

**SITE SENSITIVITY VERIFICATION REPORT FOR THE KLEINZEE SOLAR PV FACILITY AND ASSOCIATED  
INFRASTRUCTURE ON THE FARM ZONNEKWA 326, PORTION 1 OF THE FARM ZONNEKWA 326 AND PORTION 2, 3  
AND 4 OF THE FARM ZONNEKWA 328, NAMA KHOI LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE  
(DFFE REFERENCE: TBC)**

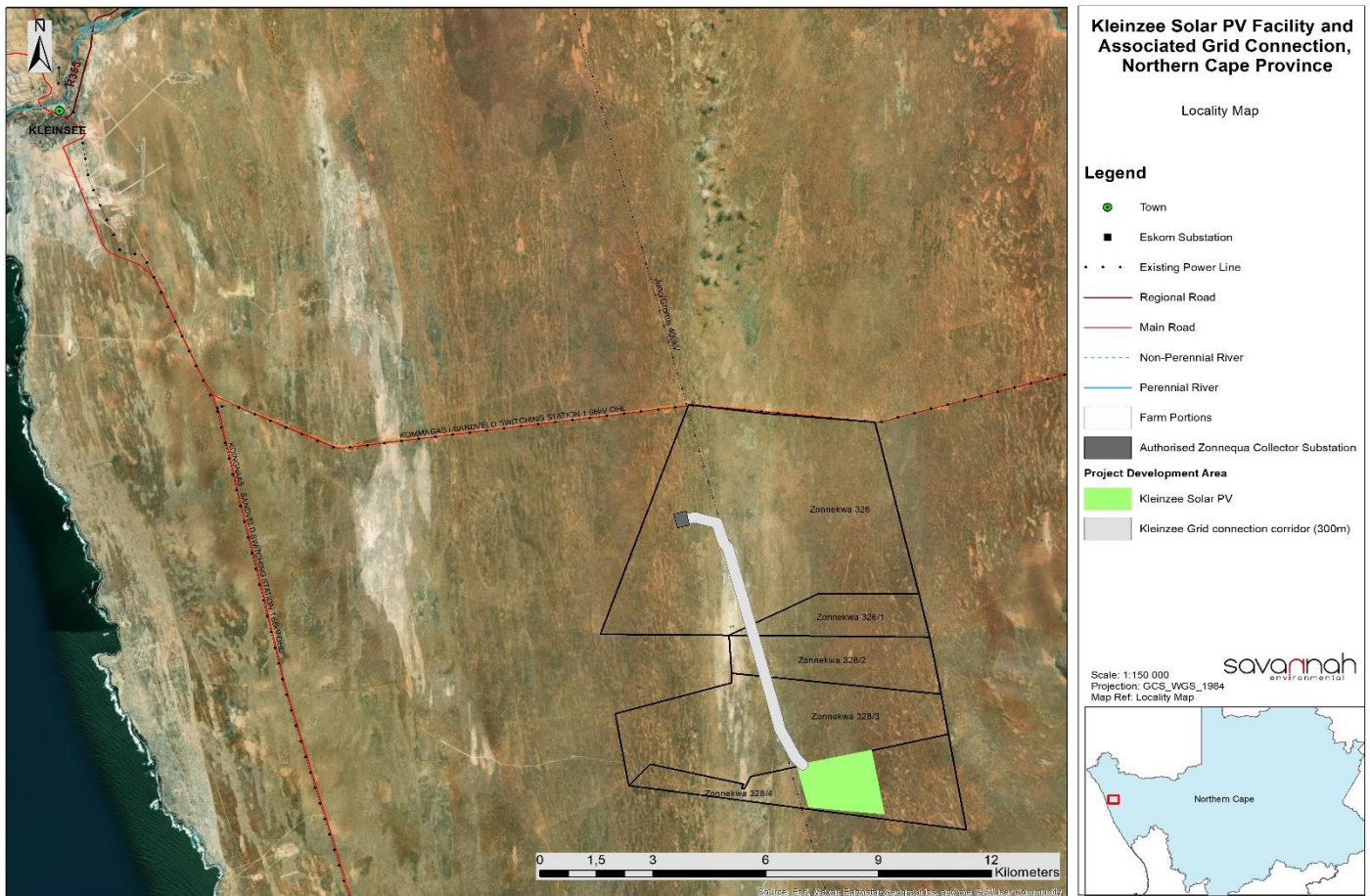
The development of a solar photovoltaic (PV) facility and associated infrastructure with a generating capacity of up to 200MW is proposed by Energy Team on a site located approximately 20km west of the town of Komaggas, and 24km southeast of Kleinzee, in the Northern Cape Province (Figure 1). The solar PV facility will be known as Kleinzee Solar PV Facility. The site is located in the Nama Khoi Local Municipality, which falls within jurisdiction of the Namakwa District Municipality.

The PV facility is located on the Portion 4 of the Farm Zonnekwa 328. A development area<sup>1</sup> of approximately 300ha has been identified within the study area by the Applicant. The grid connection infrastructure will include a substation on Portion 4 of the Farm Zonnekwa 328 and a power line within a 300m wide and 8.5km long corridor on Farm Zonnekwa 326, Portion 1 of the Farm Zonnekwa 326 and Portions 2, 3 and 4 of the Farm Zonnekwa 328. The corridor extends between the proposed Kleinzee Solar PV Facility and a point of connection at the authorised Zonnequa collector substation.

The development area and 300m wide corridor is suitable for the construction of a 200MW PV facility and grid connection infrastructure, and provides the opportunity for the optimal placement of the infrastructure, ensuring avoidance of major identified environmental sensitivities.

The entire extent of the site falls within the Springbok Renewable Energy Development Zone and within the Northern Corridor of Strategic Transmission Corridors. The project is therefore subject to a Basic Assessment (BA) process, as well as a shortened timeframe of 57 days for the processing of an Application for Environmental Authorisation in accordance with the EIA Regulations, 2014 (as amended), as well as the GNR 114 as formally gazetted on 16 February 2018.

<sup>1</sup> The development area is that identified area where the 200MW PV facility is planned to be located. This area has been selected as a practicable option for the facility, considering technical preference and constraints. The development area is ~300ha in extent.



**Figure 1:** Locality map illustrating the location of the Kleinzee Solar PV Facility and associated infrastructure

**SENSITIVITY VERIFICATION:**

The site sensitivity verification report was compiled by the EAP and is based on specialist desktop information and field work undertaken as part of the BA process. This report forms part of the Basic Assessment process being undertaken for the Kleinzee Solar PV Facility and associated infrastructure in the Nama Khoi Local Municipality, Northern Cape Province. The following properties are included in the project site:

**PV Facility:** Portion 4 of the Farm Zonnekwa 328

**Grid line corridor:** Portions 2, 3 and 4 of the Farm Zonnekwa 328, and Farm Zonnekwa 326 and Portion 1 of Farm Zonnekwa 326

The table below and reference to specialist assessments serve to:

- » Verify land use and sensitivities identified in the screening report; and
- » Confirm / contest the need for the various specialist inputs called for in terms of the screening tool report.

Environmental Theme/Specialist Assessment	Sensitivity Rating and Specialist Input Identified in Terms of the DFFE Screening Tool	Verification of Site-Specific Sensitivity and Motivation of the Need for Specialist Investigation
Agricultural Impact Assessment	<p>Screening tool: Medium</p> <p>Required an agricultural impact assessment (in accordance with the protocol prescribed in GNR 320).</p> <p>Verified Sensitivity by Specialist: <b>Low</b></p>	<p>The Kleinzee Solar PV Facility is mostly characterised with Low land capability and land potential sensitivities. It is anticipated that the construction and operation of the Kleinzee Solar PV Facility will have impacts that range from medium to low. Through the consistent implementation of the recommended mitigation measures, most of the impacts can be reduced to low significance. It is of the specialist's opinion that this project be considered favourably, permitting that the mitigation measures are followed to prevent soil erosion and soil pollution.</p> <p>A Soils and Agricultural Potential Impact Assessment is included as <b>Appendix F</b> of the BA Report.</p>
Animal Species Assessment	<p>Screening tool: Medium</p> <p>Necessitating an animal species assessment (in accordance with Animal Species Assessment Protocols prescribed in GN 43855)</p> <p>Verified Sensitivity by Specialist: <b>Low</b></p>	<p>The DFFE Screening Tool identified the entire site as having a medium animal sensitivity theme due to the potential presence of the Black Harrier well as Sensitive Species 32 and the orthopteran <i>Brinckiella mauerbergerorum</i>.</p> <p>In terms of the site verification, the presence of the Sensitive Species 32 can definitively be excluded from the site as this species shows a particular preference for rocky terrain, which is not present within or near the site. In terms of the <i>Brinckiella mauerbergerorum</i>, the presence or absence of this species on the site is less definitive, but based on the amount of time spent on site and in the area which amounts to several weeks across different seasons and years and the failure to detect this species on the site, it is concluded that this species is absent from the site. As such, the site is considered low sensitivity for this species.</p> <p>The footprint of the Kleinzee Solar PV Facility is restricted to low sensitivity areas with no observed faunal species of conservation concern present or likely to be present. As such, from a faunal species perspective there are no reasons to oppose the Kleinzee Solar PV Facility.</p> <p>An Animal Compliance Statement has been undertaken and is included in the BA Report as <b>Appendix D2</b>.</p>
Landscape/Visual Impact Assessment	<p>Screening tool: Very High</p> <p>(General Assessment Protocols)</p> <p>Verified Sensitivity by Specialist: <b>Medium to Low</b></p>	<p>The visual impacts associated with the Kleinzee Solar PV facility range from high to low. Post mitigation significance to be reduced to range from moderate to low as a result of the generally undeveloped character of the landscape and the remote location of the project infrastructure. There are a limited number of potential sensitive visual receptors within a 3km radius of the proposed structures, although the possibility does exist for visitors to the region to venture into closer proximity to the PV facility structures. These observers may</p>

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		<p>consider visual exposure to this type of infrastructure to be intrusive.</p> <p>If mitigation is undertaken as recommended, it is the specialist's opinion that the significance of most of the anticipated visual impacts will remain at or be managed to acceptable levels. As such, the Kleinzee Solar PV facility and associated grid connection infrastructure would be considered to be acceptable from a visual impact perspective and can therefore be authorised.</p> <p>A Visual Impact Assessment has been undertaken for the Kleinzee Solar PV Facility and is included in this BA Report as <b>Appendix H</b>.</p>
Archaeological and Cultural Heritage Impact Assessment	Screening tool: Low Verified Sensitivity by Specialist: <b>Low</b>	<p>While infrastructure associated with the Namaqualand Copper Mining Cultural Landscape is known to exist in this area, the proposed development is located well-away from the heart of the Cultural Landscape as described in the tentative listing. Furthermore, no resources of heritage significance were identified within the area proposed for development. The specialist does not anticipate that the proposed development will negatively impact on significant cultural landscape resources,</p> <p>A Heritage Impact Assessment (which covers both archaeological and cultural aspects of the study area and the development area) has been undertaken for Kleinzee Solar PV facility and associated grid connection infrastructure and is included in this BA Report as <b>Appendix G</b>.</p>
Palaeontology Impact Assessment	Screening tool: Very High Verified Sensitivity by Specialist: <b>Low</b>	<p>According to the SAHRIS Palaeosensitivity Map, the area proposed for development is underlain by scree/talus/alluvium grading into piedmont gravel of low palaeontological sensitivity. Pether (2011, SAHRIS NID 16355) conducted a PIA for a proposed development located approximately 10km away from the proposed development area. Similar geology is present at this site. Pether (2011) noted that terrestrial deposits blanket the area. He goes on to note that "These deposits comprise the loose, surficial coversands and the underlying, older, "dorbank" compact, clayey deposits that also are chiefly aeolian sands, with the soils and pedocretes that have formed in them. Fossil bones are sparsely distributed on the palaeosurfaces within these deposits but are locally abundant in contexts such as interdune deposits, carnivore bone accumulations in burrows and buried Stone Age sites. Trace fossils are ubiquitous and important palaeoenvironmental indicators. The significance rating is low for fossil potential as a consequence of the low probability of finding fossils in the terrestrial deposits.</p>

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		<p>With the implementation of mitigation measures by the developer, contractors, and operational staff, the significance of impacts of the Kleinzee Solar PV Facility palaeontological resources will be low.</p> <p>A Heritage Impact Assessment (which covers the paleontological aspects of the development area) has been undertaken for the Kleinzee Solar PV Facility and is included in this BA Report as <b>Appendix G</b>. The PIA complies with the requirements of the NHRA.</p>
Terrestrial Biodiversity Impact Assessment	<p>Screening tool: Very high</p> <p>Required a terrestrial biodiversity impact assessment and a plant species assessment (Terrestrial Biodiversity Assessment Protocols)</p> <p>Verified Sensitivity by Specialist: <b>Low</b></p>	<p>The DFFE Screening Tool for the site indicates that for the combined Terrestrial Biodiversity Theme, the site consists entirely of Very High sensitivity areas due to the presence of areas of CBA2, ESAs, Protected Areas Expansion Strategy area.</p> <p>The footprint of the Kleinzee PV Facility falls entirely within the Namaqualand Strandveld vegetation type which has been impacted to a relatively limited extent by transformation to date and is classified as Least Threatened.</p> <p>Based on the field assessment, the site has been determined to have relatively low abundance of SCC and no significant biodiversity features. Similar Strandveld habitat is widely available in the area and is also well-represented within the Namakwa National Park. The development is therefore considered highly unlikely to compromise the ecological functioning of the affected CBA2, given that it has not been identified as being of particular significance for broad-scale ecological processes. Consequently, the overall impact of the development on CBAs and broader scale ecological processes is considered to be relatively low.</p> <p>An Ecological Impact Assessment (including flora and fauna) has been undertaken for the Kleinzee Solar PV facility and associated grid connection infrastructure and is included as <b>Appendix D</b> of the BA Report.</p>
Avian Impact Assessment	<p>Screening tool: Low</p> <p>Verified Sensitivity: <b>Low</b></p>	<p>The small development footprint, low passage rates of the Red Data birds and the medium-low reporting rates of all five Priority species, points to this solar site as of low risk to the birds there. The greatest threat to avian species around a solar PV site are:</p> <ul style="list-style-type: none"> <li>» Displacement from the area used for the panels;</li> <li>» Loss of foraging habitat for threatened or Priority species.</li> <li>» Wetland species perceiving the panels as open water and colliding with panels.</li> <li>» Collisions with the power lines.</li> </ul>

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		<p>The presence of only two threatened (Red Data) Priority species, and their low Passage Rates, and their relatively low likelihood of occurring, indicates that this site does not require any specific mitigations as the risks to the birds, or the loss of habitat, are both insignificant for this development.</p> <p>It is the specialist opinion that if the predicted impacts can be mitigated, there is no reason why the site should not be granted environmental authorisation from an avian perspective.</p> <p>An Avifauna Impact Assessment Report has been undertaken for the Kleinzee Solar PV facility and associated grid connection infrastructure and included as <b>Appendix E</b> of the BA Report.</p>
Civil Aviation Assessment	Screening tool: Low Verified Sensitivity: <b>Low</b>	<p>The Civil Aviation Authority (CAA) has been consulted throughout the EIA process to obtain input and details of any requirements for further studies. No comments or objections to the project have been received.</p> <p>The project site is not located within close proximity of any aerodromes, landing strips or infrastructure. The low sensitivity rating is supported, and no study is required in this regard.</p>
Defence Assessment	Screening tool: Low Verified Sensitivity: <b>Low</b>	<p>The project site is not located within close proximity of any military base or infrastructure. The low sensitivity rating is supported, and no study is required in this regard.</p>
RFI Assessment	Screening tool: Low Verified Sensitivity: <b>Low</b>	<p>The project site under consideration for the development of the Kleinzee Solar PV Facility is located outside of an Astronomy Advantage Area and within an area that as classified as having low sensitivity for telecommunication. The low sensitivity rating is supported, and no study is required in this regard. No comments or objections have been received during the public participation process.</p>
Plant Species Assessment	Screening tool: Medium Verified Sensitivity by Specialist: <b>Medium</b>	<p>The DFFE Screening Tool indicates that the Kleinzee PV Facility development area is mapped as Medium Sensitivity due to the possible presence of several plant species of concern. In addition to the species identified by the Screening Tool, the field assessment confirmed the presence of other plant SCC on the site, one of which is <i>Wahlenbergia asparagoides</i>, which is classified as Near Threatened.</p> <p><i>Wahlenbergia asparagoides</i> occurs within the Kleinzee PV Facility site at a low density and is a common species in the wider area. Although the development would result in the loss of approximately 2.5% of the local population this is estimated to represent less than 0.2% of the global population. The</p>

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		<p>development is therefore considered unlikely to compromise the local or regional population of this species. The impact of the Kleinzee PV Facility on <i>W.asparagooides</i> is considered acceptable and the development is not opposed.</p> <p>A Plant Species Assessment has been undertaken and is included in the BA Report as <b>Appendix D3</b>.</p>
Socio-Economic Assessment	Screening Report did not include a rating for this theme; however, the specialist assessment was identified.	A Socio-Economic Impact Assessment has been undertaken and is included in the BA Report as <b>Appendix I</b> .

Based on the outcomes of the evaluation of the project and the outcomes of the Site Sensitivity Verification, the following studies were identified as being required:

- » Terrestrial Ecology Impact Assessment
- » Avifauna Impact Assessment
- » Soils and Agricultural Impact Assessment
- » Heritage Impact Assessment
- » Visual Impact Assessment
- » Social Impact Assessment

The specialist studies undertaken for this project are required to comply with either the above Protocols or, alternatively, with the requirements of Appendix 6 of the NEMA EIA Regulations of 2014 (as amended 2017 & 2021).