activities triggered by the 2014 EIA Regulations	Northern Cape Department Environmental Affairs, Rural Development and Land Reform	Pending (this application)

National Environmental Management Laws Amendment Act (Act 25 of 2014)	Public participation as part of the Environmental Authorisation.	Northern Cape Department Environmental Affairs, Rural Development and Land Reform	Pending
National Environmental Management: Biodiversity Act (Act 10 of 2004)	Competent authority in respect of permit applications for threatened and protected species.	Northern Cape Department Environmental Affairs, Rural Development and Land Reform	Pending
National Forest Act (Act 84 of 1998)	Competent authority in respect of permit applications for species protected in terms of the National Forest Act.	Department of Forestry, Fisheries and the Environment.	Pending
National Spatial Biodiversity Assessment	Critical Biodiversity Areas & Ecological Support Areas across alignment	Northern Cape Department Environmental Affairs, Rural Affairs and Land Reform	Integrated into this application.
Conservation of Agricultural Resources Act (Act 43 of 1983	Agricultural land traversed by the EGI Alien vegetation in and surrounding site	Department of Agriculture	Authorisation not required
National Veld and Forest Fire Act (Act 101 of 1998)	Landowners' responsibility to ensure that activities on site do not pose additional fire risk to adjacent properties.	Department Agriculture	Authorisation not required
National Heritage Resources Act (Act 25 of 1999_	Linear activity greater than 500m in length extent.	SAHRA	Application in terms of NHRA to run parallel with this BA process.

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	✓YES	NO
If YES, what estimated quantity will be produced per month?	30m^3	

How will the construction solid waste be disposed of (describe)?

The amount of waste generated during construction will be extremely limited and likely to include the following:

- General Domestic Waste.
- Biomass from vegetation clearing (to be used for rehabilitation.
- Overburden from Pylon Excavations.

Where will the construction solid waste be disposed of (describe)?

- Biomass from vegetation clearing will be stockpiled for utilisation during rehabilitation of the overall Facility.
- General waste to be disposed of at the Brandvlei Renosterberg Municipal Landfill (Licence number: 16/2/7/D570/D3/Z1/P363).
- Overburden from excavations to be disposed of at the Brandvlei Renosterberg Municipal Landfill (Licence number: 16/2/7/D570/D3/Z1/P363) or utilised as backfill material on the greater project.

Will the activity produce solid waste during its operational phase?	YES	✓NO
If YES, what estimated quantity will be produced per month?		0m^3

How will the solid waste be disposed of (describe)?

No Solid Waste will be generated during operations.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Brandvlei Renosterberg Municipal Landfill. The Municipal Landfill is a licenced Landfill (Licence number: 16/2/7/D570/D3/Z1/P363) and is permitted to accept general waste as per the licence issued by the Department of Water Affairs and Forestry on 24 November 1999.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

All waste generated during both construction and operation will be disposed of into the Municipal Waste Stream.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?	YES	✓NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	✓NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	✓NO
If YES, what estimated quantity will be produced per month?		0m^3
Will the activity produce any effluent that will be treated and/or disposed of on-site?	YES	✓NO

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	✓NO

~~If YES, provide the particulars of the facility:~~

~~**Facility name:**~~			
~~**Contact person:**~~			
~~**Postal address:**~~			
~~**Postal code:**~~			
~~**Telephone:**~~		~~**Cell:**~~	
~~**E-mail:**~~		~~**Fax:**~~	

Describe the measures that will be taken to ensure the optimal reuse or recycling of wastewater, if any:

The activity will not generate any wastewater. In terms of the EMPr (Appendix G1 and G2) normal Domestic Effluent (Sewerage) generated during construction will be collected and disposed of at a licenced Wastewater Treatment Works. The closest licenced Wastewater Treatment Works is the Vanderkloof Wastewater Treatment works (Licence Number: 12/9/11/L1060/3).

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	YES	✓NO
If YES, is it controlled by any legislation of any sphere of government?	YES	✓NO

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

The applicant will be responsible for ensuring compliance with the National Dust Control Regulations (Regulation 827). According to the regulations, any person conducting any activity in such a way as to give rise to dust in quantities and concentrations that exceeded the dust fall standard set out in the regulation are, upon receipt of a notice from an air quality officer, impelled to, upon receipt of a notice from an air quality officer, implement a dust fall monitoring programme.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	YES	✓NO

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	✓YES	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	✓NO

Describe the noise in terms of type and level:

Noise generated by the activity will be limited to noise generated by construction machinery during the construction phase and noise levels will comply with SANS 10103:2008. The impact of this is deemed to be very low, with mitigation as outlined in the Generic EMPr for Substation and powerline Infrastructure (Appendix G1 and G2).

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

✓Municipal	~~Water board~~	~~Groundwater~~	~~River, stream, dam or lake~~	~~Other~~	~~The activity will not use water~~

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	0[7] litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	✓YES	NO

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

The EGI construction would form a small component of the overall Kareekloof Energy PV and BESS construction. This water would be procured by the Engineer Procure Contract (EPC) Contractor appointed to construct the project and would be sourced either from the municipality or from an external service provider.

Should the project wish to consider the utilisation of ground water, then an application in terms of the National Water Act for a Water Use Licence or General Authorisation will need to be submitted to the Department of Water and Sanitation.

The proposed EGI will require a General Authorisation in terms of Section 21 (c) and (i) for the powerline that will cross the watercourse identified by the Aquatic Specialist.

Proof of submission of this application will be included in the Final BAR.

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

None – The activity is of such a nature that it does not utilise energy.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None – The activity is of such a nature that it does not utilise energy.

[7] Should the project wish to consider the utilisation of ground water, then an application in terms of the National Water Act for a Water Use Licence or General Authorisation will need to be submitted to the Department of Water and Sanitation.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): ☐

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? ✓YES | NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Northern Cape Province
District Municipality	Pixley ka Seme
Local Municipality	Renosterberg
Ward Number(s)	3
Farm name and number	**The EGI on Project Farms:** - Portion 1 of the farm Bas Berg 88, - Portions 11 of the Farm Karee Kloof 85, - Portion 6 of the farm Karee Kloof 85, - Portion 17 of the Farm Karee Kloof 85, - Portion 2 of Farm Koppy Alleen 83, **The EGI on Non-Project Farms:** - Portion 3 of Bas Berg 88, - Portion 1 of Farm Koppy Alleen 83, and - Portion 5 of Farm Koppy Alleen 83
Portion number	See above
SG Code	- Bas Berg 1/88: C05700000000008800001 - Koppy Alleen 2/83: C05700000000008300002 - Karee Kloof 6/85: C05700000000008500006 - Karee Kloof 11/85: C05700000000008500011 - Karee Kloof 17/85: C05700000000008500017 - Bas Berg 3/88: C05700000000008800003

	- Koppy Alleen 1/83: C05700000000008300001 - Koppy Alleen 5/83: C05700000000008300005

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:	- Portion 1 of the farm Bas Berg 88 is zoned for Agricultural use. - Portions 11 of the Farm Karee Kloof 85 is zoned for Agricultural use. - Portion 6 of the farm Karee Kloof 85 is zoned for Agricultural use. - Portion 17 of the Farm Karee Kloof 85 is zoned for Agricultural use. - Portion 2 of Farm Koppy Alleen 83 is zoned for Agricultural use. - Portion 3 of Bas Berg 88 is zoned for Agricultural use. - Portion 1 of Farm Koppy Alleen 83 is zoned for Agricultural use. - Portion 5 of Farm Koppy Alleen 83 is zoned for Agricultural use.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?	YES	✓NO

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

✓Flat	✓1:50 – 1:20	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

Alternative S2 (if any):

~~Flat~~	~~1:50 – 1:20~~	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

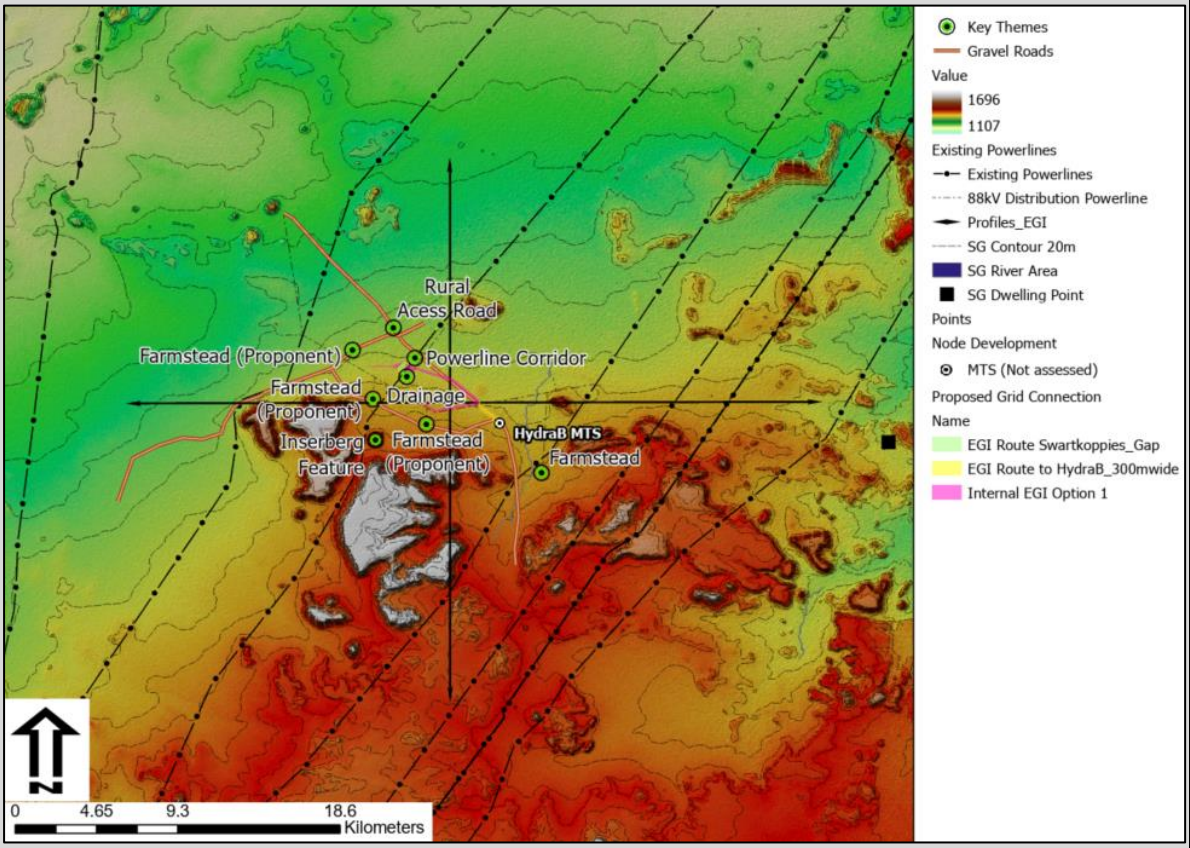
Alternative S3 (if any):

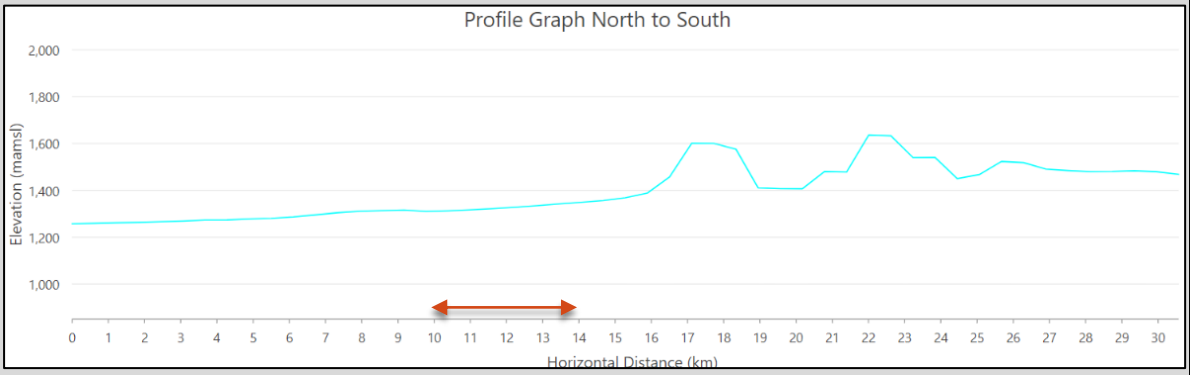
~~Flat~~	~~1:50 – 1:20~~	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

According to the Visual Specialist (Appendix D4), the general topography of the region is defined as undulating with the main landform being the prominent inselbergs that are scattered within the broad landscape. In comparison to the flat surroundings of the Nama-Karoo, these features significantly

add to the local and regional scenic quality. Broadly speaking, the drainage is to the north via shallow washes that do cross over the project area, without any dominating drainage valley or gullies.

The North to South Profile depicts the elevation profile over a distance of 30km. The highest point is just to the south of the study area at a height of 1650mamsl, with the lowest point 1200mamsl located in the north. The generally flat terrain of the karoo plains is clearly visible in relation to the local prominence of the 250m high inselbergs. The West to East Profile depicts some regional prominence with the high point located at 1600mamsl just to the west of the study area, with the low point of 1250mamsl (approx.) to the west. The flat terrain of this Nama-karoo landscape is clearly visible in the profiles.





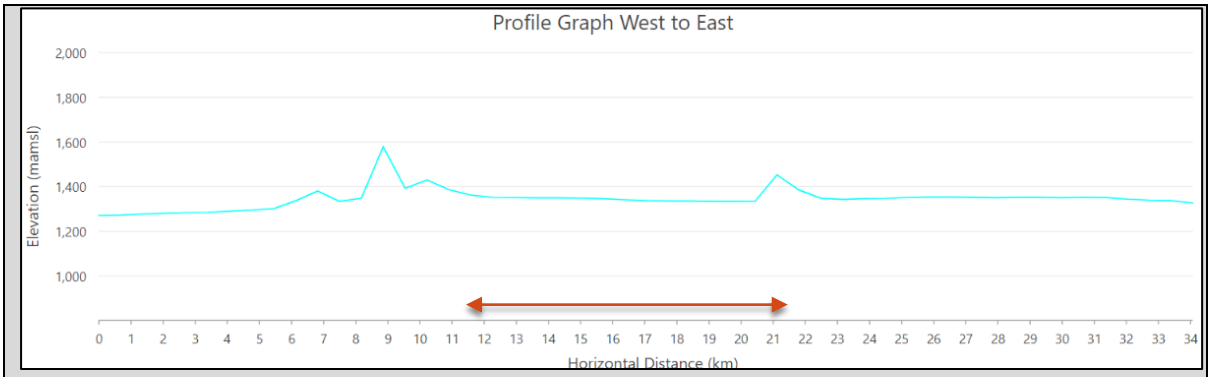


Figure 15: Regional Digital Elevation Mapping and Profiles Graphs with approximate extent depicted (Stead, 2024)

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

~~2.1 Ridgeline~~		~~2.4 Closed valley~~		~~2.7 Undulating plain / low hills~~			
2.2 Plateau	✓	2.5 Open valley	✓	~~2.8 Dune~~			
~~2.3 Side slope of hill/mountain~~		~~2.6 Plain~~		~~2.9 Seafront~~			
~~2.10 At sea~~							

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		**~~Alternative S2 (if any):~~**		**~~Alternative S3 (if any):~~**	
Shallow water table (less than 1.5m deep)	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Dolomite, sinkhole or doline areas	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Seasonally wet soils (often close to water bodies)	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Unstable rocky slopes or steep slopes with loose soil	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Dispersive soils (soils that dissolve in water)	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Soils with high clay content (clay fraction more than 40%)	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~
Any other unstable soil or geological feature	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~

An area sensitive to erosion	~~YES~~	✓NO	~~YES~~	~~NO~~	~~YES~~	~~NO~~

According to the Agricultural Specialist (Appendix D5), the Geology forms part of the Karoo Supergroup – Beaufort Group – The Karoo Supergroup comprises approximately 60% of the surface of South Africa, consisting of thick succession of sedimentary rocks. The Beaufort Group is dominated by fluvial depositional environments consisting of sedimentary rocks such as sandstone, mudstone, limestone and calcretes. The surrounding area contains early Jurassic sills of the Karoo Dolerite Suite that intruded into the sedimentary successions.

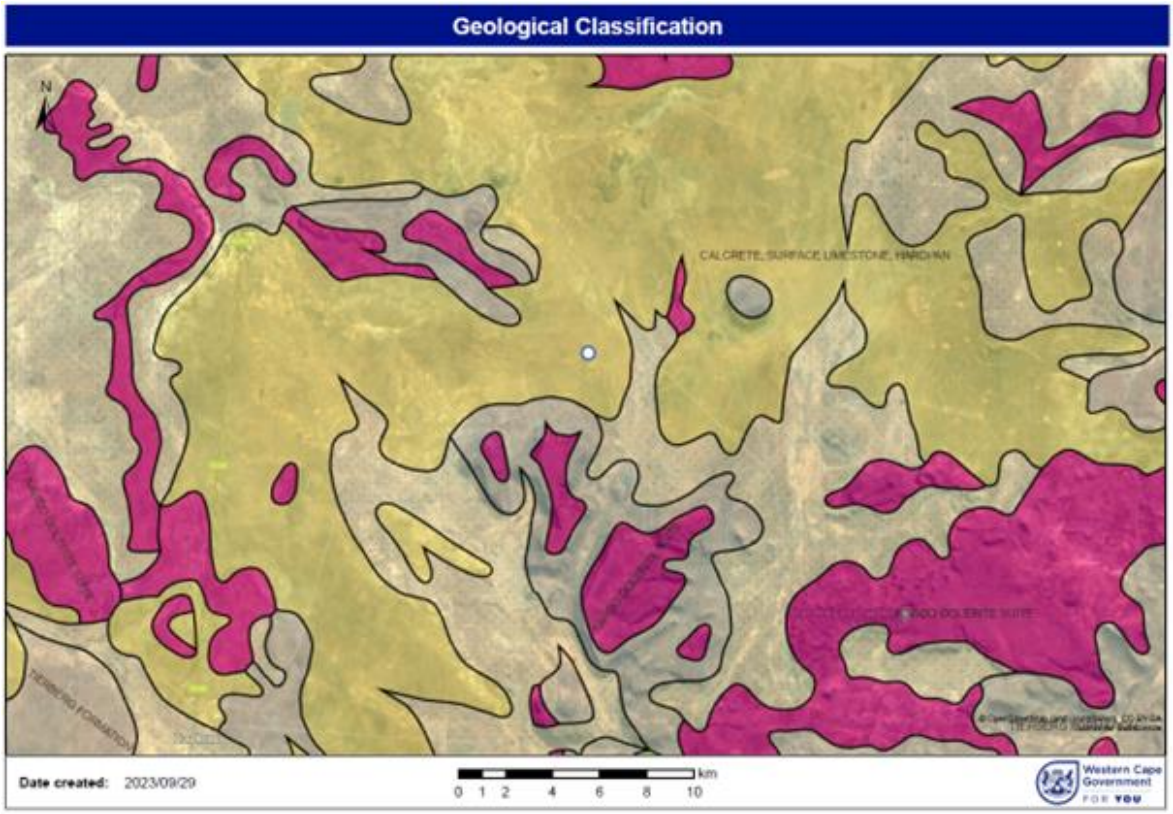


Figure 16: Classification of underlying Soils at Kareekloof Solar PV.

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

✓Natural veld - good condition[E]	✓Natural veld with scattered aliens[E]	~~Natural veld with heavy alien infestation[E]~~	~~Veld dominated by alien species[E]~~	~~Gardens~~
~~Sport field~~	~~Cultivated land~~	~~Paved surface~~	~~Building or other structure~~	✓Bare soil

According to the Terrestrial Biodiversity Specialist (Appendix D1), the study area is situated within the Nama-Karoo Biome. The Nama-Karoo is essentially a grassy, dwarf shrubland, dotted with characteristic koppies, most of which lies between 1,000 and 1,400 meters above sea level. Eastwards, the ratio of grasses to shrubs increases progressively, until the Nama Karoo eventually merges with the Grassland Biome. On the northern fringes the dwarf shrubland often has an overstory of shrubs and trees.

Natural disturbance factors that drive many vegetation dynamics include many that are linked to human actions and many disturbances interact to modify effects. Factors include grazing by livestock and wild herbivores, fire, rainfall and runoff and other episodic events such as hailstorms. Very little of the Nama-Karoo Biome in general has been transformed from natural vegetation to crops, dams, industry or other forms of land use that threaten natural diversity, mostly due to the arid conditions and/or rocky nature of the landscape. The dominant land use is the ranching of small stock, cattle and game farming with indigenous antelope.

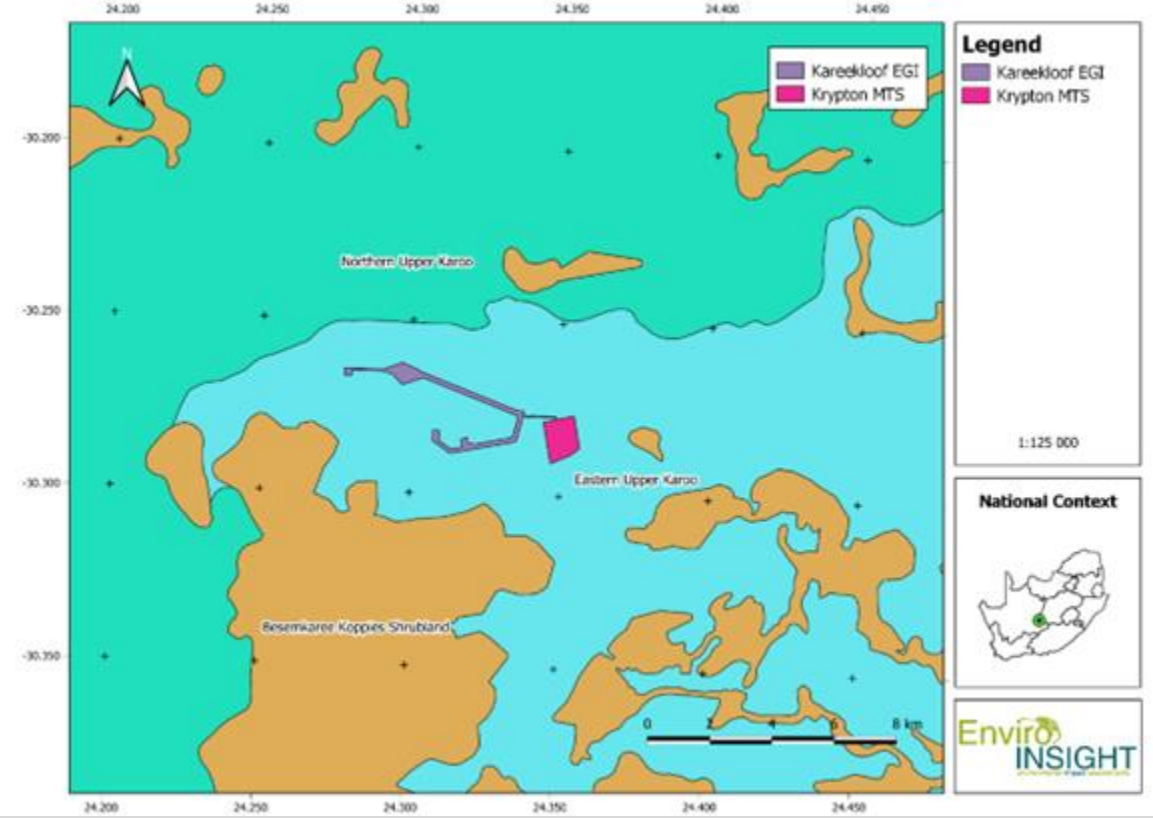


Figure 17: Regional Vegetation Types Associated with the Kareekloof Energy PV and BESS EGI (Enviro Insight, 2024)

If any of the boxes marked with an "E "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	✓YES	~~NO~~	~~UNSURE~~
Non-Perennial River	✓YES	~~NO~~	~~UNSURE~~
Permanent Wetland	~~YES~~	✓NO	~~UNSURE~~
Seasonal Wetland	✓YES	~~NO~~	~~UNSURE~~
Artificial Wetland	~~YES~~	✓NO	~~UNSURE~~
Estuarine / Lagoonal wetland	~~YES~~	✓NO	~~UNSURE~~

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

The Aquatic Biodiversity specialist (Appendix D5) identified hydro geomorphic units within the 500m screening area. These consisted of riverine and depression wetland types (see figures below).

Several artificial wetlands were also identified during the survey and included historical borrow pits and impoundments created to capture surface runoff. Additional drainage features associated with the project include drainage lines.

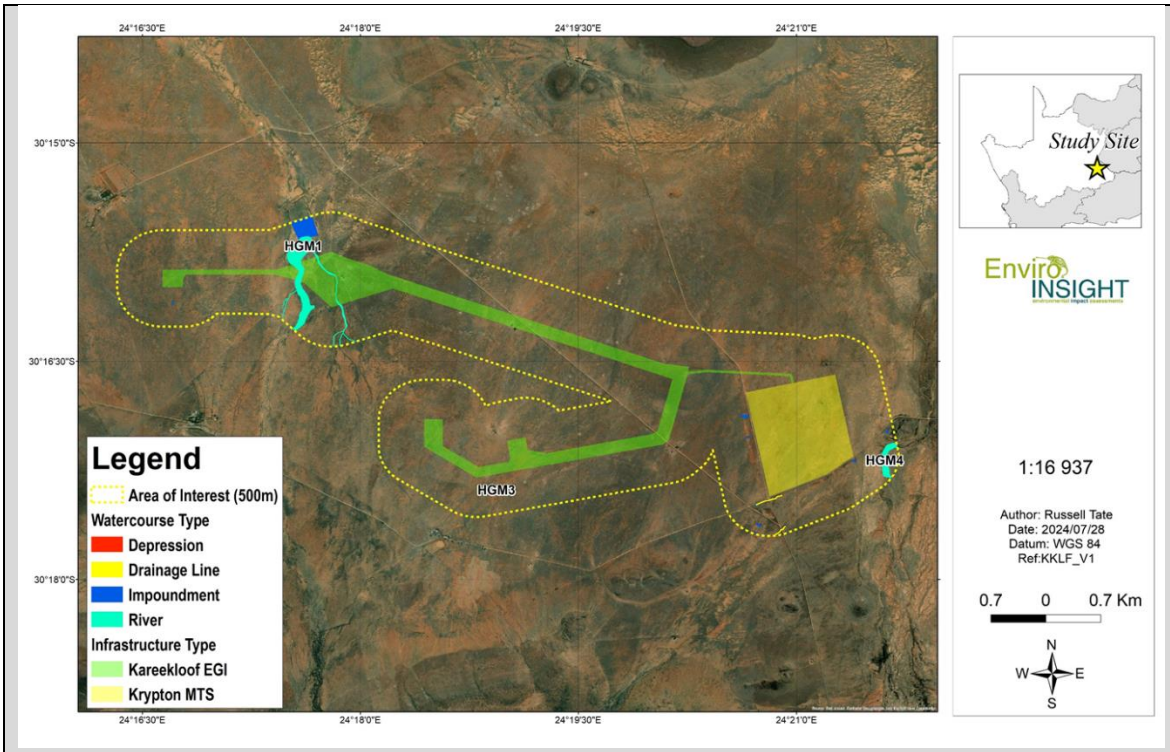


Figure 18: Aquatic Biodiversity Features in proximity to the proposed Kareekloof Energy PV and BESS EGI (Tate Environmental, 2024)

Although the powerline will straddle identified watercourses in the Northwest of the corridor, the intent is for the Pylon infrastructure to be situated outside of these delineated areas.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

✓Natural area	✓Dam or reservoir	~~Polo fields~~
~~Low density residential~~	~~Hospital/medical centre~~	~~Filling station~~ [H]
~~Medium density residential~~	~~School~~	~~Landfill or waste treatment site~~
~~High density residential~~	~~Tertiary education facility~~	~~Plantation~~
~~Informal residential~~	~~Church~~	✓Agriculture
~~Retail commercial & warehousing~~	~~Old age home~~	✓River, stream or wetland
~~Light industrial~~	~~Sewage treatment plant~~ [A]	~~Nature conservation area~~
~~Medium industrial~~ [AN]	~~Train station or shunting yard~~ [N]	✓Mountain, Koppie or ridge
~~Heavy industrial~~ [AN]	~~Railway line~~ [N]	~~Museum~~
~~Power station~~	~~Major road (4 lanes or more)~~ [N]	~~Historical building~~

~~Office/consulting room~~	~~Airport~~ ~~N~~	~~Protected Area~~
~~Military or police base/station/compound~~	~~Harbour~~	~~Graveyard~~
~~Spoil heap or slimes dam~~ ~~A~~	~~Sport facilities~~	~~Archaeological site~~
✓Quarry, sand or borrow pit	~~Golf course~~	~~Other land uses (describe)~~

If any of the boxes marked with an "N "are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

None

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

None

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

None

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	~~YES~~	✓NO
Core area of a protected area?	~~YES~~	✓NO
Buffer area of a protected area?	~~YES~~	✓NO
Planned expansion area of an existing protected area?	~~YES~~	✓NO
Existing offset area associated with a previous Environmental Authorisation?	~~YES~~	✓NO
Buffer area of the SKA?	~~YES~~	✓NO

According to the Biodiversity specialist (Appendix A), the Northern Cape CBA Map (2016) identifies biodiversity priority areas, called Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), which, together with protected areas, are important for the persistence of a viable representative sample of all ecosystem types and species as well as the long-term ecological functioning of landscape as a whole. Priorities from existing plans such as the Namakwa District Biodiversity Plan, the Succulent Karoo Ecosystem Plan, National Estuary Priorities, and the National Freshwater Ecosystem Priority Areas (NFEPA) were incorporated.

CBA's and ESA's are terrestrial and aquatic features in the landscape that are critical for retaining biodiversity and supporting continued ecosystem functioning and services. The primary purpose of CBA's is to inform land-use planning in order to promote sustainable development and protection of important natural habitat and landscapes. Biodiversity priority areas are described as follows:

- CBA's are areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. In other words, if these areas are not maintained in a natural or near-natural state then biodiversity conservation targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity-compatible land uses and resource uses. For CBA's the impact on biodiversity of a change in land-use that results in a change from the desired ecological state is most significant locally at the point of impact through the direct loss of a biodiversity feature (e.g. loss of a populations or habitat).
- ESA's are areas that are not essential for meeting biodiversity representation targets/thresholds but which nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The degree of restriction on land use and resource use in these areas may be lower than that recommended for critical biodiversity areas. For ESA's a change from the desired ecological state is most significant elsewhere in the landscape through the indirect loss of biodiversity due to a breakdown, interruption or loss of an ecological process pathway (e.g. removing a migration corridor results in a population going extinct elsewhere). All natural non-FEPA wetlands and larger rivers have a minimum category of ESA.

The region surrounding the Kareekloof Energy PV and BESS EGI project area has been classified as an Ecological Support Areas (ESA) due to it being located in the Platberg-Karoo Conservancy, the vegetation units and important wetland and river features (Northern Cape Department of Environment and Nature Conservation, 2016b). From a Terrestrial Biodiversity perspective, the Platberg-Karoo Conservancy and the vegetation units are important systems for grasslands and grassland-associated animals, as well as important areas for the conservation of avifauna.

This section of the Karoo has the highest rainfall and provides an ecotone between the Nama Karoo and Grassland biomes. Accordingly, all developments within this ESA must undergo EA processes, where impacts are assessed and appropriate mitigation measures provided to lower the significance of negative impacts and enhance positive impacts, where appropriate.

According to the CBA Map, the Kareekloof EGI project area is entirely located on an ESA.

The assignment of this ESA as "Very High Sensitivity" in the by the screening tool was refuted by the specialist,

- No threatened ecosystems or vegetation types are present in the ESA that cover the proposed Kareekloof EGI;
- No specific habitat the Kareekloof EGI project area has any obvious key ecological role such as a migration corridor;
- No threatened plant species are expected to occur in the Kareekloof EGI project area (screening tool);
- Only two threatened fauna species of Medium sensitivity (modelled to occur, not known to occur) were flagged by the screening tool for the Kareekloof EGI project area (see avifauna report); and
- This ESA is an extremely large area (860 279 ha.

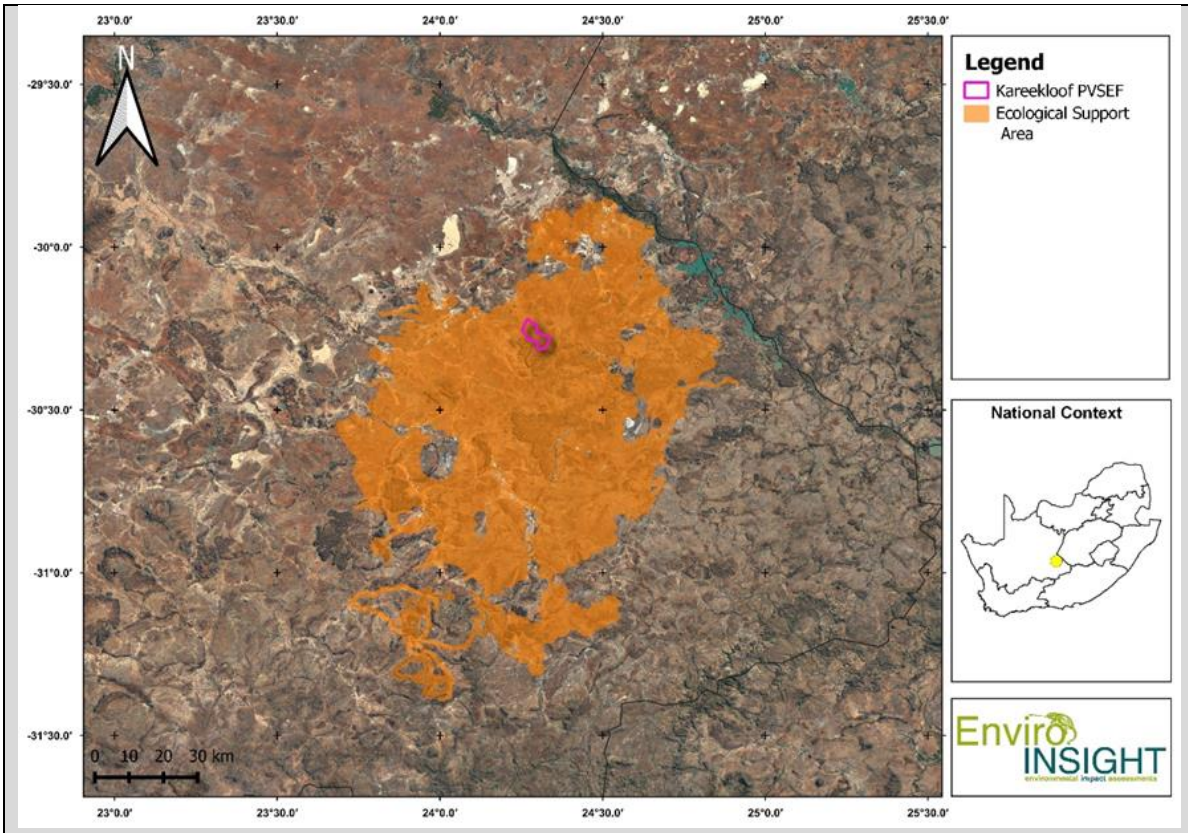


Figure 19: Kareekloof Energy Study Area - PV, BESS and EGI (Enviro Insight, 2024)

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	✓NO
	Uncertain	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

According to the Heritage Specialist, the project area covers multiple large farms on a flat landscape dominated by short grasses and shrubs. The landscape is generally covered in a thick layer of reddish sandy soil and scattered outcroppings of calcrete throughout the entire proposed landscape. Natural drainage lines traverse the project area. The calcrete outcroppings are generally located along the northern boundary of the project area and contains a MSA background scatter throughout. The MSA lithic artefacts are evenly scattered throughout these areas with no clear concentrations of artefacts.

MSA artefacts are generally concentrated around rocky outcroppings and hills. Various farmsteads are situated near the project area. Some of these farmsteads are still being used as main residences by farmers with one farmstead having been abandoned. These farmsteads contain various historical structures as well as labour housing that may carry a high risk of graves being present. All farmsteads have been excluded from the proposed EGI Routing.

Existing infrastructure within the project area includes gravel roads and large existing powerlines that traverse the landscape.

The heritage specialist identified the following heritage sites, all situates outside of the EGI Corridor.

Table 2: Heritage features in proximity to the Kareekloof PV and BESS EGI. All these features are outside of the EGI corridor.

Label	Longitude	Latitude	Description	Significance
KK001	24°18'31.42"E	30°17'41.25"S	The site consists of a large historical farmstead containing multiple structures. The farmstead is abandoned and is degraded.	Medium Significance GP B
KK002	24°19'9.89"E	30°16'28.74"S	An isolated lithic artefact was recorded along an area characterized by exposed shallow calcrete.	Low Significance GP C
KK003	24°19'10.76"E	30°16'29.17"S	The site consists of various lithic artefacts scattered across an extensive area with shallow calcrete The site shows signs of surface disturbances but some remains still in-situ. Artefact density is <5 artefacts p.m².	Low Significance GP C
KK004	24°19'30.81"E	30°16'47.92"S	An isolated historical metal artefact consisting of a piece from a broken harmonica.	Low Significance GP C
KK005	24°16'49.55"E	30°16'55.18"S	A large 200 x 200m historical farmstead which could not be accessed. The farmstead will not be impacted.	Medium Significance GP B
KK006	24°16'9.40"E	30°15'22.39"S	The MSA scatter covers a 100 x 100m area situated in the vicinity of a rocky hill right next to the existing farmstead at KK010. Artefact density is <5 artefacts p.m².	Low Significance GP C
KK007	24°19'44.78"E	30°17'58.80"S	The site covers a 50 x 50m area but forms part of a larger series of hills. The site consists of a series of MSA lithic artefacts including possible tools, cores and lithic waste material situated on a large rocky hill outside of the project area. The site is likely a representation of the surrounding archaeology. Artefact density is <15 artefacts p.m².	High Significance 3A
KK008	24°16'31.57"E	30°16'42.79"S	The site consists of an isolated scatter of lithic artefacts on calcrete. Artefact density is <5 artefacts p.m².	Low Significance GP C
KK009	24°16'28.75"E	30°16'31.81"S	The site consists of an isolated scatter of lithic artefacts on calcrete. Artefact density is <5 artefacts p.m².	Low Significance GP C
KK010	24°16'14.58"E	30°15'23.73"S	The site consists of the existing Vrede Farmstead which is currently still in use and is situated directly outside the impact area.	Medium Significance GP B

Will any building or structure older than 60 years be affected in any way?	YES	✓NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	✓NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

This section below provides a summary of the social context of the local municipality as contained in their 2020-2023 IDP.

Renosterberg Municipality represents approximately 22, 7% of the district's population. The Pixley ka Seme District has an approximate population of 220 830 people (IHS Markit Review 2019) representing 16, 26% of the Northern Cape population with its 1 145 861 residents. The Northern Cape represents 2, 21% of the National population

Table 3: Demographics of the local municipality (Renosterberg IDP, 2020 - 2023)

		2011	2016 (CS 2016)	2019 (MSEP 2021)
Population		42 356	45 405	46 777
Population growth rate			1.69%	0.41%
Households		10 456	12 617	11 583
People per household		4.1	3.9	4.07
Indigent Households			3 594	3 799
Gender breakdown	**Males**	20 722 (41%)	22 443 (49%)	(49%)
	Females	21 634 (51%)	22 962 (51%)	(51%)
Age breakdown	**0-14**	13 424	11 949	30.1%
	15-64	26 461	30 832	61.1%
	65+	2 471	2 621	8.8%
Race composition	**Black-African**	14 059	14 515	
	Coloured	24 436	27 644	
	White	3 388	3 129	
	Asian	236	116	
Unemployment rate		28%	28%	27.3%
Population density		3 person's/km²	3 person's/km²	3.5 person's/km²

Economic Context

Agriculture is the key economic sector in the district and local municipality. Many of the towns within the district municipal area function mainly as agricultural service centres, with the level of services provided at the centres to a large extent reliable on the intensity of the farming practices in the surrounding area. Despite the largely semi-arid and arid environment in the district, the fertile land that lies alongside the Orange, Vaal and Riet Rivers supports the production of some of the country's finest quality agricultural products, including grapes and vegetables. The main livestock farming in the region include cattle, sheep, and goat farming. Game breeding has also been identified as one of the opportunities which could be linked with the tourism sector for Game reserves and hunting activities. However, despite the key role played by agriculture there is limited value adding to the farming products within the district and the area is prone to droughts and climate change.

From a mining perspective, the main deposits in Pixley ka Seme include alluvial diamond mining along the Orange River and various semi-precious stones, such as tiger-eye and zinc deposits. The region also has various saltpans for the potential of salt production. Uranium deposits also occur in the district.

The PKSDM IDP notes that the tourism opportunities in the district will increase due to the Karoo Array Telescope (KAT), a project being driven at a national level. Of relevance, the PKSDM notes

that care needs to be taken with developments that have the potential to negatively impact on the Karoo landscapes.

Of key relevance to this environmental process is that the PKSDM IDP identifies renewable energy as key economic sector and refers to the substantial socio-economic development and enterprise development contributions leveraged by the IPPPP commitments. The IDP notes that the towns of Prieska and Carnarvon have in recent years changed character from small rural towns to potentially regional hubs as a result of investments in renewable energy generation and the Square Kilometre Array (SKA) radio telescope project, respectively.

Project cost overview

Renewable energy projects, such as the proposed EGI to support a BESS and PV facility, require significant capital investment. Funds of equity and debt investors either from foreign or domestic sources are obtained. The cost requirements and potential revenue are discussed in this section, sketching a business case for the development of renewable energy projects within South Africa.

The project costs consist of two parts, capital cost and running cost. The capital cost pertains to all costs incurred for the establishment of a producing facility. The running cost relates to those costs incurred to ensure that the facility operates as it should throughout its expected lifetime.

Solar PV installations and their associated grid connection can operate for many years with relatively little maintenance or intervention. Therefore, after the initial capital outlay required for building the facility, further financial investment is limited. Operating costs are also limited.

Level of unemployment:

According to the Integrated Development Plan for the Local Municipality for 2017-2022, the unemployment rate in the municipality was 17.7% in 2011, with youth unemployment at 22.4%. . .

Economic profile of local municipality:

According to the IDP, the economic profile of the Local Municipality is characterised by the following key sectors and features.

- Mining: The area is renowned for its iron ore and manganese deposits, with mines operated by companies like Anglo American and Assmang.
- Agriculture: The region is suitable for livestock farming and limited crop production, with a focus on sheep and goat farming.
- Small-scale industries: -

The municipal area does have High unemployment rates, with a significant proportion of the population relying on social grants. The economy is heavily reliant on mining, making it vulnerable to fluctuations in global commodity prices.

Level of education:

According to the Integrated Development Plan (IDP) for the Local Municipality (2017-2022), the education levels in the municipality are as follows:

No formal education	12.1%
Grade 1-7	23.4%
Grade 8-11	26.5%
Grade 12	21.1%
Higher education (Diploma/Degree)	10.4%

These figures indicate that a significant portion of the population has some form of education, but there is still a need to improve access to quality education, particularly at the higher education level. The IDP aims to address this through various education-related initiatives and strategies.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R100 000 000	
What is the expected yearly income that will be generated by or as a result of the activity?	R0	
Will the activity contribute to service infrastructure?	✓YES	NO
Is the activity a public amenity?	✓YES	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	29	
What is the expected value of the employment opportunities during the development and construction phase?	R8 000 000	
What percentage of this will accrue to previously disadvantaged individuals?	60%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	2	
What is the expected current value of the employment opportunities during the first 10 years?	R8 000 000	
What percentage of this will accrue to previously disadvantaged individuals?	60%	

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
~~Critical Biodiversity Area (CBA)~~	✓Ecological Support Area (ESA)	~~Other Natural Area (ONA)~~	~~No Natural Area Remaining (NNR)~~	Please refer to appendix A which shows the proposed access road in relation to the Critical Biodiversity areas. The region surrounding the Kareekloof Energy PV and BESS EGI project area has been classified as an Ecological Support Areas (ESA) due to it being located in the Platberg-Karoo Conservancy

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	80%	The project area occurs within the Savanna Biome. The Savanna Biome of South Africa and Swaziland constitutes the southernmost extent of the most widespread biome in Africa. SANBI (2021) has subdivided the Savanna Biome into eight (8) ecosystem groups, including Kalahari Duneveld, Kalahari Bushveld, Central Plains Bushveld, Mopane Bushveld, Arid Lowveld Bushveld, Moist Sour Lowveld Bushveld, Sube scarpment Savanna and Inland Aquatic Ecosystems. Within each ecosystem group is a number of different vegetation types. The project area falls within the Kalahari Bushveld ecosystem group.

		The Kalahari Bushveld is characterised by open tree savanna and palatable (sweet) grasses which support animal production throughout the year. The distribution, structure and species composition of this ecosystem group and its associated vegetation types is determined by a complex set of environmental factors, also termed 'ecological drivers', including climate (rainfall and temperature), soils, grazing and browsing, and fire. The specialist has noted that the natural vegetation is not in a pristine condition and has been impacted upon by the various land use activities.
Degraded (includes areas heavily invaded by alien plants)	10%	There are sections of the proposed EGI corridor that have been previously transformed and covered with secondary vegetation.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	10%	Portions of the EGI can be described as "transformed". Existing roadways and fences associated with the operations of the farm have served to alter bio physical states along the proposed EGI. Portions of the corridor are also transformed by the construction of Existing Eskom Powerlines.

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		**Aquatic Ecosystems**						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	~~Critical~~ ~~Endangered~~ ~~Vulnerable~~ Least ✓Threatened	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
		✓YES	~~NO~~	~~UNSURE~~	~~YES~~	✓NO	~~YES~~	✓NO

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The Regional vegetation type is discussed in section 4 above.

The Terrestrial Biodiversity Specialist identified the following habitat types on and adjacent to the project footprint.

<u>Grassland</u>

This is the dominant habitat and is mostly present on softer, sandier soils. It is characterised by a dense grass sward with only few shrubs present. It is dominated by white grasses of the genera *Aristida* and *Eragrostis* interspersed with microphyllous shrubs such as *Lycium* spp. This habitat is considered moderately sensitive due to moderate species diversity and the potential presence of provincially protected species (of the genera *Aloe, Ruschia, Jamesbrittenia, Crassula, Haemanthus, Oxalis).*

Figure 20: Major habitat of the Kareekloof EGI: Grassland on soft sandy soils (Enviro Insight, 2024).

Scrubland

This habitat is present as patches amongst the grassland, typically characterised by the near absence of grasses (such as *Aristida* sp. and *Eragrostis* sp.) and the presence of large, woody shrubs. However, it often forms a habitat mosaic with the grassland, particularly on the ecotone of the two habitats. Similar to the grassland habitat, scrubland has a very expansive occurrence in the region and is therefore not considered to be highly sensitive. Provincially protected species of the genera *Aloe, Ruschia, Euphorbia, Haemanthus, Oxalis, Jamesbrittenia* and *Ammocharis* have been recorded in the area before.

Figure 21: Major habitat of the Kareekloof EGI: Scrubland (Enviro Insight, 2024).

Rocky Ridges & Steep Slopes

This structurally defined habitat is limited in the region and has the potential to act a s a migration corridor for fauna. It is also not able to fully recover from any mechanical disturbances and has therefore been buffered from development by 30m. The presence of the protected tree (National Forests Act No. 84 of 1998) *Boscia albitrunca* has been recorded on similar Koppies or their foot slopes within a 5 km radius from the Kareekloof EGI.

Figure 22: Major habitat of the Kareekloof EGI: Rocky ridges & steep slopes (Enviro Insight, 2024).

Drainage, wetlands & dams

This is a collection of aquatic habitats predominantly characterised by the ephemeral drainage lines and their marginal vegetation, but also the man-made impoundments (dams) in these drainage lines which retain surface water for longer. These habitats are very limited in this arid region and due to the periodic presence of water provide excellent foraging habitats for fauna, particularly in the dry months. The dense marginal vegetation is also often suitable for fauna breeding purposes. This habitat is considered to be sensitive as it functions as both foraging habitat and migration corridors for fauna and is limited in the landscape. It has therefore been buffered from development by 100 m.

Figure 23: Major habitat of the Kareekloof EGI: Drainage, wetlands & dams (Enviro Insight, 2024).

These sensitivities of these habitats are depicted in the Figure below.

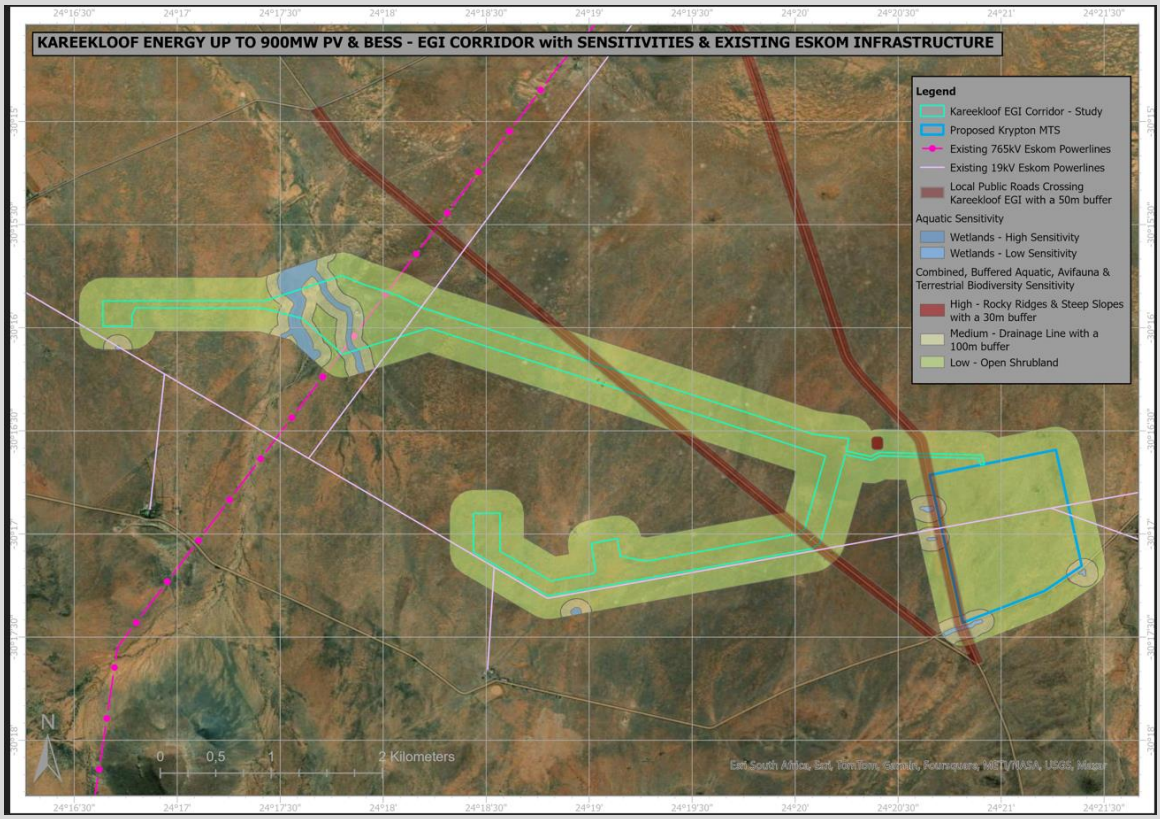


Figure 24: Sensitivity of Habitats associated with the Kareekloof Energy PV and BESS EGI

From an Avifaunal Perspective, the specialist confirmed that within the nine focal pentads, a total of 109 bird species have been recorded in SABAP2, all of which are expected to occur in the study area.

Eight species of conservation concern (SCC; threatened and near threatened) have been observed within at least one of the nine focal pentads overlapping with the EGI study area, two of which were observed during the winter survey (August 2023).

These two species include Secretarybird (Sagittarius serpentarius) and Verreaux's Eagle (Aquila verreauxii). During the spring survey (October 2023) five SCC species were observed, including Secretarybird, African Rock Pipit (Anthus crenatus), Verreaux's Eagle, Blue Crane (Grus paradisea), and Tawny Eagle (A. rapax).

Finally, three SCC were observed in the summer survey including 54 Cape Vultures (Gyps coprotheres), one Ludwig's Bustard (Neotis ludwigii) and two Blue Cranes (Grus paradisea).

The specialist furthermore confirmed that Habitat sensitivity was evaluated according to the perceived likelihood of an avifauna Species of Conservation Concern (SCC) interacting with the EGI corridor. Habitats with regular usage as flyways or breeding display sites by avifauna SCC where therefore considered to be more sensitive than others . Nevertheless, even the low sensitivity habitats shown in below will require bird flight diverters (BFDs) as a mitigation measure for collisions (Particularly on Ludwig's Bustard).

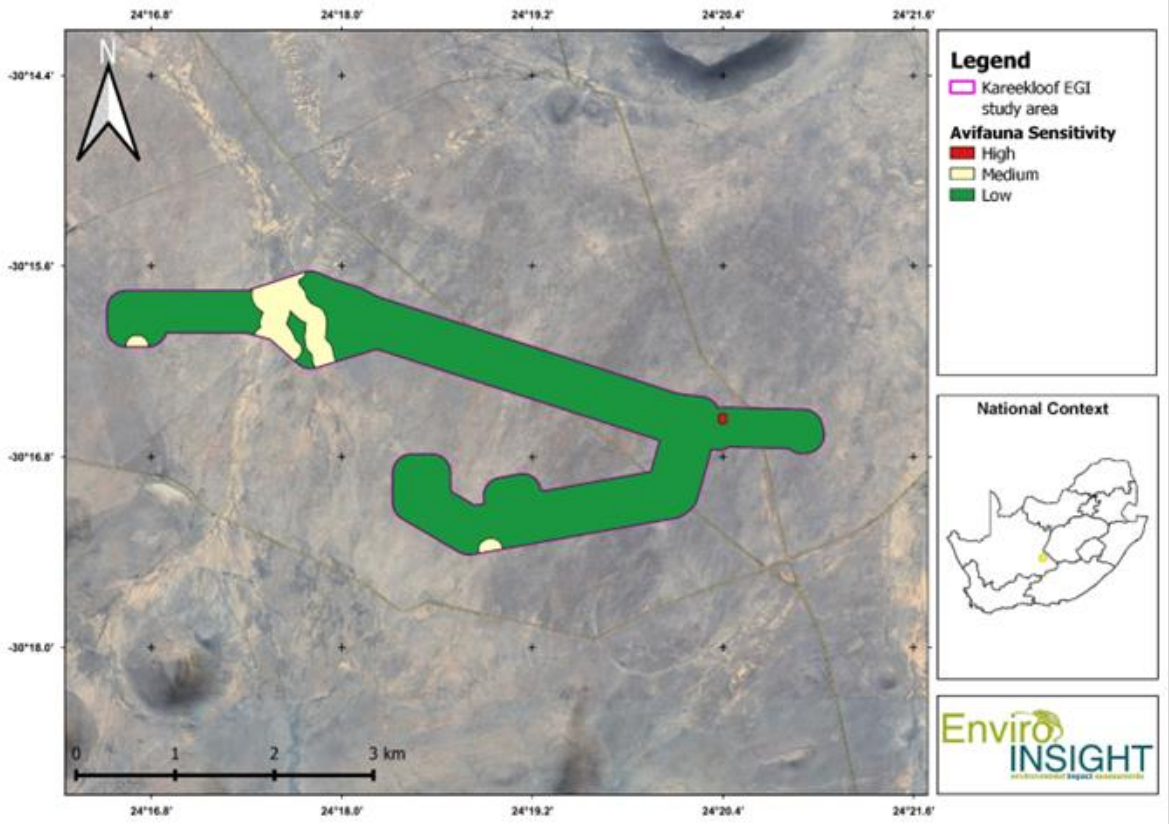


Figure 25: Avifaunal Sensitivity associated with the Kareekloof Energy PV and BESS EGI

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Noord Kaap Bulliton	
Date published	31 July 2024	
Site notice position	**Latitude**	**Longitude**
	30°17'26.32"S	24°20'48.61"E
Date placed	14 April 2024	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Considering the extensive engagement that has taken place with I&APs over the regarding the Kareekloof Energy PV and BESS project (as well as those on the adjacent properties, it is safe to assume that members of the public and stakeholders have had ample opportunity to provide comments associated with this proposed development as a whole. All registered I&APs from the previous environmental process on this property and adjacent properties were given the opportunity to comment on this current environmental process for the EGI.

The public participation will be undertaken in compliance with the EIA regulations.

Section 40(2) in Chapter 6 of regulation 982 requires that the public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application unless access to that information is protected by law and must include consultation with—

(a) the competent authority;

(b) every State department that administers a law relating to a matter affecting the environment relevant to an application for an environmental authorisation;

(c) all organs of state which have jurisdiction in respect of the activity to which the application relates; and

(d) all potential, or, where relevant, registered interested and affected parties.

In order to comply with this requirement, the proposal is to provide all parties, listed in subsections a, b and c above, with full digital copies of the Draft Basic Assessment Report (DBAR), Draft Environmental Management Programme and all specialist studies and plans. Such digital copies will be provided to the competent authority, organs of state and state departments by means of website and other direct download portals. A hardcopy of the documentation was also submitted to the competent authority via courier. Where such parties do not have access to such internet portals, digital copies of documentation will be provided by courier service.

In terms of point d above, all Interested & Affected Parties (I&APs) that are identified or register as part of the process were provided access to the Draft BAR via the following:

1. The digital copy of the documentation that will be on the Cape EAPrac website as well as a direct download link (dropbox and sharepoint).
2. I&APs that do not have access to digital platforms will be provided with physical copies of the report. Such copies will be provided by courier or postal service. During the public participation process, no such parties requested hardcopies of documentation.
3. Potential and registered I&APs were informed that copies of the documentation can be provided via postal or courier services.

Section 41 in Chapter 6 of regulation 982 details the public participation process that has to take place as part of an environmental process. The table below lists these requirements along with the proposed actions in order to comply with both section 41 in regulation 982 as well as well as section 5.1 and annexure 2 of regulation 660.

Regulated Requirement	**Proposed Actions**
(1) If the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land. (2) Sub regulation (1) does not apply in respect of-. (a) linear activities;	A landowner consent for the non-linear component's development has been obtained in terms of this requirement. Pre negotiated Route Agreements have also been received from affected landowners.
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 -	
(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 -	A site notice has been placed at the boundary of the property.

(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;	
(b) giving written notice, in any of the manners provided for in section 47D of the Act, to -	
(i) the occupiers of the site and, if the proponent or applicant is not the owner 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 or to any alternative site where the activity is to be undertaken;	There are no tenants on the affected portions, other than the landowner who has provided consent for the development.
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	Owners of adjacent properties will be notified of this environmental process and will be provided with digital copies of the documents via postal or courier services (where available), if they do not have access to online platforms. Such owners have been requested to inform the occupiers of the land of this environmental process and the process to obtain copies of the relevant reports.
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	The ward councillor was notified of this environmental process and will be provided with a digital copy of the documentation via postal or courier services.
(iv) the municipality which has jurisdiction in the area;	The Renosterberg local Municipality (Planning and Technical Services) was notified of this environmental process and will be provided with digital copies of all documentation via postal or courier service if they do not have access to the various digital download platforms.
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	All organs of state that have jurisdiction in respect of the activity were notified of this environmental process and were provided with digital copies of all documentation via postal or courier service (where available), if they do not have access to the digital download platforms. No state Departments requested hardcopies of documentation.
(vi) any other party as required by the competent authority;	The competent authority was provided with an opportunity to comment on the Draft BAR and EMPr. The CA did not identify additional parties that need to provide comment.
(c) placing an advertisement in - (i) one local newspaper; 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;	An advert calling for registration of I&APs was placed in the Noord Kaap Bulliton local newspaper. There is currently no official Gazette that has been published specifically for the purpose of providing public notice of applications.

(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	Adverts were not placed in provincial or national newspapers, as the potential impacts will not extend beyond the borders of the municipal area.
(e) using reasonable alternative methods, 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.	Notifications included provision for alternative engagement in the event of illiteracy, disability or any other disadvantage. In such instances, Cape EAPrac will engage with such individuals in such a manner as agreed on with the competent authority.
(3) A notice, notice board or advertisement referred to in sub regulation (2) must - (a) give details of the application or proposed application which is subjected to public participation; and (b) state - (i) whether basic assessment or S&EIR procedures are being applied to the application; (ii) the nature and location of the activity to which the application relates; (iii) where further information on the application or proposed application can be obtained; and (iv) the manner in which and the person to whom representations in respect of the application or proposed application may be made.	All notification and adverts comply with this requirement.
(4) A notice board referred to in sub regulation (2) must - (a) be of a size at least 60cm by 42cm; and (b) display the required information in lettering and in a format as may be determined by the competent authority.	The notice board which has been placed on the site boundary does comply with this requirement.
(5) Where public participation is conducted in terms of this regulation for an application or proposed application, sub regulation (2)(a), (b), (c) and (d) need not be complied with again during the additional public participation process contemplated in regulations 19(1)(b) or 23(1)(b) or the public participation process contemplated in regulation 21(2)(d), on condition that -	Not Applicable.

(a) such process has been preceded by a public participation process which included compliance with sub regulation (2)(a), (b), (c) and (d); and (b) written notice is given to registered interested and affected parties regarding where the - (i) revised basic assessment report or, EMPr or closure plan, as contemplated in regulation 19(1)(b); (ii) revised environmental impact report or EMPr as contemplated in regulation 23(1)(b); or (iii) environmental impact report and EMPr as contemplated in regulation 21(2)(d); may be obtained, the manner in which and the person to whom representations on these reports or plans may be made and the date on which such representations are due.	
(6) When complying with this regulation, the person conducting the public participation process must ensure that - (a) information containing all relevant facts in respect of the application or proposed application is made available to potential interested and affected parties; and (b) participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered interested and affected parties are provided with a reasonable opportunity to comment on the application or proposed application. (7) Where an environmental authorisation is required in terms of these Regulations and an authorisation, permit or licence is required in terms of a specific environmental management Act, the public participation process contemplated in this Chapter may be combined with any public participation processes prescribed in terms of a specific environmental management Act, on condition that all relevant authorities agree to such combination of processes.	All reports that are submitted to the competent authority have been subject to a public participation process. These include: - Draft BAR - Draft EMPr - All specialist reports that form part of this environmental process.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (Tel number or e-mail address)
Birdlife Africa	NGO. Automatically registered	In terms of the Protection of Personal Information Act (POPIA), contact details are not provided in this public document.
Renosterberg Local Municipality	Local Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Pixley Ka Seme District Municipality	District Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Agriculture,	National Department. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Water Affairs	National Department. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Square Kilometre Array / SARAO	Implementing Agent for National Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Environment and Nature Conservation	Provincial Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Eskom	State Owned Enterprise. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Sentech	Implementing Agent for National Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Communications	National Department. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Roads and Public Works	Provincial Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Energy	National Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Department of Rural Development and Land Reform	National Authority. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (Tel number or e-mail address)
SAHRA	Implementing Agency. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Transnet	State Owned Enterprise. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
SANRAL	State Owned Agency. Automatically registered	In terms of the POPIA, contact details are not provided in this public document.
Affected and Neighbouring property owners	I&AP	In terms of the POPIA, contact details are not provided in this public document.

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
Any issues raised will be included in the Final Basic Assessment Report, on completion of the Public Participation Process.	

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

A Comments and Responses Report will be included in the Final Basic Assessment Report, on completion of the Public Participation Process.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

First Name	Surname	Company/ Organisation	Position/Interest
Lunga	Dlova	National Department of Forestry, Fisheries and the Environment: Integrated Environmental Authorisations	Competent Authority for the PV/BESS project. Commenting Authority in Respect of this Application
Seoka	Lekota	National Department of Environment, Forestry and Fisheries: Biodiversity	Commenting National Authority
A	Yaphi	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority
M	Mathews	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority
Samantha	De la Fontaine	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority (District Ecologist (Candidate Scientist)
Elsabe	Swart	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority Deputy Director: Research & Development Support
Mashudu	Randwedzi	Department of Water Affairs	National Authority
Melinda	Mei	Department of Water Affairs	National Authority
Shaun	Cloete	Department of Water Affairs	National Authority
Chantèl	Schwartz	Department of Water Affairs	National Authority
Mandla	Ndzilili	Ministry of Environment and Nature Conservation	Provincial Authority
Sibonelo	Mbanjwa	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Authority
Luzane	Tools-Bernado	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Authority
Mashudu	Marubini	Department of Agriculture, Land Reform and Rural Development - Delegate of the Minister (Act 70 of 1970)	Delegate of the Minister (Act 70 of 1970)
Thoko	Buthelezi	Department of Agriculture, Land Reform and Rural Development - AgriLand Liaison office	National Authority

First Name	Surname	Company/ Organisation	Position/Interest
D	Nhlakad	Department of Agriculture, Land Reform and Rural Development - AgriLand Liaison office	National Authority
Anneliza	Collett	Department of Agriculture, Land Reform and Rural Development - AgriLand Liaison office	National Authority
Jacoline	Mans	Department of Agriculture, Land Reform and Rural Development - Chief Forester: NFA Regulation	National Authority
Ali	Diteme	Agriculture, Land Reform & Rural Development	National Authority
Pieter	Buys	National Energy Regulator of South Africa (NERSA)	Regulatory Agency
IA	Bulane	Department of Public Works, Roads and Transport	Provincial Authority
Denver	Van Heerden	Department of Public Works, Roads and Transport	Provincial Authority
Rene	de kock	South African Roads Agency Limited (SANRAL) Northern Cape (Western Region)	National Authority
Nicole	Abrahams	South African Roads Agency Limited (Western Region)	National Authority
M	Lepheane	Department of Labour	National Authority
A	Botes	Department of Social Development	National Authority
Riaan	Warie	Northern Cape Economic Development Agency	National Authority
Andrew	Timothy	Directorate Heritage, Department - Sports, Arts and Culture	National Authority
Lizell	Stroh	South African Civilian Aviation Authority	Regulatory Agency
John	Geeringh	ESKOM	Commenting authority
Kevin	Leask	ESKOM	Commenting authority
The Director		Department of Energy Northern Cape	Provincial Authority
Natasha	Higget	SAHRA	Regulatory Agency
Kgauta	Mokoena	Department of Mineral Resources	National Department
Elliot	Sibeko	Department of Telecommunication & Postal Services	National Department

First Name	Surname	Company/ Organisation	Position/Interest
Raoul	Van den Berg	Southern African Large Telescope (SALT) Sutherland	SALT Project Manager

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

No Deviation from the regulations took place.

A list of registered I&APs must be included as appendix E1.

The I&AP Register is included in Appendix E1

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

A copy of all correspondence will be included in Appendix E5 and Appendix E6 on completion of the public participation process.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

The full assessment of Impacts in terms of Regulation 19(3) of GN 733 is included in Appendix F of this Draft Basic Assessment Report and the specialist assessments in Appendices D1 – D5. The of the impact assessment is included in the table below.

Table 4: Summary of Status and Significance of Impacts Associated with the Kareekloof Energy PV and BESS EGI and mitigation measures.[8]

Nature of Impact	Status	Significance after Mitigation	Mitigation Measures.
Construction Phase			
Habitat loss and fragmentation	Negative	Low	- No High sensitivity areas have been identified for the EGI project. As far as possible, the Watercourse habitat should be avoided for the placement of pylons and roads. - With appropriate mitigation and rehabilitation impacts can be reduced for other habitats. - No construction related activities, such as the site camp, storage of materials, temporary roads or ablution facilities may be located in Watercourses. - The topsoil and vegetation disturbed for the for the preparation of foundations and temporary infrastructure must be replaced and rehabilitated where necessary.

[8] This must be read in conjunction with the complete impact assessment tables contained in Appendix f as well as the Environmental Impact Management Outcomes and Actions outlined in the EMPR's in Appendices G1 and G2.

			- Only the planned placement of powerlines must be disturbed. Vegetation and topsoil removal outside of these areas must be avoided.
Loss of species of conservation concern	Negative	Low	- Avoidance is the best measure. - No plant SCC were recorded or likely to be present on the site.
Loss of protected species	Negative	Low	- Where the approved layout designs impact on provincially protected species permit applications are required for either the relocation or destruction of provincially protected species. - This is also relevant to protected trees such as Boscia albitrunca which could be impacted on by the proposed development
Increased alien invasive species	Negative	Low	- Compile an alien and invasive species control and monitoring plan in terms of NEMBA.
Increased erosion and soil compaction	Negative	Low	- Utilise existing access routes as far as possible. - Confine the movement of vehicles to the access routes to and from the site and to the construction and operation areas. - Do not drive in the natural veld. - Rehabilitate new vehicle tracks and areas where the soil has been compacted as soon as possible. - Monitor the entire site for signs of erosion throughout the construction, operational and decommissioning phases of the project. - Refer to Aquatic Report mitigation measures relevant to watercourse crossings and development close to watercourses
Littering and general pollution	Negative	Low	- The site camp must not be located in high sensitivity areas and their buffer zones. - Dangerous goods may not be stored within 100 m of a watercourse – refer to the BESS assessment for more details. - Hydrocarbon fuels must be stored in a secure, bunded area. - Sufficient waste disposal bins must be available on site and clearly marked. Skip bins may be required during the construction phase which must be emptied on a regular basis. - Ablution facilities must be located outside sensitive areas and their buffer zones.

			- Portable ablution facilities must be regularly cleaned and maintained in good working condition. - Any spillage from ablution facilities must be cleaned up immediately and disposed of in an-appropriate manner. - Vehicles must be in good working condition, with no oil, water or fuel leaks. Vehicles must be regularly inspected, and any problems corrected. - Refuelling may only take place in an appropriate, bunded area. Refuelling may not take place in sensitive areas. - Hydrocarbon spills must be contained and cleaned up immediately. Spill kits must be available on site in case of accidental spillage.
Short-term landscape change from the current rural agricultural sense of place to the semi-industrial RE landscape	Negative	Medium -Low	- Windblown dust mitigation. - Dust mitigation for moving vehicles. - Structures at the substations need to be painted mid-grey colour. - 50m setback from farm roads for the placement of monopoles
Alteration of runoff velocity	Negative	Low	- Where culverts are required, it is recommended that these are spread across the wetland units and not directed through single culverts. - Pylon foundations should not cause erosion where energy dissipation of runoff is recommended. - Where drifts are utilised for crossings, it is recommended that these structures are reinforced with erosion control measures that protect downstream riverine substrates and riparian habitats. - All contractors and staff are to be familiarised with the method statement and have undergone an induction / training on the location of sensitive No-Go areas and basic environmental awareness using the mitigation provided in this report. - Areas where construction is to take place must be clearly demarcated. Any areas not demarcated must be avoided; - Stormwater generated from roadways must be captured and buffered, where flow velocities are to be significantly reduced before discharge into the environment. - Storm-water verges as well as other denuded areas must be grassed (re-
Production of sediment	Negative	Low	
Increasing erosion downslope	Negative	Low	

			vegetated) with local indigenous grasses to protect against erosion; - Any materials excavated must not be deposited in the wetlands or areas where it is prone to being washed downstream or impeding natural flow; - Stockpiling or storage of materials and/or waste must be placed beyond the defined buffers in this report for each respective activity; - No vehicles shall enter watercourse buffer zones outside of construction footprints; - No vehicles shall be serviced on site; a suitable workshop with appropriate pollution control facilities should be utilised offsite; - Hydrocarbons for refuelling purposes must be stored in a suitable storage device on an impermeable surface outside of the delineated wetland buffer zone; - Disturbed areas must be re-vegetated after completion of the phase; - A three-month timeframe for the initiation of this action; - Ripping of the soils should occur in two directions; and - Removed vegetation and topsoil can be harvested and applied here. - Drainage channels constructed for the access roads must be constructed so as not to result in erosion; - An alien vegetation removal and management plan must be implemented along the verges of the roads and crossing points; - General storm-water management practices should be included in the design phase and implemented during the construction phase of this project; and - Following the completion of the phase, all construction materials and debris should be removed and disposed of in a suitable area. An inspection should be completed within 8 weeks after the phase is completed
Direct loss of avifaunal habitat	Negative	Low	- Limit the areas cleared for construction purposes (e.g. laydown areas) and avoid this in all the medium sensitivity areas (where possible). - Avoid all nesting and lekking habitats for Ludwig's Bustard (high sensitivity habitat). - Demarcate such areas on the ground during construction and sign post them

			as "Environmentally sensitive areas - keep out!". - Rehabilitate all areas disturbed immediately after construction. - Prioritise existing roads for access routes. - Keep servitudes as a two-tyre track (instead of wide, fully graded road) wherever possible to limit habitat loss. - Develop and implement an Alien and Invasive Plant Control Plan.
Operational Phase Impacts			
Loss of species composition and diversity	Negative	Low	- The loss of species composition and diversity cannot be fully mitigated due to a permanent structure which will change microclimatic conditions for the life of the facility operation. - A rehabilitation plan is required to restore each habitat to a natural state that is representative of the respective vegetation type after decommissioning
Increased alien invasive species	Negative	Low	- Compile an alien and invasive species control and monitoring plan in terms of NEMBA
Littering and general pollution	Negative	Low	- Vehicles must be in good working condition, with no oil, water or fuel leaks. - Vehicles must be regularly inspected, and any problems corrected. - Refuelling may only take place in an appropriate, designated bunded area. - Any spillages must be reported immediately and dealt with appropriately. - Spill kits must be available on site in case of accidental spillage. - Sufficient waste disposal bins must be available on site and clearly marked.
Long Term landscape change from the current rural agricultural sense of place to the semi-industrial RE landscape	Negative	Medium	- Lights at night management and no overhead lighting at the substations. - Continued dust suppression as required.
Hydrological process alteration	Negative	Low	- The implementation of a suitable storm-water management plan for the disturbance footprint must be in place and implemented by this phase; - An annual audit of the servitude roads and MTS areas for signs of environmental disturbance outside and
Establishment of alien plants on disturbed areas	Negative	Low	

Alteration of surface drainage	Negative	Low	within the footprint area must be conducted; and - Alien invasive management programmes should continue throughout the duration of the activity. - Watercourse monitoring should take place at least every three years as part of the environmental management plan.
Alteration of instream habitats	Negative	Low	
Establishment of alien plants on disturbed areas	Negative	Low	
Direct avifaunal mortality through collision and electrocution	Negative	Low	- Attempts should be made to minimise the OHPL route length and for the route to be aligned with existing powerlines as far as possible. - The route should avoid or minimise wetland/riverine crossings. - Rocky ridges/rises as delineated by the specialist must be avoided. - Increase the visibility of transmission lines, especially the thinner earth line with which most collisions tend to be associated, by the application of appropriate illuminated/highly reflective BFDs – this must be done in consultation with EWT (Matt Pretorius) and ESKOM. Spacing of BFDs must follow the recommended guidance from EWT in relation to the habitat, considering that OHPL alignment sections near sensitive habitats require denser application of BFDs. - Design of OHPLs must consider potential for electrocution by large species and pre-emptively avoid the likelihood of this by increasing distances between spans to avoid faecal "streamers" or large open wings creating a short. - Installation of bird deterrent devices on transmission line poles, pylons and monopoles, as well as security/boundary fences, will be required to limit collision and electrocution risk. - In all areas where service roads intersect with semi natural or natural habitat, all fences must be set back at least (strictly) 75 m from the edge of every service road to allow for vulnerable species such as bustards, cranes and Secretarybirds to obtain adequate height after being flushed by

			vehicle traffic. Alternatively, the fences must be placed completely adjacent to the roads with a maximum of 3 m buffer and marked with fence flappers in order to reduce flush related collisions.
Sensory disturbance to Avifaunal Species	Negative	Low	- Adopt temporal avoidance strategies. In the Nama Karoo, Ludwig's Bustards perform lekking displays for 6 weeks following spring rains and nest September to February (Chittenden et al., 2016). Attempt, as far as practically possible, to conduct most of the highly disturbing activities outside of this period and > 1 km from potential nesting sites to minimize disturbance to this species during sensitive life stages such as lekking, courting, nesting and fledging. - Minimise light pollution and fit external lighting with downward facing hoods. - Train staff and contractors on the importance of birds and other biodiversity and the sensitive areas for these species which should be avoided. - Introduce and enforce a speed limit (40 km/h) on site.
Attraction of birds	Negative	Low	- Use infrastructure design that is not conducive to perching or nesting by birds. - Install bird deterrent devices on transmission line poles, pylons and monopoles to limit perching and minimise collision and electrocution risk.
Decommissioning Phase			
Loss of habitat	Negative	Very Low	- The loss of vegetation is unavoidable within the approved layout development footprint, but sensitive areas must be avoided. - A rehabilitation plan is required to restore each habitat to a natural state after decommissioning.
Increased alien invasive species	Negative	Low	- Compile an alien and invasive species control and monitoring plan in terms of NEMBA.
Short-term landscape change from the removal of the EGI structures, followed by rehabilitation of the impacted areas back to agricultural lands.	Negative	Low	- Dust suppression measures. - Litter management measures. - Removal of all structures and processing in terms of according to NEMWA specifications. - Rehabilitation of impacted areas to veld grasses.

Alteration of runoff velocity	Negative	Low	- The same mitigations as for the construction phase apply.
Production of sediment	Negative	Low	- The same mitigations as for the construction phase apply.
Increasing erosion downslope	Negative	Low	- The same mitigations as for the construction phase apply.
Production of fines and contaminants	Negative	Low	- The same mitigations as for the construction phase apply.
Increasing erosion downslope	Negative	Low	- The same mitigations as for the construction phase apply.

As can be seen in the table above, all impacts range from Very low to Medium – Low and no medium, high or very high impacts are anticipated post mitigation.

Cumulative Impacts

There are a number of other Renewable Energy Facilities along with their associated grid connections in proximity to the proposed Kareekloof Energy PV and BESS EGI as shown in the figure below.

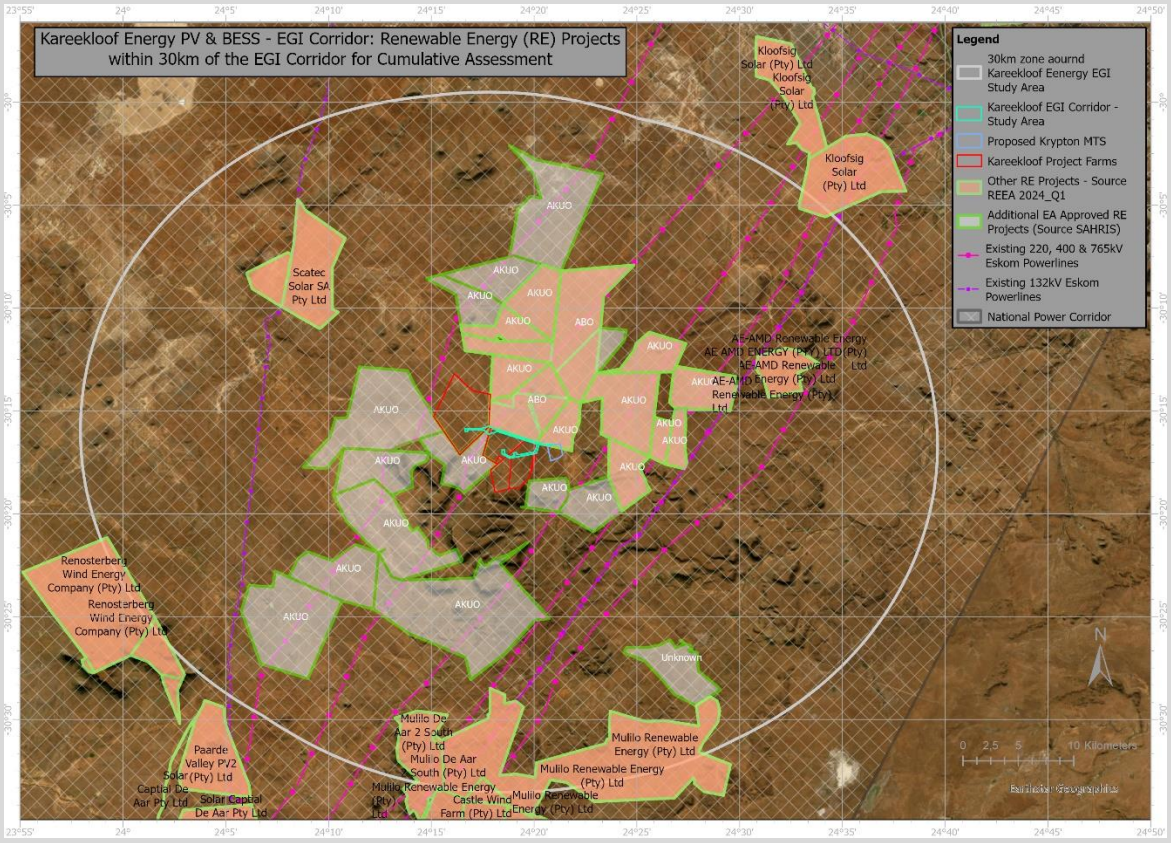


Figure 26: Renewable Energy Facilities along with their associated grid connections in proximity to the proposed Kareekloof Energy PV and BESS EGI

The Kareekloof Energy PV and BESS EGI development is located in the Central Strategic Transmission Corridor as is the case for many other renewable energy projects in the area. There are about 47 renewable energy projects within a 30 km radius of which 11 are wind energy facilities and 34 are solar energy facilities (REEA Q1 2024. Only two separate transmission line applications have been submitted. The proposed EGI itself only represents <1% of the 30 km radius area, indicating an insignificant proportion of transformation in the regional context that can be expected from this development alone. It is important to note that not all of these areas will be transformed by the proposed developments and mitigation recommendations made above and implemented by the existing developments will ensure that the most sensitive habitats remain undisturbed in the region. The Terrestrial Biodiversity Specialist confirmed that the cumulative impact of habitat loss is considered negligible.

The Aquatic Biodiversity also confirmed a low cumulative impact for the following activities:

- Operation of equipment and machinery
- Clearing vegetation
- Stockpiling of and placement construction materials
- Excavating/shaping landscape
- Final landscaping, backfilling and postconstruction rehabilitation
- Alteration of drainage
- Alteration of surface water flow dynamics
- Establishment of alien plants on disturbed areas

From a visual perspective, the specialist confirmed that the development without mitigation will set a precedent for development of further PV projects (and their associated EGI) in this area, creating increased potential for intervisibility that will strongly change the rural karoo landscape. With mitigation and retaining the visual setback buffers, intervisibility could be reduced. The area is also remote and already strongly visual associated with Overhead Power Lines. The visual specialist concluded that the cumulative impact of the project would be low.

From an avifaunal perspective, the specialist has confirmed that collisions with power lines have been identified as a major threat to avian species of conservation concern (SCC) such as the Secretarybird, the Blue Crane, as well as Ludwig's Bustard.

The most recently available information on existing and planned transmission lines available from ESKOM (2018) was mapped in relation to the proposed Kareekloof EGI. This shows a large number of existing OHPLs in the area as well as numerous renewable energy developments likely to have their own internal OHPLs. Most of the existing Eskom OHPLs do not have bird flight diverters and it is likley that many bird collisions already occur from such a dense network of OHPLs. Adding an additional OHPL at right angles to the existing lines must be carefully mitigated as described above to avoid contributing significantly to the potential impacts from OHPLs in the region.

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

As can be seen in the summary table above, the overall negative impacts associated with the proposed Kareekloof Energy PV and BESS EGI range from medium-low to very low, with cumulative impacts all confirmed to be low.

Due to the generally low environmental impact and ease of mitigation as well as the benefits of being able to connect the Authorised Kareekloof Energy PV and BESS EGI to the National Grid, it is Cape EAPrac's reasoned opinion that the EGI (Alternative A – Preferred) be considered for Authorisation subject to the outcome of the public participation process, compliance with all other relevant legislation and the strict implementation of the EMPR's for Substation and Powerline Infrastructure attached in Appendices G1 and G2.

Alternative B

None

Alternative C

None

No-go alternative (compulsory)

The no go alternative would mean that the Authorised Kareekloof Energy PV and BESS would not be able to evacuate much needed energy into the National Grid. In addition, the benefits of new generation capacity, energy storage and grid stability as well as the significant socio-economic benefits of the project would be lost should the no go alternative be considered.

The no go alternative is thus not deemed reasonable, nor feasible but has been used as a baseline against which impacts were assessed.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	✓YES	NO

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

- Full implementation of the mitigation measures identified by all participating specialists (as summarised in Table 4 Above)
- Full implementation of the EMPr for Powerline Infrastructure attached in Appendix G1.
- Full implementation of the EMPr for Substation Infrastructure attached in Appendix G1.
- Compliance with all other relevant regulatory requirements.

Is an EMPr attached?	✓YES	NO

The EMPr must be attached as Appendix G.

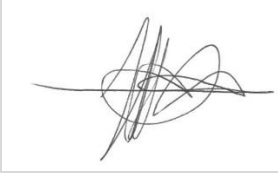
The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Dale Holder

NAME OF EAP



02/08/2024

SIGNATURE OF EAP DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information