

# EIA REPORT



## CHAPTER 11:

# Geohydrological Assessment

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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## COMPLIANCE WITH THE APPENDIX 6 OF THE 2014 EIA REGULATIONS

Requirements of Appendix 6 - GN R982	Addressed in the Specialist Report
1. (1) A specialist report prepared in terms of these Regulations must contain-	Appendix A of the EIA Report
a) details of-	
i. the specialist who prepared the report; and	
ii. the expertise of that specialist to compile a specialist report including a curriculum vitae;	
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Appendix B of the EIA Report and Section 11.1.7 of this chapter.
c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 11.1.2 and Section 11.1.3
d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 11.6.1
e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 11.1.2, Section 11.1.3 and Section 11.6.1
f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 11.2 and Section 11.3
g) an identification of any areas to be avoided, including buffers;	Section 11.3
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Appendix 11.A of this chapter
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 11.1.5
j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Section 11.6
k) any mitigation measures for inclusion in the EMPr;	Section 11.6, Section 11.7 and Section 11.8
l) any conditions for inclusion in the environmental authorisation;	Section 11.9
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 11.6, Section 11.7 and Section 11.8
n) a reasoned opinion-	Section 11.9
i. as to whether the proposed activity or portions thereof should be authorised; and	
ii. if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 11.6
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Sections 11.5 and 11.6
q) any other information requested by the competent authority.	Not applicable at this stage

# list of abbreviations

Bh	borehole
ch	collar height
EC	electrical conductivity
EIA	environmental impact assessment
GEOSS	Geohydrological & Spatial Solutions International (Pty) Ltd.
GIS	geographic information system
Ha	hectare
L/s	liters per second
m	meters
mm/a	millimetres per annum
mS/m	millisiemens per meter
MAP	mean annual precipitation
mbch	metres below collar height
mbgl	metres below ground level
mg/L	milligrams per litre
mV	millivolts
NGA	national groundwater achieve
ORP	oxygen reduction potential
TDS	total dissolved solids
temp	temperature
WL	water level
WP	wind pump

# glossary

<i>Definitions</i>	
<i>Aquifer</i>	A geological formation that has structures or textures that hold water or permit appreciable water movement through them.
<i>Borehole</i>	includes a well, excavation, or any other artificially constructed or improved groundwater cavity which can be used for the purpose of intercepting, collecting or storing water from an aquifer; observing or collecting data and information on water in an aquifer; or recharging an aquifer [from National Water Act (Act No. 36 of 1998)].
<b>DRASTIC</b>	An acronym for a groundwater vulnerability assessment methodology: D = depth to groundwater / R = recharge/ A = aquifer media type / S = soil type / T = topography / I = impact of the unsaturated zone / C = hydraulic conductivity. The methodology uses a rating and weighting approach and was developed by the Environmental Protection Agency (USA)
<i>Fractured aquifer</i>	Fissured and fractured bedrock resulting from decompression and/or tectonic action. Groundwater occurs predominantly within fissures and fractures.
<i>Groundwater</i>	Water found in the subsurface in the saturated zone below the water table or piezometric surface i.e. the water table marks the upper surface of groundwater systems.
<i>Intergranular Aquifer</i>	Generally unconsolidated but occasionally semi-consolidated aquifers. Groundwater occurs within intergranular interstices in porous medium. Typically occur as alluvial deposits along river terraces.
<i>Intergranular and fractured aquifers</i>	Largely medium to coarse grained granite, weathered to varying thicknesses, with groundwater contained in intergranular interstices in the saturated zone, and in jointed and occasionally fractured bedrock.
<i>Vulnerability</i>	The tendency or likelihood for contaminants to reach a specified position in the ground-water system after introduction at some location above the uppermost aquifer (National Research Council, 1993).

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## 11 GEOHYDROLOGICAL ASSESSMENT

This chapter presents the findings of the Geohydrological Assessment that was prepared by Mr. Julian Conrad and Mr. Charles Peek (Geohydrological and Spatial Solutions International (PTY) Ltd (GEOSS)) as part of the EIA for the proposed KENHARDT PV 1 project within the Northern Cape Province, South Africa.

### 11.1 INTRODUCTION AND METHODOLOGY

#### 11.1.1 Introduction

As noted in Chapter 1 of this EIA Report, the proposed project includes the development of a 75 Megawatt (MW) Solar Photovoltaic (PV) Facility (referred to as KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168. The farm is located 30 km north-east of Kenhardt and 80 km south of Upington within the Kheis Local Municipality, Northern Cape Province (**Map 1, Appendix 11.A** of this chapter).

As explained in Chapter 1 of this EIA Report, the Project Applicant is proposing to develop:

- a 75 MW Solar PV power generation facility (KENHARDT PV 1) and associated electrical infrastructure (including a transmission line for the 75 MW facility); and
- the connection points to the Eskom Nieuwehoop Substation on the remaining extent of Portion 3 of Gemsbok Bult Farm 120.

The Project Applicant is also proposing to construct two other proposed 75 MW Solar PV facilities adjacent to the Kenhardt PV 1 facility, referred to as Kenhardt PV 2 and Kenhardt PV 3. These facilities are subject to separate EIA Processes.

As mentioned in Chapter 1 of this EIA Report, the proposed transmission line which will extend from the KENHARDT PV 1 plant to the Eskom Nieuwehoop Substation, as well as associated electrical infrastructure at the substation (including but not limited to an additional feeder bay(s), Busbar(s), transformer bay and extension to the platform at the substation), has been subjected to a separate Basic Assessment Process, referred to as KENHARDT PV 1 - Transmission Line. A separate Geohydrological Assessment has been completed for the KENHARDT PV 1 - Transmission Line Basic Assessment project. The transmission lines and electrical infrastructure for the Kenhardt PV 1, PV 2 and PV 3 projects will be constructed within a single electrical corridor which will range from 300 m wide to 1 000 m wide extending from the Kenhardt PV 3 area all the way to the Eskom Nieuwehoop Substation. **It should be noted that the maps included in Appendix 11.A of this chapter show the KENHARDT PV 1 (preferred) site, as well as the proposed corridor of the transmission lines for purpose of completeness. This specialist study (included as Chapter 11 of this EIA Report) only assesses the impact of the proposed KENHARDT PV 1 project (preferred site).**

Furthermore, the information regarding the proposed transmission line is indicatively indicated provided in this report. A detailed description of the transmission line corridor is provided and assessed separately in the Basic Assessment for the Kenhardt PV 1 - Transmission Line project.

The farm Onder Rugzeer 168 is situated alongside the farm Boven Rugzeer (Remaining Extent of Farm 169) and the proposed Eskom Nieuwehoop Substation, currently under construction.

The 75 MW Solar PV facility will cover an approximate area of 250 hectares (ha) and will be constructed in the vicinity of two other proposed 75 MW Solar PV facilities (i.e. Kenhardt PV 2 and

Kenhardt PV 3) (with a collective footprint of approximately 750 ha and a combined power generation capacity of 225 MW), also proposed by Scatec Solar.

An alternative site for the proposed KENHARDT PV 1 project (referred to as KENHARDT PV 1b) was considered during the Scoping Phase however only the preferred site (KENHARDT PV 1) has been assessed as part of this EIA Phase.

### *11.1.2 Scope and Objectives*

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As explained in Chapters 2 and 4 of this EIA Report, the Project Applicant intends to make use of existing boreholes to source groundwater (if available and if suitable) for the solar panel cleaning process. As a result, water pipelines may need to be constructed in order to transfer groundwater from existing boreholes to the proposed solar facility. The groundwater will be stored on site in suitable containers or reservoir tanks (or similar) during the operational phase.

One of the objectives of this Geohydrological Assessment is to confirm whether the groundwater is in fact sufficient and suitable for use (i.e. in terms of quality and quantity (i.e. borehole yields)). This study is therefore aimed at providing a clear indication of groundwater availability and suitability from existing boreholes. The outcome of this study will recommend whether pipelines are required for the transfer of water from the boreholes to the site.

The overall scope of this Geohydrological Assessment is to determine the impact of the proposed project on the surrounding geohydrology and any geohydrological features, as well as to recommend mitigation measures to reduce the significance of potential negative impacts.

For this specialist study, a desktop study was conducted based on existing maps and reports of the geology and geohydrology. Groundwater data, including groundwater level and groundwater quality data, was obtained from the National Groundwater Archive (NGA) for the area surrounding the proposed area. This was followed by a detailed field work component to inform this Geohydrological Assessment.

### *11.1.3 Terms of Reference*

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The Scope of Work is based on the following broad Terms of Reference, which have been specified for this specialist study on groundwater (i.e. this Geohydrological Assessment):

- Identify significant features or disturbances within the proposed project area and define any environmental risks in terms of geohydrology and the proposed project infrastructure;
- Conduct a desktop study and describe the existing environment in terms of geohydrology (including hydrogeological characterisation of aquifers (types, sensitivity, vulnerability), and groundwater (quality, quantity, use, potential for industrial or domestic use) in the area surrounding the proposed development;
- Conduct a fieldwork assessment to determine the location of any boreholes and to collect groundwater samples (where possible) to ascertain the water quality);
- Develop a sensitivity map indicating the presence of sensitive areas, “no-go” areas, setbacks/buffers, as well as the identification of red flags or risks associated with geohydrological impacts;
- Highlight any gaps in baseline data and provide a description of confidence levels;
- Assess potential direct, indirect and cumulative impacts resulting from the construction, operational and decommissioning phases of the proposed project on the surrounding geohydrology;
- Identify any relevant legal and permit requirements that may be required in terms of groundwater/geohydrological impacts likely to be generated as a result of the proposed project;

- Provide mitigation, monitoring and management measures in order to minimize any negative geohydrological impacts and enhance the positive impacts;
- Assess the consequences and significance of potential groundwater contamination; and
- If necessary, recommend groundwater management and monitoring for the proposed site.

#### 11.1.4 Approach and Methodology

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The specialist study was completed as follows:

Task 1: A desktop study and relevant literature review pertaining to the site was completed. Borehole data was searched for on the NGA and a project GIS was established.

Task 2: A site visit was completed on 28<sup>th</sup> and 29<sup>th</sup> September 2015. The field work included a hydrocensus, which extended to 1 km from the outline of the property boundaries. The objective of this task was three-fold:

1. To locate the NGA boreholes and complete a borehole assessment.
2. To locate boreholes not yet recorded on the NGA and complete assessments.
3. To collect anecdotal information from the land owners in the area as well as from discussions with the Department of Water and Sanitation (DWS) geohydrologists. It was essential to collect as much information as possible relating to groundwater quality, groundwater levels and borehole yields.

Task 3: All the data obtained from the desktop review and fieldwork was assessed and the impacts relating to the site evaluated.

Task 4: The findings of the investigation, potential risks, any potential mitigation measures, monitoring requirements as well as relevant recommendations have been included in a report. The impacts were assessed based on the methodology indicated in Chapter 4 of the EIA Report.

#### 11.1.5 Assumptions and Limitations

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The geohydrological appraisal is based on previous studies and available literature for the study area. The main assumptions are based on 1: 500 000 regional scale Geographic Information System (GIS) datasets and that the previous hydrogeological work completed was correct. However field work was carried out to assess the accuracy of the regional data sets. The main limitation is that no drill records or yield test data exists for boreholes or wind pumps drilled within the study area. It was also difficult to obtain the depth of the groundwater level in the area. Nonetheless these limitations have not negatively impacted the accuracy of the findings of this project.

In addition, for the geohydrological study, no cumulative impacts are anticipated (as this assessment recommends that groundwater is not suitable or sufficient for use) and this also takes into account other related projects in the area).

#### 11.1.6 Source of Information

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The geological information has been obtained from geological maps produced by the Council for Geoscience and Slabbert *et al*, 1999.

The groundwater related data and maps were obtained from the 1: 500 000 Hydrogeological map series of the Republic of South Africa (Department of Water Affairs and Forestry (DWA), 2002).

The report compiled by GEOSS (2014) as part of the EIA for the adjacent Nieuwehoop Development was also reviewed and relevant information has been used in this report, as applicable.

From the field visit (completed on the 28<sup>th</sup> and 29<sup>th</sup> September 2015) the existing data sets were assessed and new data sourced. Data was collected on borehole/wind pump positions; depth to

groundwater levels; and field chemistry (i.e. pH; temperature; electrical conductivity (EC); total dissolved solids (TDS); salinity and oxygen reduction potential (ORP)). The field data obtained from the site visit was useful as it enabled the assessment of the more regional existing data sets and provides valuable insights into the geohydrology of the area.

### 11.1.7 Declaration of Independence of Specialists

Refer to Appendix A of this EIA Report for the Curriculum Vitae of Mr. Julian Conrad and Mr. Charles Peek, which highlights their experience and expertise. The declaration of independence by the specialist is provided in **Box 11.1** below, with a complete declaration included in **Appendix B** of this EIA Report.

#### BOX 11.1: DECLARATION OF INDEPENDENCE

I, Julian Conrad, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed KENHARDT PV 1 Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



JULIAN CONRAD

## 11.2 DESCRIPTION OF PROJECT ASPECTS RELEVANT TO GEOHYDROLOGICAL IMPACTS

It is important to note that a complete, detailed project description is provided in Chapter 2 of the EIA Report. As explained above, the Project Applicant intends to make use of existing boreholes to source groundwater (if available and if suitable) for the solar panel cleaning process. As a result, water pipelines may need to be constructed in order to transfer groundwater from existing boreholes to the proposed solar facility. In addition groundwater will need to be stored on site in suitable containers or reservoir tanks during the construction and operational phases.

Broadly speaking groundwater can be impacted two ways, namely:

- Over-abstraction (where groundwater abstraction exceeds recharge rates) which can result in the alteration of groundwater flow directions and gradients and even aquifer collapse.
- Quality deterioration (i.e. from anthropogenic activities negatively impacting groundwater quality).

For the proposed development of a 75 MW Solar PV Facility (KENHARDT PV 1), it is recommended that the **groundwater not be used (i.e. abstracted) within the study area**. This recommendation is based on the reasoning that the groundwater within the area is very limited and is saline. The groundwater quality does not meet SANS241-1: 2015 quality guidelines for cleaning of solar panels or human consumption. To verify this finding of the authors a cost - benefit analysis should be completed by the client (outside of this EIA Process).

There is currently limited groundwater abstraction taking place within the study area in the form of shallow boreholes installed mainly with wind pumps. However there is one borehole equipped with an electric submersible solar pump (see Appendix 11.B of this chapter). The groundwater is being used in the region for livestock watering only. The low rainfall and high evapotranspiration rates

within the study area are a limiting factor for the recharge of the aquifer underlying the study area (which is described in Section 11.3 of this chapter). Over abstraction of groundwater during the construction phase and operational phase may lead to a decrease in groundwater levels and impacting of the aquifer. The groundwater within the study area is not suitable for use (i.e. in terms of quality).

For the operation of the proposed plant 4 to 6 million litres of water is required per annum for the panel washing process. This equates to 0.13 to 0.19 L/s (pumped on a continuous basis). This demand can possibly be met by drilling 4 to 6 additional boreholes. However the assurance of yield is low. In addition the groundwater will have to be desalinated prior to use and brine disposal is always problematic as it is considered hazardous waste (even though the quantities will be very small). The brine either has to be removed to a hazardous landfill or disposed of in evaporation ponds constructed with expensive multi-layered impermeable lining. Thus a cost-benefit analysis will be provide the final answer, however it is of the authors opinion that the use of groundwater is not a viable option. Therefore, water should be sourced from the municipality instead. Water tanks will need to be used to store the water from the municipality. In this regard, there will be generally about 5 to 10 x 10,000 litre tanks per site. If the Municipality supplies water then the following logistics are anticipated to apply:

- Construction - 1 trip every 2 days for 7 months; and
- Operations - 2 trips a month.

As such, pipelines do not need to be constructed for the transfer of water from the boreholes to the site, as groundwater abstraction is not proposed.

The proposed project (KENHARDT PV 1) and its associated activities can potentially impact the groundwater quality of the aquifer, although the probability of this occurring is extremely low. Possible contamination sources include contaminated storm water outflows, vehicle oil spillage and fuel leakage, and from the construction of temporary labour accommodation.

## 11.3 DESCRIPTION OF THE AFFECTED ENVIRONMENT

### 11.3.1 Rainfall and Temperature

Kenhardt normally receives approximately 70 mm of rain per year, with most rainfall occurring mainly during autumn. **Figure 11.1a** shows the average rainfall values for Kenhardt per month. It typically receives the lowest rainfall (0 mm) in June and the highest (23 mm) in March. The monthly distribution of average daily maximum temperatures (**Figure 11.1b**) shows that the average midday temperatures for Upington range from 19°C in June to 33°C in January. The region is the coldest during June and July.

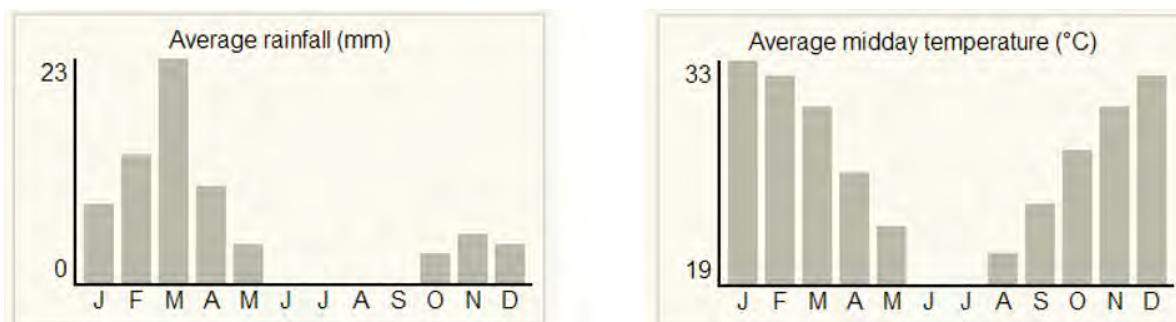


Figure 11.1a and 11.1b: Rainfall and average midday temperature for Kenhardt (<http://www.saexplorer.co.za>)

The monthly distribution of rainfall and evaporation for the remaining extent of Onder Rugzeer Farm 168 is shown in **Figure 11.2**. The area receives approximately 71 mm of rainfall per year and because it receives most of its rainfall during autumn it has a semi-arid to arid climate. It receives the lowest rainfall between July to September (0 mm) and the highest in March (autumn). The long-term average annual evapo-transpiration rate is in approximately 2 790 mm/a. The relevance of this information is that the rainfall occurs whilst temperatures are quite high and therefore associated evaporation rates will be high. This implies that groundwater recharge will be very low. **Figure 11.2** shows the long term monthly rainfall and evapo-transpiration distribution respectively.

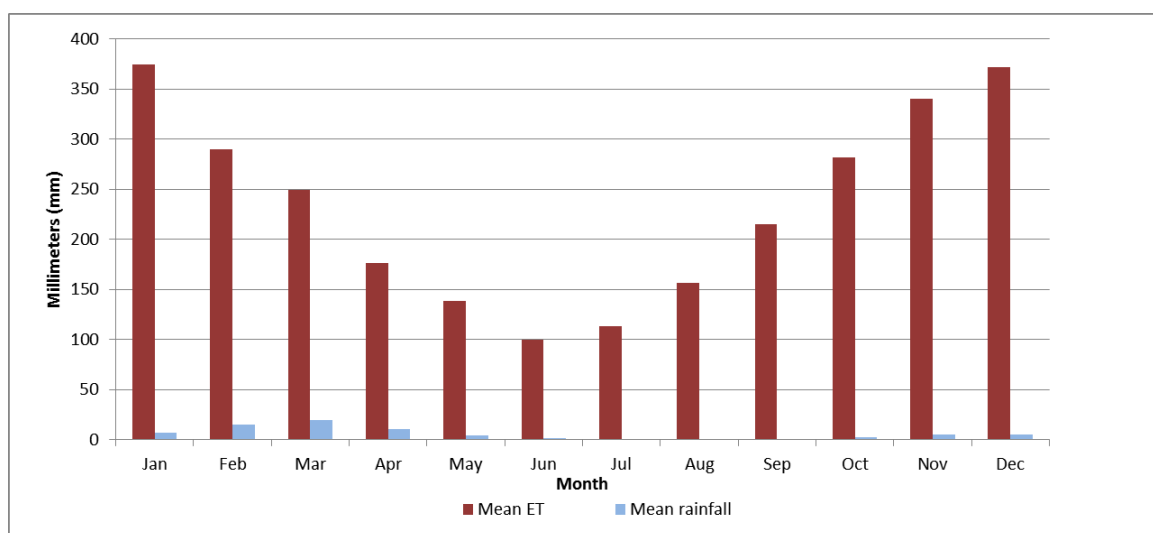


Figure 11.2: Long term average rainfall and evapo-transpiration (ET) (Schulze *et al.*, 2008)

### 11.3.2 Regional Geology

The Geological Survey of South Africa (now the Council for Geoscience) has mapped the area at 1:250 000 scale (2920 - Kenhardt). The geological setting is shown in **Map 3 (Appendix 11.A)**. The main geology of the area is listed in **Table 11.1**. The formations occurring within the study area are indicated shaded in **Table 11.1**.

The oldest rocks in the area comprise of metamorphic gneisses (altered granite) which belong to the Jacomyns Pan Formation (Mja). The Jacomyns Pan Formation is also part of the Jacomyns Pan Group. These rocks mainly occur in the northern and central portion of the study area and are presumed to be bedrock. The study area is both overlain by wind-blown sand (Qg) of the Gordonia Formation. The Gordonia Formation is part of the Kalahari Group. The stream channels are filled with alluvial material (Slabbert *et al.*, 1999).

Two structural features are indicated as faults on the map sheet that trend in a north-west to south-east direction. The structural features intersect the study area for KENHARDT PV 1 (preferred site) on the south-west border.

**Table 11.1: Geological description of the geological formations found within the study area**

SYMBOL	NAME	GROUP	DESCRIPTION
Qg	Gordonia Formation	Kalahari	Wind-blown dunes
Mks	Klip koppies granite	Keimoes suite	Grey, fine to medium grained porphyritic granite
Mb	Brussel granite	Keimoes suite	Grey, fine to medium grained porphyritic granite
Me	Elsie se goria granite	Keimoes suite	Grey, medium grained granite, well-foliated.
Mva	Valsvei	Biesje poort	Yellow weathered, medium grained quartzitic gneiss with lenses of calc-silicate polytic gneiss
Msa	Sandputs	Biesje poort	Grey to brown, fine grained weather calc-bearing quartzite
Mja	Jacomyns pan	Jacomyns pan	Pelitic gneisses with quartzite, leucogneiss, amphibolite and calc-silicate rocks.
Mke	Kenhardt migmatiet	Metamorphic suite	Migmatitic biotite gneiss, amphibolite, leucogneiss and porphyroblastic biotite.

### 11.3.3 Regional Hydrogeology

According to the 1:500 000 scale groundwater map of Prieska (2920) the entire study area does host an intergranular and fractured aquifer (i.e. the wind-blown sands and river alluvium as well as fractures within the bedrock constitutes an aquifer) with an average borehole yield of 0.1 L/s to 0.5 L/s (**Map 4, Appendix 11.A**).

With such a low rainfall in the area, and thus associated low groundwater recharge conditions, it is anticipated that the groundwater quality will be poor. The regional 1:500 000 groundwater quality maps (**Map 5, Appendix 11.A**) indicate, using Electrical Conductivity (EC) as a groundwater quality indicator, that the EC ranges from 300 - 1 000 milliSiemens per meter (mS/m) within the study area. In terms of domestic supply this is classified as “poor” to “completely unacceptable”. It cannot be used for irrigation or for the washing down of solar panels (unless treated (i.e. desalinated)) as it will leave a salty deposit on the panels. It is recommended that the groundwater not be used (i.e. abstracted) within the study area as a result of its saline nature and unsuitable quality. This is not considered a fatal flaw, as it simply means that alternate water supply needs to be sourced to fulfil the construction and operational water requirements. As noted in Chapter 2 of this EIA Report, the panel washing process will require approximately 4 million to 6 million litres of water per year during operations. As noted in Chapter 2 of this EIA Report, if the groundwater is not sufficient or suitable for use, water will then be sourced from the municipal supply (i.e. delivery via water tankers).

The national scale groundwater vulnerability map, which was developed according to the DRASTIC methodology (Aller et al, 1987) and modified to South African conditions (Parsons and Conrad, 1993 and DWAF, 2005), classifies the area as essentially having a “medium” vulnerability to surface based contaminants (**Map 6, Appendix 11.A**). The DRASTIC method (Aller et al, 1987) takes into account the following factors:

D	=	depth to groundwater	(5)
R	=	recharge	(4)
A	=	aquifer media	(3)
S	=	soil type	(2)
T	=	topography	(1)
I	=	impact of the vadose zone	(5)
C	=	conductivity (hydraulic)	(3)

The vulnerability index is based on a rating and weighting approach. The number indicated in parenthesis at the end of each factor description is the weighting or relative importance of that factor.

However this assessment is based on national scale mapping. Based on the local conditions at the study area there is a very low risk of surface to groundwater contamination in this area. The surface to groundwater is relatively deep and the rock type is classified a poor aquifer media (low porosity).

From a groundwater perspective there are no areas that need to be avoided during the construction and operational phases of this project. The fact that no-go areas and associated buffers are not applicable to this project is due to the very limited occurrence of groundwater within the study area. There are no clearly defined recharge or discharge areas and no groundwater dependent ecosystems occur within the area. In addition there is currently limited groundwater abstraction within the study area, so protection zones do not need to be defined.

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## 11.4 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

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If no groundwater abstraction is planned, no approvals or legislation is required in terms of this specific water use.

If a more detailed study is required by the client (outside the scope of this specialist study) to quantify groundwater characteristics of the area, then yield testing of current boreholes and a geophysical exploration study to locate additional areas of interest of groundwater potential will have to be completed. If the study concludes that groundwater abstraction from the secondary aquifer should be pursued and successful boreholes are drilled, and the resultant yield proven to be viable, a Water Use Licence will be required from the DWS (in terms of Section 21a of the National Water Act (Act 36 of 1998)), if the General Authorisation is exceeded.

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## 11.5 KEY ISSUES

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### *11.5.1 Key Issues Identified During the Scoping Phase*

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The potential groundwater issues identified during the Scoping Phase of this EIA Process included:

- Limited groundwater availability and potential usage;
- Poor groundwater quality; and
- Medium groundwater vulnerability to surface based contaminants as a result of construction and operational activities.

The Scoping Report was released for a 30-day comment period which extended from 25 September 2015 to 27 October 2015. The Addendum to the Scoping Report was also released for a 30-day comment period, extending from 6 October 2015 to 5 November 2015. The EIA Report was also released for a 30-day comment period which extended from 3 March 2016 to 5 April 2016. To date, no comments and issues have been raised by I&APs specifically in relation to groundwater resources or geohydrological impacts. The issues noted above were included in the Scoping Phase for consideration in the EIA Phase.



### ***11.5.2 Identification of Potential Impacts***

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The following potential impacts (stated in no particular order) of the proposed project activities on groundwater and geohydrological resources are predicted and assessed in Section 11.6:

- Potential impact on the groundwater as a result of the construction of storage facilities and temporary labour accommodation during the construction phase;
- Potential impact of increased storm water outflows during the construction and operational phase; and
- Potential impact on groundwater quality as a result of accidental oil spillages or fuel leakages during the construction, operational and decommissioning phases.

Any construction activities such as the excavation and installation of foundations and piling (narrow diameter holes for foundation purposes) will have no impact on the groundwater of the site or region, as the groundwater level is approximately 12 mbgl.

The potential impacts identified during the EIA Phase are:

### ***11.5.3 Construction Phase***

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- Potential impact on the groundwater as a result of the construction of storage yards and temporary labour accommodation;
- Potential impact of increased storm water outflows; and
- Potential impact on groundwater quality as a result of accidental oil spillages or fuel leakages.

### ***11.5.4 Operational Phase***

---

- Potential impact of increased storm water outflows; and
- Potential impact on groundwater quality as a result of accidental oil spillages or fuel leakages.

### ***11.5.5 Decommissioning Phase***

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- Potential impact on groundwater quality as a result of accidental oil spillages and fuel leakages.

### ***11.5.6 Cumulative impacts***

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- As it is not recommended (based on the findings of this study) to make use of the groundwater, this proposed development will have no cumulative impacts on groundwater.

## 11.6 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MANAGEMENT ACTIONS

### 11.6.1 Results of the Field Study

An initial desktop hydrocensus was completed using the NGA and a 1 km search radius was used for the boundaries. The NGA database indicated no boreholes are present within the study area.

Despite the findings of the desktop hydrocensus using the NGA data, during the field hydrocensus (conducted on 28 and 29 September 2015), the locations of the ten boreholes were identified within the study area (**Table 11.2**) (**Map 2, Appendix 11.A**). The site visit was completed a dry time of the year and in the spring season. Please note that groundwater conditions do not vary significantly in this region and a once-off visit is sufficient to characterize the groundwater conditions of the area. Consultation with the land owners is always important for site specific data and anecdotal information. Mr Strauss (the occupier of the site) was very helpful in this regard. No further comments have been received regarding the geohydrological study. As it has been stated there is limited seasonal variation (as explained in Section 11.3.1) and thus limited variation in groundwater levels occurs. The groundwater information can therefore be gathered indeterminate of the season.

The locations of ten boreholes identified within this study area are listed in **Table 11.2**. The borehole positions are shown in **Map 2 (Appendix 11.A)**. Please note that the boreholes located during the September 2015 visit are referred to as “BH” (i.e. borehole).

Nine of the ten boreholes were found to be wind pumps and the groundwater was piped into storage dams. A Solar Pump was found to be installed at BH7 and the groundwater was piped to a storage dam. Groundwater levels were measured, where possible, and groundwater samples were collected and tested in the field to characterise the groundwater quality. The hydrocensus boreholes were found to be dry or to have very low yields (hence the use of wind pumps).

For the boreholes that could be sampled, the groundwater quality is classified as poor with EC measurements exceeding 300 mS/m according to the DWAF (1998) drinking water guidelines. Borehole BH7 was found to contain an EC of 1 030.8 mS/m, which is classified as “completely unacceptable”.

Also please note that GEOSS has previously worked in the area and groundwater data from that work (GEOSS, 2014) is also applicable to this project. Relevant information regarding borehole yields, borehole and groundwater depths and groundwater quality was also obtained from the landowner/occupier during a previous site visit conducted by GEOSS in 2014. It has been reported that borehole depths are typically between 60 - 120 m deep and fractures occur within the highly metamorphic rocks between two zones of 15 - 30 m and 100 - 120 m below ground (GEOSS, 2014). Please note that the GEOSS (2014) boreholes located are referred to as “HBH” (i.e. hydrocensus borehole) and the 2015 boreholes are referred to as “BH” (i.e. borehole) to differentiate between the data sets from the two site visits in 2014 and 2015.

A list of the boreholes locations and field chemistry from the 28<sup>th</sup> and 29<sup>th</sup> September 2015 visit is provided in **Table 11.2**.

**Table 11.2: Hydrocensus boreholes (28 - 29 September 2015)**

ID	Latitude	Longitude	WL (mbgl)	pH	Temp (C°)	EC (mS/m)	TDS (mg/L)	Salinity (mg/L)	ORP (mV)	Type	Comment
BH1	-29.20409	21.29679	Closed	7.49	19.3	300.2	2203	1780	145.6	WP	-
BH2	-29.20409	21.29679	Closed	7.78	17.8	300.1	2281	1850	147.9	WP	-
BH3	-29.223047	21.32389	Closed	7.8	17.9	350.2	2632	2160	118.1	WP	-
BH4	-29.233219	21.3153	Closed	7.99	18.5	296.3	2197	1780	73.9	WP	-
BH5	-29.270519	21.31655	Closed	-	-	-	-	-	-	WP	Pipe disappears underground - cannot find outlet
BH6	-29.27061	21.31848	Closed	-	-	-	-	-	-	WP	Pipe disappears underground - cannot find outlet
BH7	-29.27132	21.31855	12.102	7.13	25	1030.8	6669	5700	90.2	BH	Solar panel
BH8	-29.268721	21.32003	Closed	-	-	-	-	-	-	WP	Abandoned
BH9	-29.22345	21.26583	Closed	7.65	27	390.1	2385	1950	299	WP	Livestock
BH10	-29.187158	21.27478	Closed	-	-	-	-	-	-	WP	Inaccessible

It is important to note that the impacts documented in the following section relate to the preferred site (KENHARDT PV 1).

### **11.6.2 Groundwater impact as a result of the construction of storage yards and labour accommodation (Construction Phase)**

Even if different positions are selected for the storage yards and housing facilities across the study area, the significance ratings provided will be the same for the construction phase. The reason for this is that the groundwater conditions, occurrence and importance essentially remains the same across the site for Kenhardt PV 1. The direct and indirect impacts are listed in **Table 11.3**.

These potential impacts are only applicable during the construction phase and possibly the decommissioning phase; however they are not applicable to the operational phase. However, this potential impact for the decommissioning phase has not been rated as it is believed to be of a very low significance and extremely unlikely in terms of probability.

The status of this impact is rated as neutral with a site specific spatial extent and short-term duration (i.e. the impact and risk will be experienced for less than 1 year). The consequence and probability of the impact is respectively rated as slight and extremely unlikely. The reversibility of the impact is rated as high and the irreplaceability is rated as low. The significance of the impact without the implementation of mitigation measures is rated as very low.

#### **Management Actions**

During the construction phase all reasonable measures must be taken to prevent soil and groundwater contamination. The main source of contamination will be from construction vehicles leaking oil or fuel, fuel storage and spillages that may occur whilst filling vehicles and machinery. During the construction phase, vehicles must be regularly serviced and maintained to check and ensure there are no leakages.

With effective implementation of these prevention / mitigation actions, the impact of the proposed project on groundwater is predicted to be of very low significance (even without the implementation of mitigation measures).

### ***11.6.3 Groundwater impact as a result of increased Storm Water Outflows (Construction and Operational Phase)***

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The groundwater within the study area is very limited in occurrence; occurs at a depth of 12 m or greater; and is saline therefore not being utilised for human consumption. The low recharge rates; the significant thickness and low permeability of the unsaturated zone, implies this zone will have a high attenuation capacity. Thus the storm water requires no filtration or treatment prior to infiltration. It is highly unlikely that the storm water will be contaminated. Thus the proposed storm water outflows pose no risk to the groundwater of the site. The direct and indirect impacts are listed in **Table 11.3** and **Table 11.4**.

The status of this impact is rated as neutral with a site specific spatial extent and short-term duration (i.e. the impact and risk will be experienced for less than 1 year). The consequence and probability of the impact is respectively rated as slight and extremely unlikely. The reversibility of the impact is rated as high and the irreplaceability is rated as low. The significance of the impact without the implementation of mitigation measures is rated as very low.

#### **Management Actions**

Infiltration can have significant benefit to the environment in terms of groundwater quality and recharge. Good quality storm water will improve the quality of groundwater.

The impact of the proposed project on groundwater as a consequence of the presence of the storm water is predicted to be very low significance (without and with the implementation of mitigation measures).

### ***11.6.4 Potential Impact on Groundwater Quality as a result of Accidental Oil Spillages or Fuel Leakages (Construction, Operational and Decommissioning Phases)***

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If there is an accidental oil spill or fuel leakage during the construction, operational or decommissioning phases, then the low permeability of the unsaturated zone will provide significant attenuation capacity. The status of this impact (for the construction, operation and decommissioning phases) is rated as neutral with a site specific spatial extent and short-term duration (i.e. the impact and risk will be experienced for less than 1 year). The consequence and probability of the impact are respectively rated as slight and extremely unlikely. The reversibility of the impact is rated as high and the irreplaceability is rated as low. The significance of the impact without the implementation of mitigation measures is rated as very low. The direct and indirect impacts are listed in **Table 11.3**; **Table 11.4** and **Table 11.5**.

#### **Management Actions**

A precautionary approach must be implemented and reasonable measures should be undertaken to prevent oil spillages and fuel leakages from occurring. During the construction phase, vehicles must be regularly serviced and maintained to check and ensure there are no leakages. Any engines that stand in one place for an excessive length of time must have drip trays. Diesel fuel storage tanks should be above ground on an impermeable surface in a bunded area. Construction vehicles and equipment should also be refuelled on an impermeable surface. A designated area should be established at the construction site camp for this purpose. If spillages occur, they should be contained and removed as rapidly as possible, with correct disposal procedures of the spilled material. Proof of disposal (waste disposal slips or waybills) should be obtained and retained on file for auditing purposes.

With effective implementation of these prevention / mitigation actions, the impact of the project on groundwater as a consequence of the presence of accidental oil spillages and fuel leakages is predicted to be of very low significance.

### *11.6.5 Cumulative Impacts*

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It is recommended that groundwater is not utilised as a source of water supply for the proposed project, due to its limited occurrence; low recharge rates and poor quality. Also the groundwater occurs at a depth of 12 m or greater and the unsaturated zone will have a high attenuation capacity. For these reasons the proposed development will have no cumulative impact on the groundwater resources of the area.

## 11.7 IMPACT ASSESSMENT SUMMARY

**Table 11.3: Impact assessment summary table for the Construction Phase**

Construction Phase													
Direct and Indirect Impacts													
Aspect/ Impact Pathway	Nature of Potential Impact/ Risk	Status	Spatial Extent	Duration	Conse- quence	Probabi- lity	Rever- sibility of Impact	Irreplac- eability	Potential Mitigation Measures	Significance of Impact and Risk		Ranking of Residual Impact/ Risk	Confi- dence Level
										Without Mitigation/ Manage- ment	With Mitigation/ Manage- ment (Residual Impact/ Risk)		
Construction of storage and labour accommodat ion yards	Ground- water contami- nation	Neutral	Site	Short- term	Slight	Extrem- ely unlikely	High	Low	All reasonable measures must be taken to prevent soil and groundwater contamination.  Vehicles to be correctly serviced	Very low	Very low	5	High
Stormwater outflows	Ground- water contami- nation	Neutral	Site	Short- term	Slight	Extrem- ely unlikely	High	Low	All reasonable measures must be taken to prevent soil, storm water outflows and groundwater contamination	Very low	Very low	5	High
Accidental oil spillage / fuel leakage	Ground- water contamin ation	Neutral	Site	Short - term	Slight	Extrem- ely unlikely	High	Low	Vehicles must be regularly serviced and maintained to check and ensure there are no leakages.  Any engines that stand in one place for an excessive length of time must have	Very low	Very low	5	High

Construction Phase													
Direct and Indirect Impacts													
Aspect/ Impact Pathway	Nature of Potential Impact/ Risk	Status	Spatial Extent	Duration	Conseq uence	Probabi lity	Rever- sibility of Impact	Irreplac eability	Potential Mitigation Measures	Significance of Impact and Risk		Ranking of Residual Impact/ Risk	Confi- dence Level
										Without Mitigation/ Manage- ment	With Mitigation/ Manage- ment (Residual Impact/ Risk)		
									drip trays.  Diesel fuel storage tanks should be above ground on an impermeable surface in a bunded area.  Construction vehicles and equipment should also be refuelled on an impermeable surface.  If spillages occur, they should be contained and removed as rapidly as possible, with correct disposal procedures of the spilled material. Proof of disposal (waste disposal slips or waybills) should be obtained and retained on file for auditing purposes.				

Table 11.4: Impact assessment summary table for the Operational Phase

OPERATIONAL PHASE													
DIRECT AND INDIRECT IMPACTS													
Aspect/ Impact Pathway	Nature of Potential Impact/ Risk	Status	Spatial Extent	Duration	Conse- quence	Proba- bility	Reversib- ility of Impact	Irrepl- aceab- ility	Potential Mitigation Measures	Significance of Impact and Risk		Ranking of Residual Impact/ Risk	Confiden- ce Level
										Without Mitigation/ Management	With Mitigation/ Management (Residual Impact/ Risk)		
Storm water outflow impact on groundwater	Ground- water contam- ination	Neutral	Site	Short- term	Slight	Extre- mely unlike- ly	High	Low	All reasonable measures must be taken to prevent soil, storm water outflows and groundwater contamination	Very low	Very low	5	High
Accidental oil spillage / fuel leakage	Ground- water contami- nation	Neutral	Site	Short- term	Slight	Extre- mely unlike- ly	High	Low	<p>Vehicles must be regularly serviced and maintained to check and ensure there are no leakages.</p> <p>Any engines that stand in one place for an excessive length of time must have drip trays.</p> <p>Diesel fuel storage tanks should be above ground on an impermeable surface in a bunded area.</p> <p>Vehicles and equipment should also be refuelled on an impermeable surface.</p> <p>If spillages occur, they should be contained and</p>	Very low	Very low	5	High



OPERATIONAL PHASE													
DIRECT AND INDIRECT IMPACTS													
Aspect/ Impact Pathway	Nature of Potential Impact/ Risk	Status	Spatial Extent	Duration	Conse- quence	Proba- bility	Reversib- ility of Impact	Irrepl- aceab- ility	Potential Mitigation Measures	Significance of Impact and Risk		Ranking of Residual Impact/ Risk	Confiden- ce Level
										Without Mitigation/ Management	With Mitigation/ Management (Residual Impact/ Risk)		
									removed as rapidly as possible, with correct disposal procedures of the spilled material. Proof of disposal (waste disposal slips or waybills) should be obtained and retained on file for auditing purposes.				

**Table 11.5: Impact assessment summary table for the Decommissioning Phase**

Decommissioning Phase													
Direct and Indirect Impacts													
Aspect/ Impact Pathway	Nature of Potential Impact/ Risk	Status	Spatial Extent	Duration	Conse- quence	Proba- bility	Reversi- bility of Impact	Irre- place- ability	Potential Mitigation Measures	Significance of Impact and Risk		Ranking of Residual Impact/ Risk	Confi- dence Level
										Without Mitigation/ Management	With Mitigation/ Management (Residual Impact/ Risk)		
Accident al oil spillage / fuel leakage	Ground- water contam- ination	Neutral	Site	Short- term	Slight	Extremely unlikely	High	Low	<p>Vehicles must be regularly serviced and maintained to check and ensure there are no leakages.</p> <p>Any engines that stand in one place for an excessive length of time must have drip trays.</p> <p>Diesel fuel storage tanks should be above ground on an impermeable surface in a bunded area. Vehicles and equipment should also be refuelled on an impermeable surface.</p> <p>If spillages occur, they should be contained and removed as rapidly as possible, with correct disposal procedures of the spilled material. Proof of disposal (waste disposal slips or waybills) should be obtained and retained on file for auditing purposes.</p>	Very low	Very low	5	High

## 11.8 INPUT TO THE ENVIRONMENTAL MANAGEMENT PROGRAM

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Measures need to be put in place to ensure that the groundwater is not contaminated. The following aspects are considered important:

- All vehicles and other equipment (generators etc.) must be regularly serviced to ensure they do not spill oil. Vehicles should be refuelled on paved (impervious) areas. If liquid product is being transported it must be ensured this does not spill during transit.
- Emergency measures and plans must be put in place and rehearsed in order to prepare for accidental spillage.
- Diesel fuel storage tanks must be above ground in a bunded area.
- Engines that stand in one place for an excessive length of time must have drip trays.
- Vehicle and washing areas must also be on paved surfaces and the by-products removed to an evaporative storage area or a hazardous waste disposal site (if the material is hazardous).

## 11.9 CONCLUSION AND RECOMMENDATIONS

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The groundwater in the area is saline and not fit for human consumption or recommended for the cleaning of solar panels. There is limited groundwater abstraction occurring in the study area and in the broader area groundwater is being used for livestock watering only. The study area is located in a highly metamorphic geological setting. Metamorphic rocks rarely produce sufficient groundwater and are considered an effective barrier to groundwater flow. The poor potential for groundwater development is related to the low occurrence of fractured networks within the formations and low rainfall. The proposed activities have very low significance of impact (with the implementation of mitigation measures) with respect to groundwater.

The geohydrological investigation was assessed based on the worst case scenario (in terms of the larger project area assessed). With a very low significance impact to groundwater within the surveyed area, the site for the proposed 250 ha KENHARDT PV 1 (preferred) facility may be placed within the larger surveyed area on remaining extent of Onder Rugzeer Farm 168, provided that the recommended prevention measures are implemented as suggested. No specific conditions are required for inclusion in the environmental authorisation.

Groundwater is considered not a viable source of water for construction purposes, or domestic or industrial use based on groundwater quality data collected during the site assessment and also that no groundwater abstraction occurs in the study area except via wind pumps and one solar pump in the region.

Should the applicant want to determine the feasibility of groundwater as a source, or if the Project Applicant considers the use of municipal water too expensive to use during the construction phase, the applicant will need to have the boreholes yield tested according to the SANS guideline for borehole testing to assess their sustainable yield and a desalination plant is recommended for the removal of minerals from the saline groundwater (outside of this EIA Process). In addition a Water Use Licence will be required for the use of the groundwater, if the use exceeds the General Authorisation. If the conclusions of the authors are considered too rigid then a cost benefit analysis will assist with clarifying the way forward (outside of this EIA Process). The possible use of groundwater will have to be addressed as an entirely separate project, however all indications at this stage are that groundwater will not be used in the construction, operational or decommissioning phases of the proposed project.

From a groundwater perspective the proposed activity can be authorised and no specific measures are applicable other than all measures to prevent soil and groundwater contamination, especially by hydrocarbons, must be in place.

## 11.10 REFERENCES

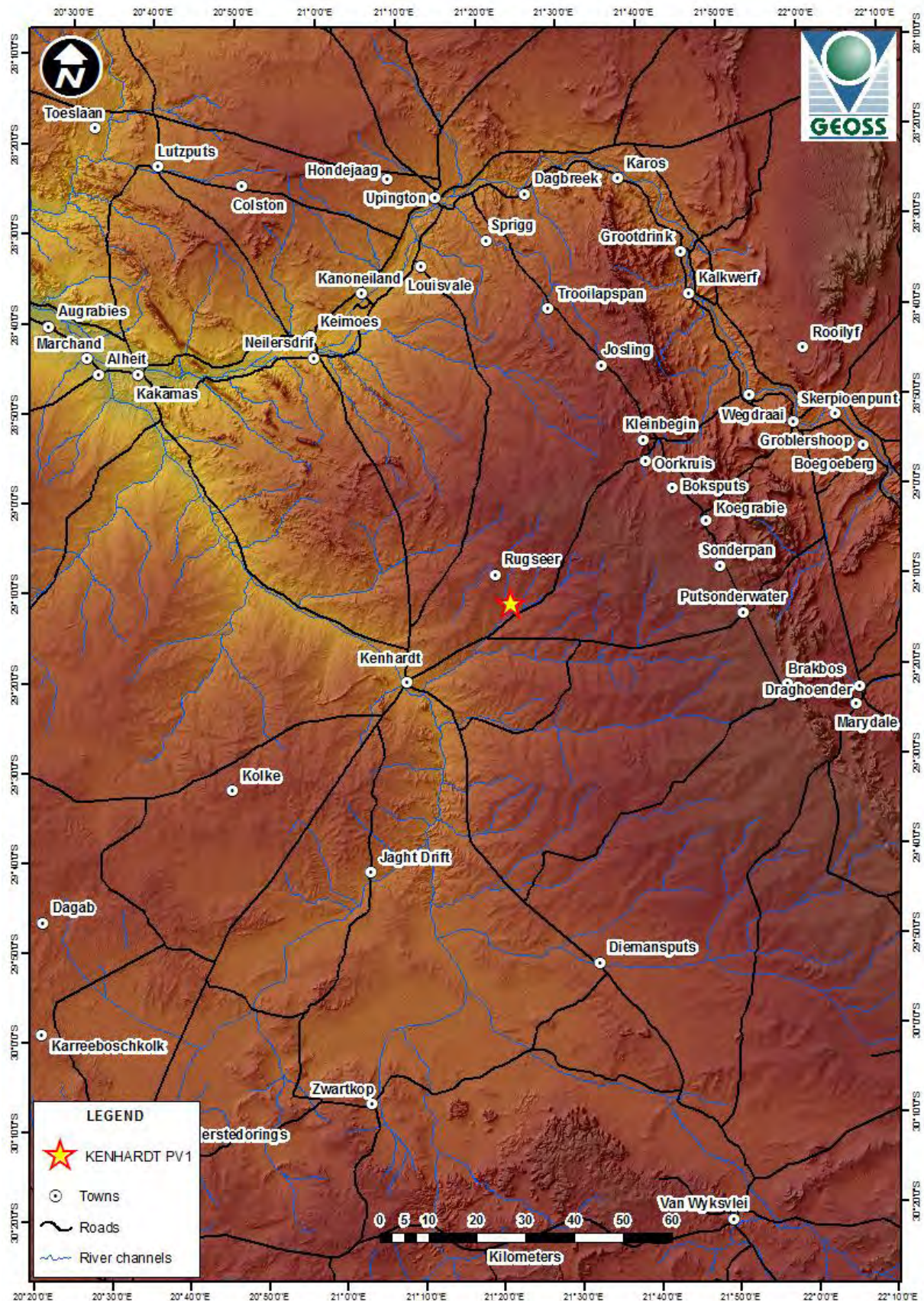
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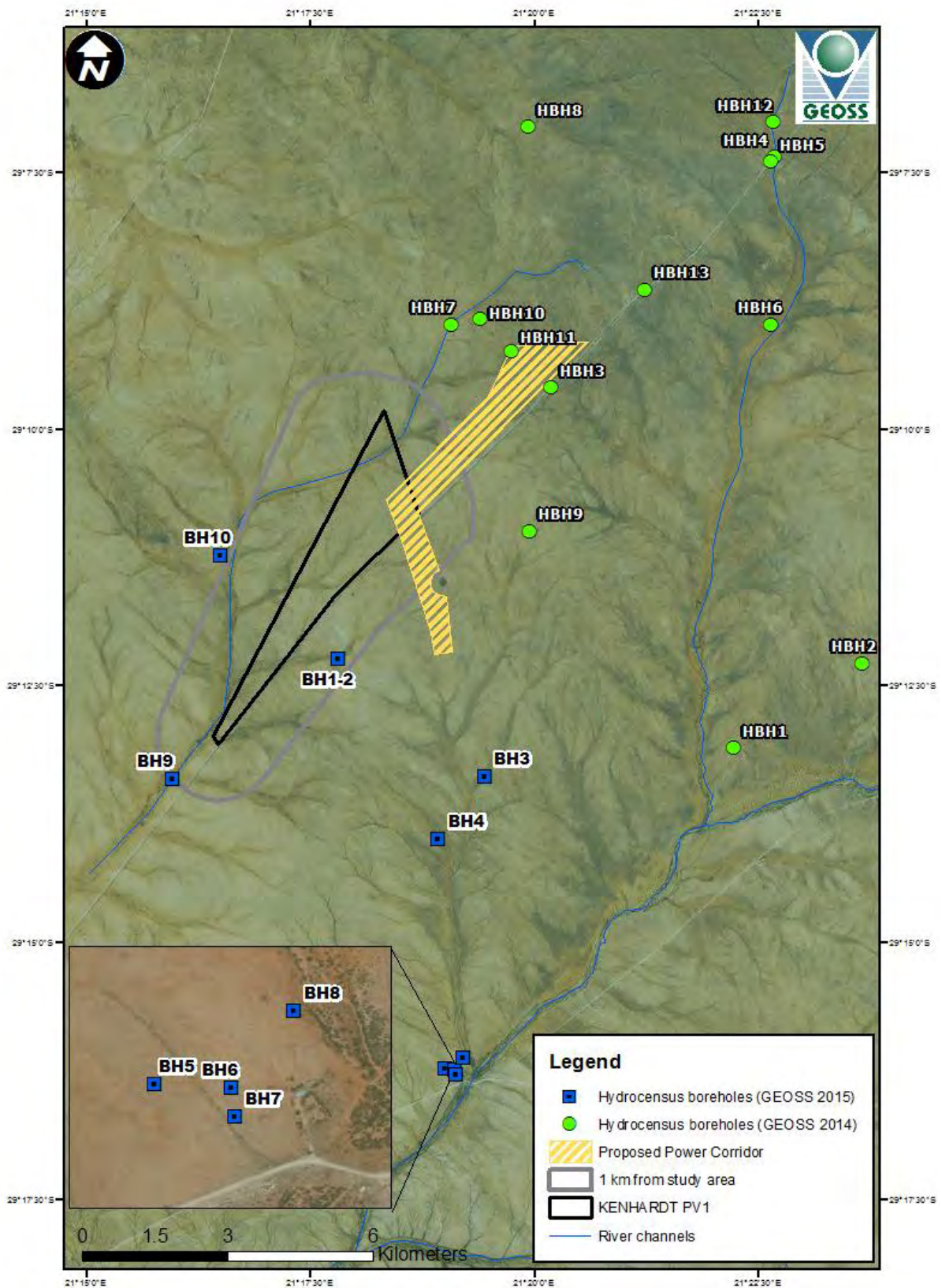
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## APPENDICES 11.A: MAPS

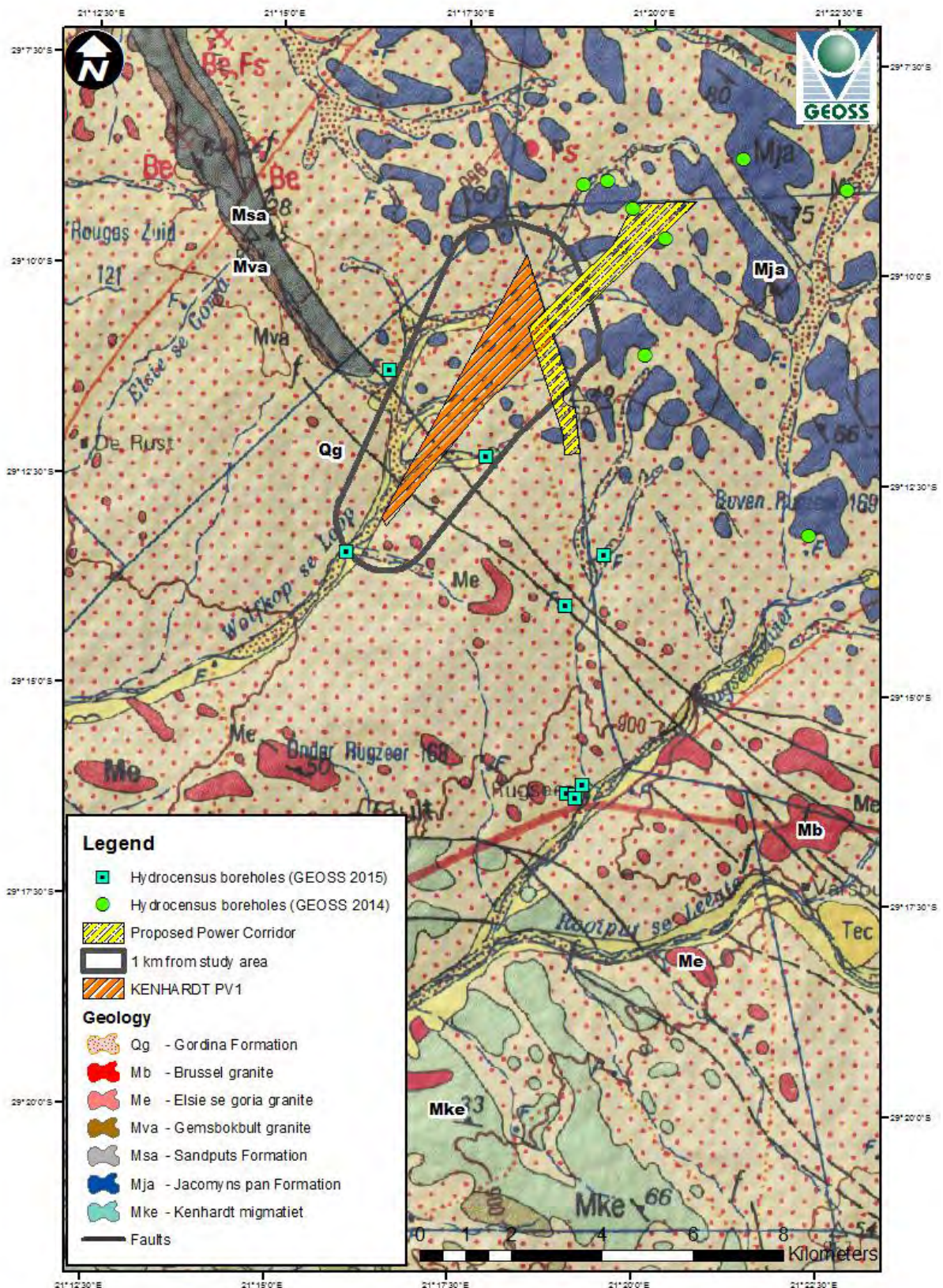
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Map 1: Locality map of the study area within a regional setting

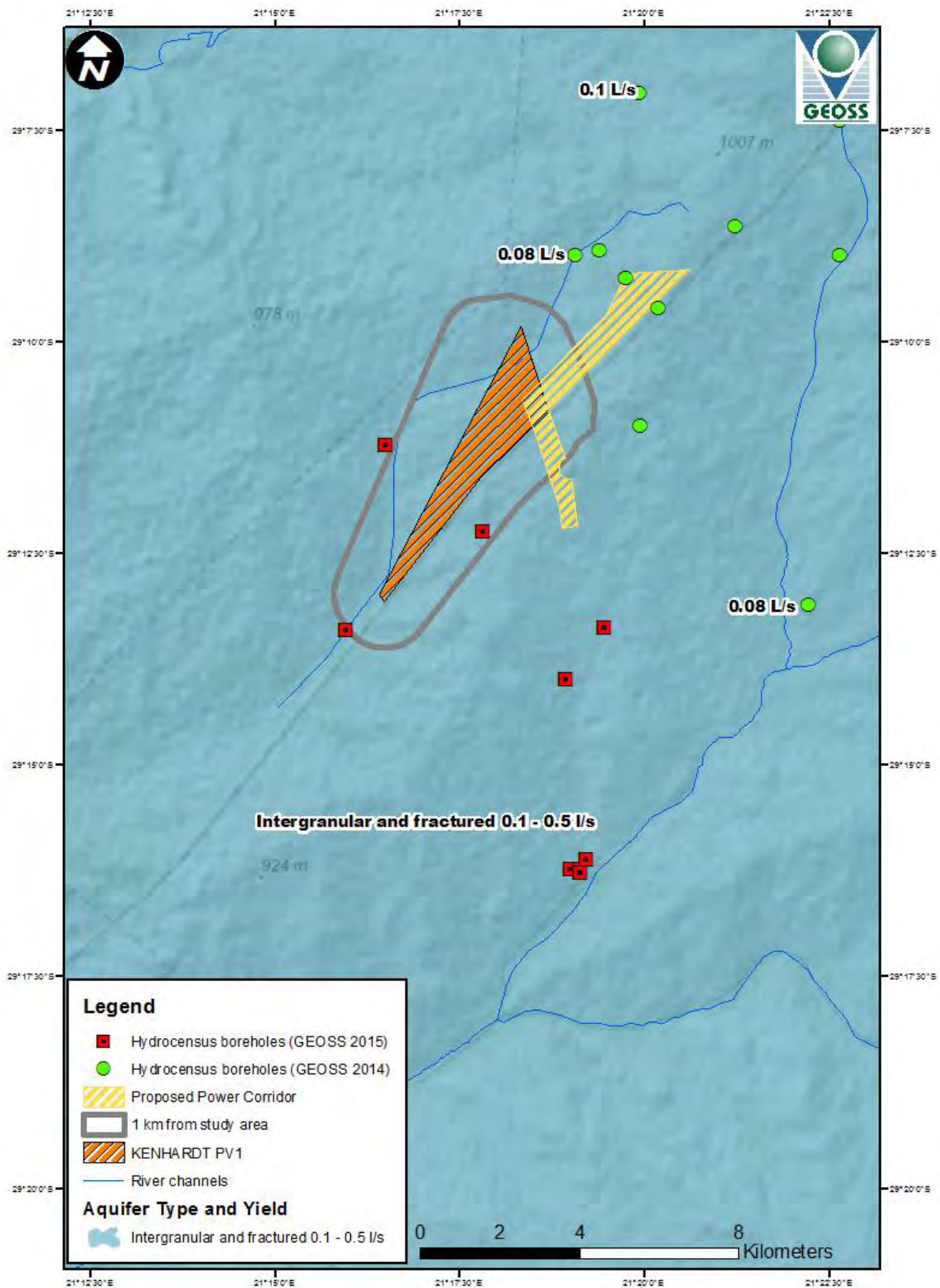


**Map 2: Setting of the study area superimposed on an aerial photograph (source ESRI), showing hydrocensus boreholes.**

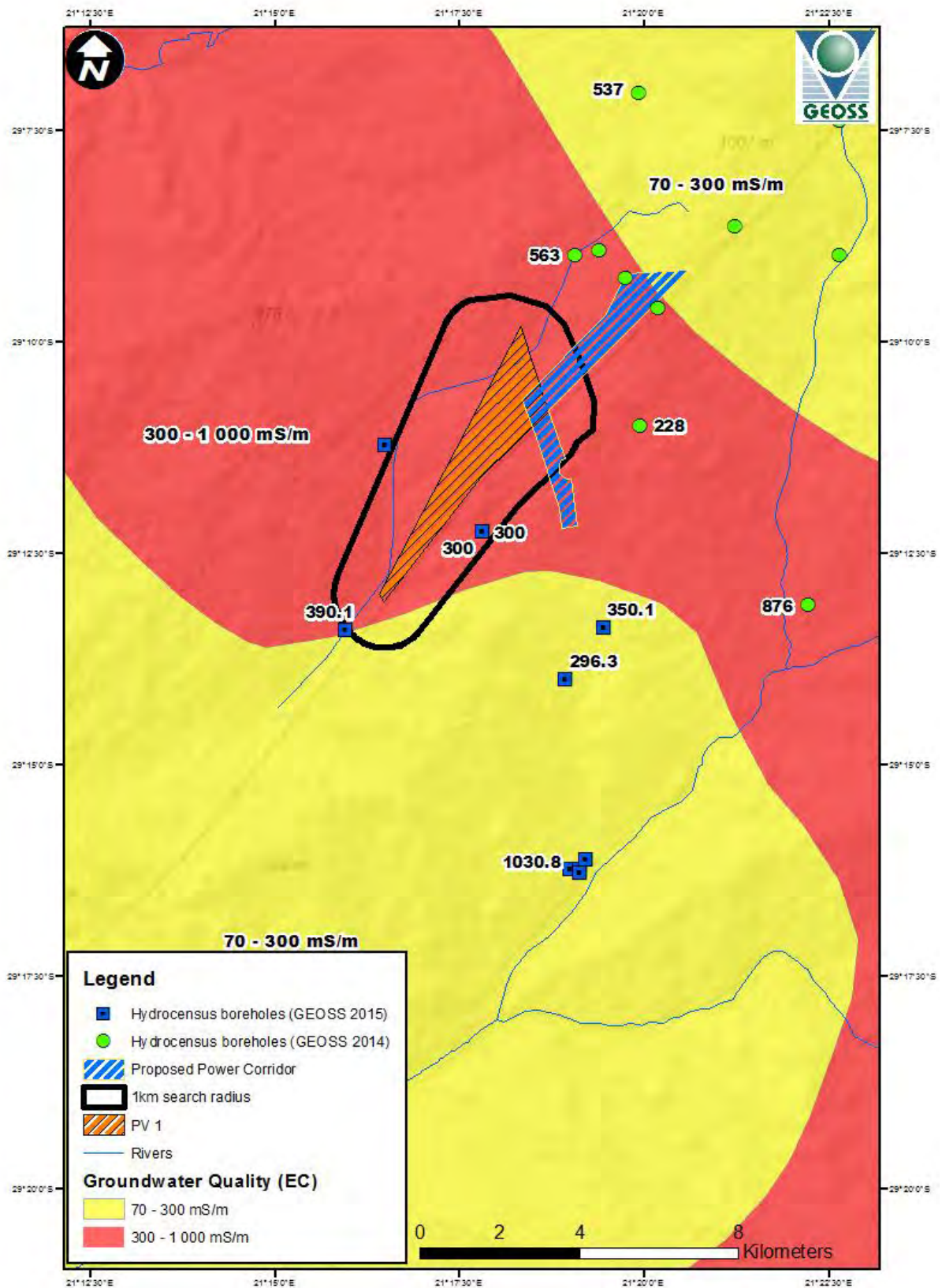


**Map 3: The geological setting of the study area and NGA boreholes (Council for Geoscience Map: 1:250 000 scale 2920 – Kenhardt)**

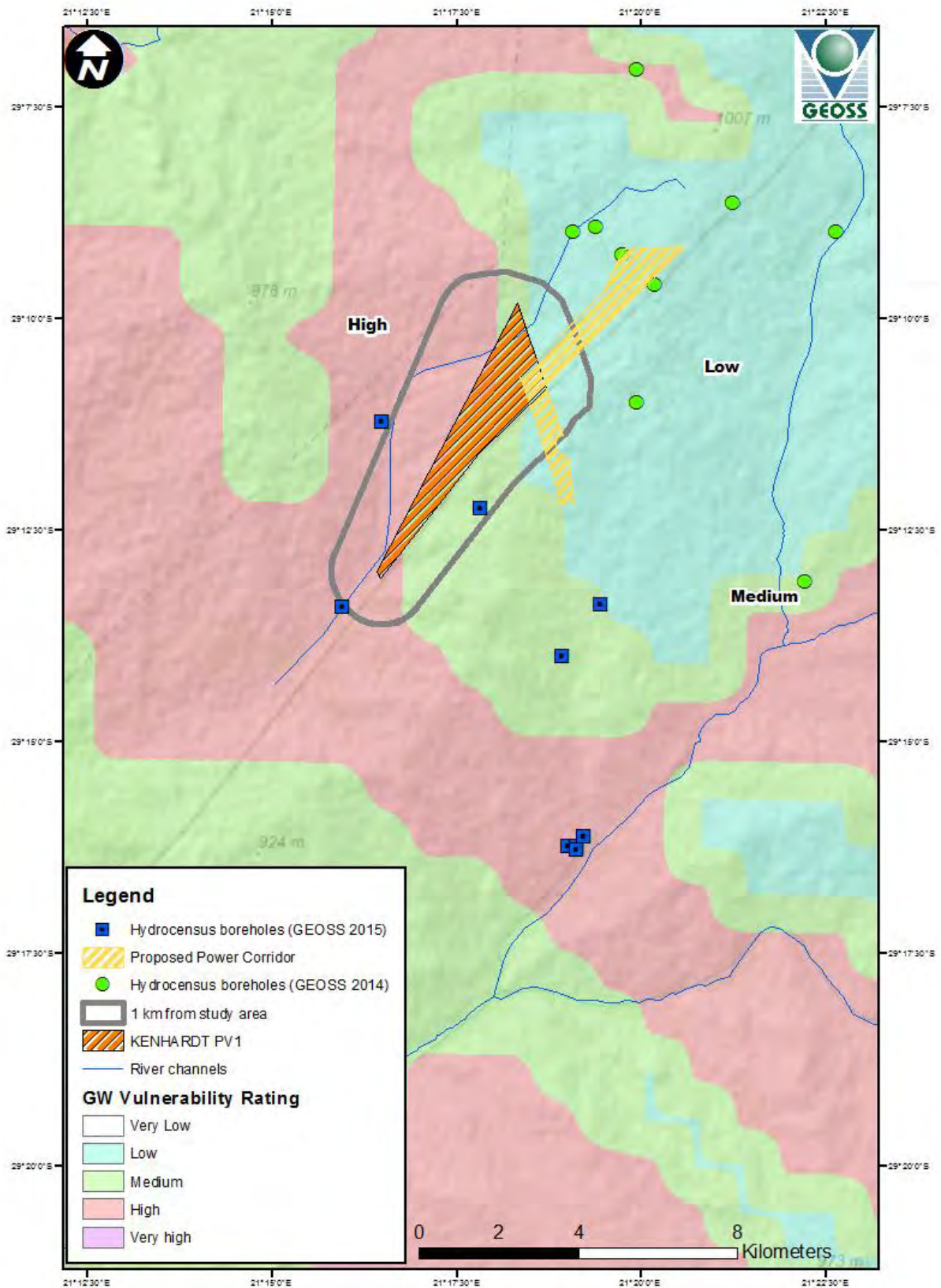




**Map 4: Aquifer type and yield  
(Department of Water Affairs Groundwater Map: 1:500 000 scale 2920 - Prieska)**



**Map 5: Regional groundwater quality**  
 (Department of Water Affairs Groundwater Map: 1:500 000 scale 2920 - Prieska)



**Map 6: Regional groundwater vulnerability (calculated according to the DRASTIC Methodology) and boreholes (DWAf, 2005).**

## APPENDICES 11.B: SITE PHOTOS

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BH1 - wind pump



BH2 - wind pump



BH3 - wind pump



BH4 - wind pump



BH5 - wind pump



BH6 - wind pump



BH7 - Solar pump



BH8 - wind pump



BH9 - wind pump borehole

No photo available  
(site not accessible)

BH10 - wind pump borehole

# EIA REPORT



## CHAPTER 12:

# Soils and Agricultural Potential Assessment

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

*Report prepared for:*

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April 2016



## COMPLIANCE WITH THE APPENDIX 6 OF THE 2014 EIA REGULATIONS

Requirements of Appendix 6 - GN R982	Addressed in the Specialist Report
1. (1) A specialist report prepared in terms of these Regulations must contain-	Appendix A of the EIA Report
a) details of- <ul style="list-style-type: none"> <li>i. the specialist who prepared the report; and</li> <li>ii. the expertise of that specialist to compile a specialist report including a curriculum vitae;</li> </ul>	
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 12.1.6 and Appendix B of the EIA Report
c) an indication of the scope of, and the purpose for which, the report was prepared;	Sections 12.1.1 and 12.1.2
d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 12.1.3
e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 12.1.3
f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 12.3.8
g) an identification of any areas to be avoided, including buffers;	Section 12.3.8
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Figure 12.1
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 12.1.4
j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Section 12.6
k) any mitigation measures for inclusion in the EMPr;	Section 12.6
l) any conditions for inclusion in the environmental authorisation;	Not applicable
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 12.8
n) a reasoned opinion- <ul style="list-style-type: none"> <li>i. as to whether the proposed activity or portions thereof should be authorised; and</li> <li>ii. if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;</li> </ul>	Section 12.9
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 12.1.3
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Not applicable
q) any other information requested by the competent authority.	Not applicable

# list of abbreviations

AGIS	Agricultural Geo-Referenced Information System
CSIR	Council for Scientific and Industrial Research
DAFF	Department of Agriculture, Forestry and Fisheries
EIA	Environmental Impact Assessment
PET	Potential evapotranspiration

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## 12 SOILS AND AGRICULTURAL POTENTIAL ASSESSMENT

### 12.1 INTRODUCTION AND METHODOLOGY

This report presents the Soil and Agricultural Potential Assessment undertaken by Mr. Johann Lanz (an independent consultant), under appointment to the CSIR, as part of the Environmental Impact Assessment (EIA) for the proposed Kenhardt PV 1 Solar Energy Facility, near Kenhardt in the Northern Cape Province.

#### 12.1.1 Objectives of the Specialist Study

The objectives of the study are to identify and assess all potential impacts of the proposed development on agricultural resources including soils and agricultural production potential, and to provide recommended mitigation measures, monitoring requirements, and rehabilitation guidelines for all identified impacts.

The scope of work is captured and listed under the terms of reference below.

#### 12.1.2 Scope of Work and Terms of Reference

The following terms of reference apply to this study:

The report will fulfil the terms of reference for an agricultural study as set out in the National Department of Agriculture's document, *Regulations for the evaluation and review of applications pertaining to renewable energy on agricultural land*, dated September 2011, with an appropriate level of detail for the agricultural suitability and soil variation on site (which may therefore be less than the standardised level of detail stipulated in the above regulations).

The above requirements together with requirements for an EIA specialist report may be summarised as follows:

- Research and describe the existing environment in terms of its soils, geology and agricultural potential. Identify any significant soils and agricultural features or disturbances, as well as any sensitive features and receptors within the proposed project area.
- Undertake a desktop assessment to compile a baseline description, including an assessment of the existing soil and agricultural potential data for the site.
- Provide a sensitivity map indicating the presence of sensitive features and receptors (i.e. sensitive soil and agricultural features), “no-go” areas, setbacks/buffers, as well as any red flags or risks associated with soil and agricultural impacts.
- Define the environmental risks to the soils and agricultural land and potential, as well as the consequences thereto.
- Highlight any gaps in baseline data.
- Conduct a site visit and a field investigation of soils and agricultural conditions across the site and conduct a soil survey to distinguish areas that do not have and have potential for cultivation.
- Describe and map soil types (soil forms) and characteristics (soil depth, soil colour, limiting factors, and clay content of the top and sub soil layers).
- Describe the topography of the site and map soil survey points.
- Summarise available water sources for agriculture.

- Describe historical and current land use, agricultural infrastructure, as well as possible alternative land use options.
- Describe the erosion, vegetation and degradation status of the land.
- Determine and map, if there is variation, the agricultural potential across the site.
- Determine and map the agricultural sensitivity to development across the site.
- Identify relevant protocols, legal and permit requirements relating to soil and agricultural potential impacts likely to be generated as a result of the proposed project.
- Identify and assess all potential impacts (direct, indirect and cumulative) of the construction, operational and decommissioning phases of the proposed development on soils and agricultural potential, and note the economic consequences of the proposed development on soils and agricultural potential.
- Provide recommended mitigation measures, management actions, monitoring requirements, and rehabilitation guidelines for all identified impacts (for inclusion into the EMP as well).

### *12.1.3 Approach and Methodology*

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The pre-fieldwork assessment was based on the existing Agricultural Geo-Referenced Information System (AGIS) data, as well as satellite imagery for the site. This was supplemented by a field investigation that aimed at ground-proofing the AGIS data and assessing specific field conditions and the variation of these across the site. It did not comprise a detailed soil mapping exercise, but was based on an overview assessment, which involved driving and walking across the site, assessing topography and surface conditions, investigating existing cuttings in numerous excavations along the railway, and in animal burrows. Because of the shallow soils and the existing burrows and excavations, it was not necessary to auger additional holes. The field investigation also included a visual assessment of erosion and erosion potential on site, taking into account the proposed development layout. The field assessment was completed on 18 November 2015 (summer). An assessment of soils (soil mapping) and long term agricultural potential is in no way affected by the season in which the assessment is made, and therefore the fact that the assessment was done in summer has no bearing on its results. The conducted soil investigation is considered completely adequate for the purposes of this study (i.e. for the purposes of determining the impact of the proposed development on agricultural resources and productivity). Detailed soil mapping has no relevance to an assessment of agricultural potential in this environment, as the limitations are overwhelmingly climatic. In other words, even where soils suitable for cultivation may occur, they cannot be utilised because of the aridity constraints. More detailed soil mapping would add no value to the assessment.

Soils were classified according to the South African soil classification system.

Telephonic consultation was done with the current farmer of the land, Mr Sarel Strauss to get details of current farming practices on the farm and to get his opinion on the impacts of the development on agriculture.

The impacts have been assessed in line with the methodology indicated in Chapter 4 of this EIA Report. The developments listed in Chapter 4 of the EIA Report, which are located within a 20 km radius of the proposed Kenhardt PV 1 project, have been considered in the assessment of cumulative impacts.

### *12.1.4 Assumptions and Limitations*

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The following assumption was used in this specialist study:

- It was assumed that water is not available anywhere on the site for irrigation. Given the very severe moisture constraints of the environment and that no suitable water has ever been identified by farmers in the area, this is a fair assumption.

- The cumulative impact assessment assumes that a number of other renewable energy developments will take place in the surrounding area (See Chapter 4 of the EIA Report).

The following limitations were identified in this study:

- Soils were not mapped in detail for the study. However detailed soil mapping has no relevance to an assessment of agricultural potential in this environment, as the limitations are overwhelmingly climatic. In other words, even where soils suitable for cultivation may occur, they cannot be utilised because of the aridity constraints. The study had more than sufficient information on the soils to make an assessment on the impacts of the development on agriculture, and so this is not seen as a limitation.
- The assessment rating of impacts is not an absolute measure. It is based on the subjective considerations and experience of the specialist, but is done with due regard and as accurately as possible within these constraints.

There are no other specific constraints and limitations for this study.

### 12.1.5 Information Sources

All data on land types, land capability, grazing capacity etc. was sourced from the online Agricultural Geo-Referenced Information System (AGIS), produced by the Institute of Soil, Climate and Water (Agricultural Research Council, undated). Satellite imagery of the site available on Google Earth was also used for evaluation.

### 12.1.6 Declaration of Independence of Specialists

Refer to Appendix A of this EIA Report for the Curriculum Vitae of Mr. Johann Lanz, which highlights his experience and expertise. The declaration of independence by the specialist is provided in Box 12.1 below and included in Appendix B of this EIA Report.

#### BOX 12.1: DECLARATION OF INDEPENDENCE

I, Johann Lanz, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Kenhardt PV 1 Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



JOHANN LANZ

## 12.2 DESCRIPTION OF PROJECT ASPECTS RELEVANT TO SOILS AND AGRICULTURAL POTENTIAL IMPACTS

The components of the project that can impact on agricultural resources and productivity, during all phases of the project, are:

1. Occupation of the site by the footprint of the solar PV facility's infrastructure and roads.
2. Constructional activities that denude the surface cover of vegetation, for example for lay down areas, and/or disturb the soil below surface, for example for levelling, excavations, borrow pits etc.
3. Vehicle traffic on site.

It is important to note that a detailed project description is included in Chapter 2 of the EIA Report.

Furthermore, the information regarding the proposed 132 kV transmission line is indicatively provided in this report. A detailed description of the transmission line corridor is provided and assessed separately in the Basic Assessment for the Kenhardt PV 1 - Transmission Line project.

## 12.3 DESCRIPTION OF THE SOILS AND AGRICULTURAL CAPABILITY OF THE AFFECTED ENVIRONMENT

A satellite image of the site including the development layout is given in Figure 12.1. Photographs of site conditions are given in Figures 12.2 to 12.5.

### 12.3.1 Climate and Water Availability

Rainfall for the site is given as a very low 183 mm per annum, with a standard deviation of 71 mm according to the South African Rain Atlas (Water Research Commission, undated). The average monthly distribution of rainfall is shown in Table 12.1. One of the most important climate parameters for agriculture in a South African context is moisture availability, which is the ratio of rainfall to evapotranspiration. Moisture availability is classified into six categories across the country (as shown in Table 12.2). The proposed development site falls within Class 6, which is described as a very severe limitation to agriculture.

**Table 12.1: Average monthly rainfall for the site (29° 10' S; and 21° 21' E) in mm (Water Research Commission, undated)**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
25	33	38	24	11	5	3	4	5	8	11	16	183



**Table 12.2: The classification of moisture availability climate classes for summer rainfall areas across South Africa (Agricultural Research Council, Undated)**

Climate Class	Moisture Availability (Rainfall/0.25 PET)	Description of Agricultural Limitation
C1	>34	None to slight
C2	27-34	Slight
C3	19-26	Moderate
C4	12-18	Moderate to severe
C5	6-12	Severe
C6	<6	Very severe

Water for stock is obtained from wind pumps on the farm. There is insufficient water available for any form of irrigation.

### 12.3.2 Terrain, Topography and Drainage

The proposed development is located on level plains with some relief in the Northern Cape interior at an altitude of between 900 and 1000 meters. Slopes across the site are almost entirely less than 2%.

The underlying geology is migmatite, gneiss and granite of the Namaqualand Metamorphic Complex with abundant calcrete.

There are no perennial drainage courses within the project footprint. There are temporary drainage courses, typical of arid environments, where surface run-off would accumulate and flow, but this would only occur very occasionally, immediately after high rainfall events.

### 12.3.3 Soils

The land type classification is a nationwide survey that groups areas of similar soil, terrain and climatic conditions into different land types. The proposed development is located on a single land type, Ag6. This land type comprises predominantly shallow, red sands to loamy sands on underlying rock, hard-pan carbonate, or hard-pan dorbank. The soils fall into the arid Silicic, Calcic, and Lithic soil groups according to the classification of Fey (2010). A summary detailing soil data for the land types is provided in Table A1 in Appendix 12.1 of this chapter. The field investigation confirmed that the soils on site are shallow, red sandy soils on underlying rock and hard-pan carbonate. Actual soil forms vary within short distances depending on rock ridges that run across the area and the extent of calcrete formation. There are numerous outcrops of rocky ridges at the soil surface across the entire area. All investigated sample points across the area were one of four soil forms: Coega, Mispah, Plooyberg or Hutton. However there is very little practical difference between these different soil forms. All have a clay content of approximately 7%, are shallow and are underlain by a hard impenetrable layer (either rock or hard-pan carbonate).

The land has low to moderate water erosion hazard, mainly due to the low slope, but is susceptible to wind erosion because of the sandy texture of the soil.

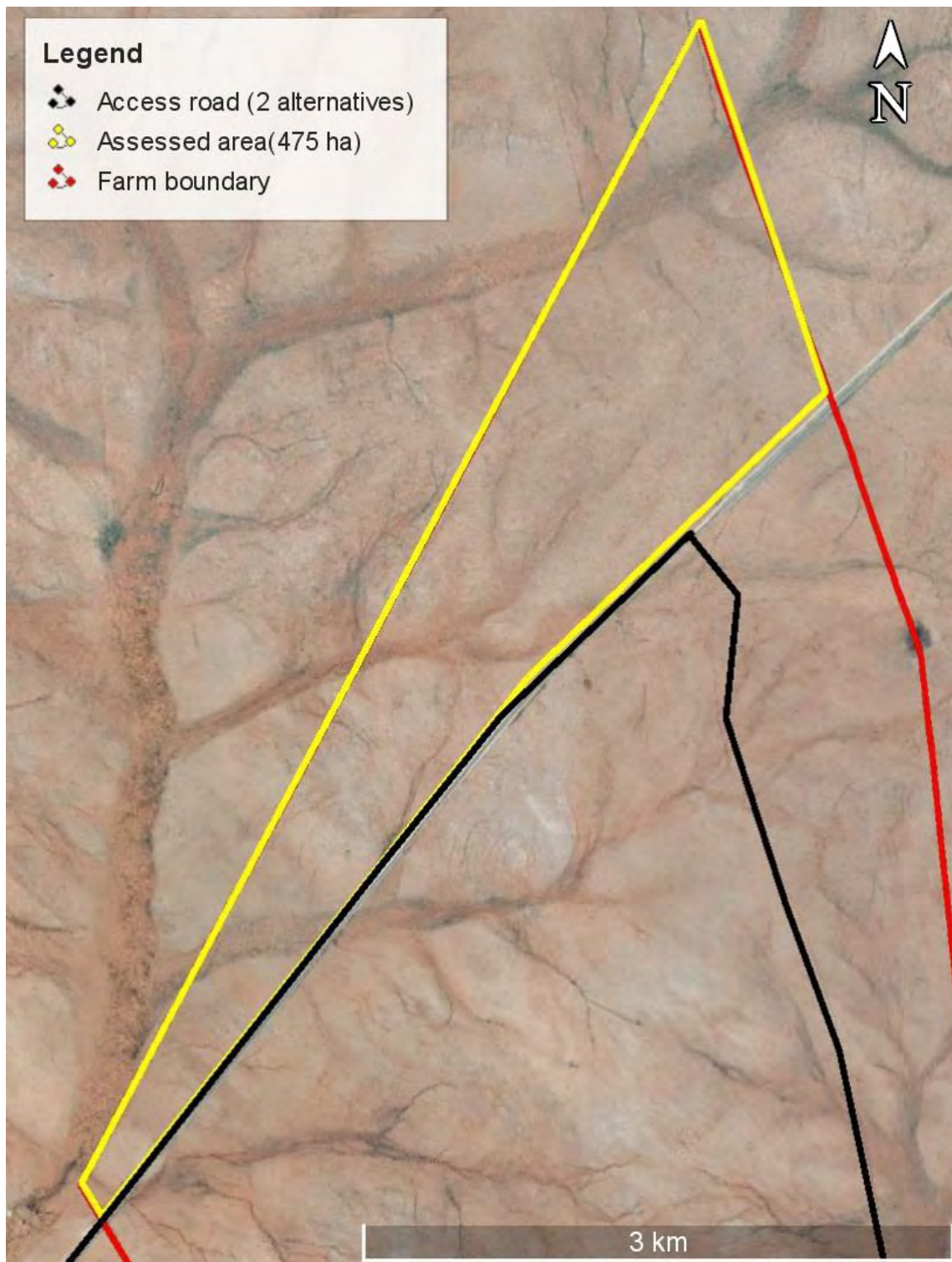


Figure 12.1: Satellite image of the site showing the farm boundary (total area of 5,552 ha) and the assessed site.



Figure 12.2: Photograph showing typical veld conditions on the farm.



Figure 12.3: Photograph showing typical conditions in parts where more rocks occur.



Figure 12.4: Photograph showing typically occurring, shallow hard-pan carbonate horizon (Coega soil form).



Figure 12.5: Photograph showing typically occurring, red sandy soil overlying shallow rock (Hutton soil form).

#### ***12.3.4 Agricultural Capability***

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Land capability is the combination of soil suitability and climate factors. The area has a land capability classification, on the eight category scale, of Class 7 - non-arable, low potential grazing land. The limitations to agriculture are aridity and lack of access to water in addition to the shallow soil depth and rockiness. Because of these constraints, agricultural land use is restricted to low intensity grazing only. The natural grazing capacity is low, at mostly 31 - 40 hectares per animal unit. The current farmer uses an average stocking rate of 10 hectares per sheep.

#### ***12.3.5 Land Use and Development on and Surrounding the Site***

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The farm is located within a sheep farming agricultural region and land use for the farm and surrounding area is sheep farming only. There is no cultivation or any history of cultivation on the farm. The Sishen-Saldanha railway line with its associated infrastructure runs through the farm to the south of the PV site. Apart from fences and one stock watering point, there is no agricultural infrastructure on the site. There are no buildings on the site.

There are two proposed access roads. The one makes use of the existing road running along the Sishen-Saldanha railway line, which is in good condition. The other makes use of a farm track running northwards to the site through the farm. This will require upgrading.

#### ***12.3.6 Status of the Land***

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The biome classification for the site is Bushmanland Arid Grassland. The natural vegetation is grazed, veld conditions are very sparse but there is no evidence of significant erosion or other land degradation on the site.

#### ***12.3.7 Possible Land Use Options for the Site***

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Because of both the climate and soil limitations, the site is not suitable for any agricultural land use other than low intensity grazing.

The site is within one of South Africa's eight proposed renewable energy development zones, and has therefore been identified as one of the most suitable areas in the country for renewable energy development, in terms of a number of environmental impact, economic and infrastructural factors. These factors include an assessment of the significance of the loss of agricultural land. Renewable energy development is therefore a very suitable land use option for the site.

#### ***12.3.8 Agricultural Sensitivity***

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Agricultural potential is uniformly low across the farm and the choice of placement of the facility on the farm therefore has no influence on the significance of agricultural impacts. No agriculturally sensitive areas occur within the assessed area, and so no parts of it need to be avoided by the development. No buffers are required.

## 12.4 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

A change of land use (re-zoning) for the development on agricultural land needs to be approved in terms of the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA). This is required for long term lease, even if no subdivision is required. Rehabilitation after disturbance to agricultural land is managed by the Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA). The Department of Agriculture, Forestry and Fisheries reviews and approves applications in terms of these Acts according to their *Guidelines for the evaluation and review of applications pertaining to renewable energy on agricultural land*, dated September 2011.

## 12.5 IDENTIFICATION OF KEY ISSUES AND POTENTIAL IMPACTS

The following have been identified by the specialist as potential impacts on agricultural resources and productivity.

### 12.5.1 Construction and Decommissioning Phases only

1. Degradation of veld vegetation beyond the direct footprint of the proposed PV facility due to construction and decommissioning disturbance and potential trampling by vehicles.
2. Loss of topsoil due to poor topsoil management (burial, erosion, etc.) during construction and decommissioning related soil profile disturbance (levelling, excavations, road surfacing etc.) and resultant decrease in that soil's capability for supporting vegetation.

### 12.5.2 All Phases - Construction, Operation and Decommissioning

1. Loss of agricultural land use due to direct occupation by the infrastructural footprint of the proposed development for the duration of the project (all phases). This will take affected portions of land out of agricultural production.
2. Soil erosion by wind or water due to alteration of the land surface characteristics. Alteration of surface characteristics may be caused by construction related land surface disturbance, vegetation removal, and the establishment of hard standing areas, surfaces and roads. Erosion will cause loss and deterioration of soil resources and may occur during all phases of the project.
3. Generation of additional land use income through the rental of the land for the proposed solar energy facility. This will provide the farming enterprise with increased cash flow and rural livelihood, and thereby improve its financial sustainability. This is rated as a positive impact.

### 12.5.3 Cumulative Impacts

Cumulative impacts due to the regional loss of agricultural land resources as a result of other developments on agricultural land in the region.

The Scoping Report was released for a 30-day comment period which extended from 25 September 2015 to 27 October 2015. The Addendum to the Scoping Report was also released for a 30-day comment period, extending from 6 October 2015 to 5 November 2015. The EIA Report was also released to I&APs for a 30-day comment period in March 2016. To date, no comments and issues have been raised by I&APs in relation to soil and agricultural potential. The issues noted above were included in the Scoping Phase for consideration in the EIA Phase.

In addition, the Scoping Report was submitted to the National DEA on 12 November 2015 for decision-making. The Scoping Report was accepted by the National DEA on 8 December 2015. As part of the acceptance, the National DEA had the certain requirements for the Soils and Agricultural Potential Assessment, as shown in Table 12.3 below.

**Table 12.3: National DEA Requirements for the Soils and Agricultural Potential Assessment**

DEA Requirement	Feedback from Specialist
<ul style="list-style-type: none"> <li>Detailed soil assessment of the site in question, incorporating a radius of 50 m surrounding the site, on a scale of 1:10 000 or finer. The soil assessment should include the following: <ul style="list-style-type: none"> <li>Identification of the soil forms present on site;</li> <li>The size of the area where a particular soil form is found;</li> <li>GPS readings of soil survey points;</li> <li>The depth of the soil at each survey point;</li> <li>Soil colour;</li> <li>Limiting factors;</li> <li>Clay content;</li> <li>Slope of the site;</li> <li>A detailed map indicating the locality of the soil forms within the specified area; and</li> <li>Size of the site.</li> </ul> </li> </ul>	<p>Detailed soil mapping has no relevance to an assessment of agricultural potential in this environment, where cultivation is not possible, soil conditions are generally poor and the agricultural limitations are overwhelmingly climatic. In such an environment, even where soils suitable for cultivation may occur, they cannot be cultivated because of the aridity constraints. The level of detail in the DEA (and DAFF) requirement is appropriate for arable land only. It is not appropriate for this site. Conducting a soil assessment at the required level of detail would be very time consuming and be a complete waste of that time. It would add absolutely no value to the assessment. The level of soil assessment that was conducted for this report is considered more than adequate for a thorough assessment of all agricultural impacts. The assessment did include identification of soil forms, soil depth, colour, limiting factors and clay content, and the slope and size of the site.</p>
<ul style="list-style-type: none"> <li>Exact locality of the site</li> </ul>	<p>Refer to the site map shown in Figure 12.1 of this chapter.</p>
<ul style="list-style-type: none"> <li>Current activities on the site, including developments or buildings.</li> </ul>	<p>Refer to Section 12.3.5 of this chapter.</p>
<ul style="list-style-type: none"> <li>Surrounding developments/land uses and activities in a radius of 500 m of the site.</li> </ul>	<p>Refer to Section 12.3.5 of this chapter.</p>
<ul style="list-style-type: none"> <li>Access routes and the condition thereof.</li> </ul>	<p>Refer to Section 12.3.5 of this chapter.</p>
<ul style="list-style-type: none"> <li>Current status of the land (including erosion, vegetation, and a degradation assessment).</li> </ul>	<p>Refer to Section 12.3.6 of this chapter.</p>
<ul style="list-style-type: none"> <li>Possible land use options for the site.</li> </ul>	<p>Refer to Section 12.3.7 of this chapter.</p>
<ul style="list-style-type: none"> <li>Water availability, source and quality (if available).</li> </ul>	<p>Refer to Section 12.3.1 of this chapter.</p>
<ul style="list-style-type: none"> <li>Detailed descriptions of why agriculture should or should not be the land use of choice.</li> </ul>	<p>Refer to Section 12.3.7 and 12.9 of this chapter</p>
<ul style="list-style-type: none"> <li>Impact of the change of land use on the surrounding area.</li> </ul>	<p>Refer to Section 12.6 of this chapter.</p>
<ul style="list-style-type: none"> <li>A shape file containing the soil forms and relevant attribute data as depicted on the map</li> </ul>	<p>A shapefile containing soil forms is not relevant - see first point above</p>

## 12.6 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MANAGEMENT ACTIONS

The six potential impacts identified in Section 12.5 are assessed in table format in Tables 12.4 and 12.5 below.

The proposed development is located on land zoned and used for agriculture. South Africa has very limited arable land and it is therefore critical to ensure that development does not lead to an inappropriate loss of land that may be valuable and important for agricultural production. The

proposed site is however on land which has very low agricultural potential and is only suitable for low intensity grazing.

All impacts are evaluated in terms of their consequence for agricultural production, not in terms of the impact *per se*. This is because it is agricultural production that must be the focus of an agricultural assessment. Because the undisturbed site already has extremely limited agricultural potential, it means that the consequence of any impact for agricultural production is limited with the result that the consequence and significance of agricultural impacts is low.

Furthermore, the poor, very shallow soil conditions reduce the significance of loss of topsoil and the low slope gradients reduce the significance of potential erosion impacts.

Irreplaceability of impacts is considered low because the resource that is being impacted is non-arable, low potential grazing land which is not a scarce resource in the country. The confidence level of the assessment is considered high because there is certainty about the low agricultural potential of the land and the impacts are fairly easy to understand and predict.

There are a large number of other potential projects in the area that will also lead to a loss of agricultural land. Although the loss of individual project portions of land has low significance, as discussed above, the cumulative impacts of land loss regionally becomes more significant. However, despite this cumulative impact, it is still agriculturally strategic from a national perspective to steer as much of the country's renewable energy development as possible to regions such as this one, with very low agricultural potential. It is preferable to incur a higher cumulative loss in such a region, than to lose agricultural land with a higher production potential elsewhere in the country.

It is important to note that the impacts identified and assessed in this section only apply to the preferred site.

Mitigation measures are also included in Table 12.4. Recommendations for the monitoring and review of all identified mitigation measures are described in Section 12.8 of this chapter, as well as the EMPr (Part B of this EIA Report).

### ***12.6.1 Degradation of veld vegetation beyond the direct footprint of the proposed PV facility due to constructional disturbance and potential trampling by vehicles***

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The potential impact of degradation of veld vegetation beyond the direct footprint of the proposed PV facility is rated as negative, direct impact that is predicted to occur as a result of disturbance during activities undertaken during the construction and decommissioning phases. The impact is rated with a site specific spatial extent and medium-term duration (i.e. the impact and risk will be experienced between 1 and 10 years). The consequence and probability of the impact is respectively rated as slight and likely. The reversibility and irreplaceability of the impact is respectively rated as moderate and low. The significance of the impact without the implementation of mitigation measures is rated as very low.

The following mitigation measures have been recommended during the construction and decommissioning phases in order to reduce the significance of veld degradation:

- Minimize the footprint of disturbance during construction and decommissioning activities.
- Confine vehicle access to roads only.
- Control dust generation during construction and decommissioning activities by implementing standard construction site dust control measures (dampening with water) where required. Because of water scarcity, this should only be done where and when dust generation is a significant problem.



With effective implementation of these mitigation actions, the impact of the project on veld degradation is predicted to be of very low significance.

### *12.6.2 Loss of Topsoil due to Poor Topsoil Management*

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The potential impact of loss of topsoil due to poor topsoil management (burial, erosion, etc.) during construction and decommissioning related soil profile disturbance (such as levelling, excavations, road surfacing etc.) and the resultant decrease in the capability of the soil to support vegetation is rated as a negative, direct impact. The impact is rated with a site specific spatial extent and medium-term duration (i.e. the impact and risk will be experienced between 1 and 10 years). The consequence and probability of the impact is respectively rated as slight and likely. The reversibility and irreplaceability of the impact is respectively rated as moderate and low. The significance of the impact without the implementation of mitigation measures is rated as very low.

The following mitigation measures have been recommended during the construction and decommissioning phases in order to reduce the loss of topsoil:

- Strip and stockpile topsoil from all areas where soil will be disturbed. There are no particular requirements for stockpile management and it can therefore be done in the way that is most practical for the operation.
- After cessation of disturbance, re-spread topsoil over the surface.
- Dispose of any sub-surface spoil material, generated from excavations, where they will not impact on land that supports vegetation, or where they can be effectively covered with topsoil.

With effective implementation of these mitigation actions, the impact of the project on topsoil is predicted to be of very low significance.

### *12.6.3 Loss of Agricultural Land Use*

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The potential impact of loss of agricultural land use due to the direct footprint of the proposed project for the construction, operational and decommissioning phases is predicted to be a negative, direct impact. The impact is rated with a site specific spatial extent and long-term duration (i.e. the impact and risk will be experienced for the duration of the proposed project). The consequence and probability of the impact is respectively rated as slight and very likely. The reversibility and irreplaceability of the impact is respectively rated as high and low. The significance of the impact without the implementation of mitigation measures is rated as very low. No mitigation measures are recommended.

The loss of 250 hectares of grazing land should be seen in the context of the total farming enterprise. Mr Sarel Strauss reports that his total sheep farming enterprise takes place on four adjacent farms totalling about 38,000 hectares and the loss therefore represents only 0.66% of the total. Mr Strauss is of the opinion that the loss will have negligible impact on his farming enterprise.

### *12.6.4 Soil Erosion due to Alteration of the Land Surface Characteristics*

---

The potential impact of soil erosion by wind or water due to alteration of the land surface characteristics is predicted to be a negative, direct impact. As noted above, alteration of surface characteristics may be caused by construction related land surface disturbance, vegetation removal, and the establishment of hard standing areas, surfaces and roads. The impact is rated with a site specific spatial extent and long-term duration (i.e. the impact and risk will be experienced for the duration of the proposed project). The consequence and probability of the impact is respectively rated as slight and likely. The reversibility and irreplaceability of the impact

are rated as low. The significance of the impact without the implementation of mitigation measures is rated as very low.

The following mitigation measures have been recommended during the construction, operational and decommissioning phases in order to reduce soil erosion:

- Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.

With effective implementation of these mitigation actions, the impact of increased soil erosion is predicted to be of very low significance.

### ***12.6.5 Additional Land Use Income Generation***

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As noted above, the additional income generated during the construction, operational and decommissioning phases as a result of the leasing of the land to Scatec Solar is predicted to be a direct, positive impact. This will provide the increased cash flow and thereby improve the financial sustainability of the farming enterprise. The impact is rated with a site specific spatial extent and long-term duration (i.e. the impact and risk will be experienced for the duration of the proposed project). The consequence and probability of the impact is respectively rated as slight and very likely. The reversibility and irreplaceability of the impact is respectively rated as high and low. The significance of the impact without the implementation of enhancement measures is rated as very low. No enhancement measures are recommended.

### ***12.6.6 Cumulative Impact: Regional Loss of Agricultural Land Resources***

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As mentioned above, the implementation of various other developments (refer to Chapter 4 of the EIA Report) in conjunction with the proposed Scatec Solar PV facilities and transmission lines are expected to result in a cumulative impact in terms of the loss of agricultural land resources on a regional scale. The impact is rated with a regional spatial extent and long-term duration (i.e. the impact and risk will be experienced for the duration of the proposed project). The consequence and probability of the impact is respectively rated as moderate and very likely. The reversibility and irreplaceability of the impact are rated as moderate. The significance of the impact without the implementation of mitigation measures is rated as moderate. No mitigation measures are recommended.

## **12.7 IMPACT ASSESSMENT SUMMARY**

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The potential impacts of the proposed project on soils and agricultural potential is summarised in Tables 12.4 and 12.5.

**Table 12.4: Impact assessment summary table**

Aspect/Impact pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Mitigation/ Management Actions	Significance		Ranking of Residual Impact	Confidence Level
										Without Mitigation	With Mitigation		
<b>Construction and Decommissioning Phases (Direct Impacts)</b>													
Vehicle traffic and dust generation	Veld degradation	Negative	Site	Medium term	Slight	Likely	Moderate (i.e. Partially)	Low	1. Minimize footprint of disturbance. 2. Confine vehicle access on roads only. 3. Control dust generation during construction and decommissioning activities by adopting standard construct site dust control methods (such as dampening surfaces with water), where required. Because of water scarcity, this should only be done where and when dust generation is a significant problem.	Very Low	Very Low	5	High
Constructional and decommissioning activities that disturb the soil profile.	Loss of topsoil	Negative	Site	Medium term	Slight	Likely	Moderate (i.e. Partially)	Low	1. Strip and stockpile topsoil from all areas where soil will be disturbed. 2. After cessation of disturbance, re-spread topsoil over the surface. 3. Dispose of any sub-surface spoils from excavations where they will not impact on land that supports vegetation, or where they can be effectively covered with topsoil.	Very Low	Very Low	5	High
<b>Construction, Operational and Decommissioning Phases (Direct Impacts)</b>													
Occupation of the land by the project infrastructure	Loss of agricultural land use	Negative	Site	Long term	Slight	Very Likely	High	Low	None	Very Low	Not applicable	5	High

Aspect/Impact pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Mitigation/ Management Actions	Significance		Ranking of Residual Impact	Confidence Level
										Without Mitigation	With Mitigation		
Change in surface characteristics and surface cover.	Erosion	Negative	Site	Long term	Slight	Likely	Low	Low	Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.	Low	Very Low	5	High
Project rental	Additional land use income	Positive	Site	Long term	Slight	Very Likely	High	Low	None	Very Low	Not applicable	5	High

**Table 12.5: Cumulative impact assessment summary table**

Aspect/Impact pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Irreplaceability	Mitigation/ Management Actions	Significance		Ranking of Residual Impact	Confidence Level
										<i>Without Mitigation</i>	<i>With Mitigation</i>		
Occupation of the land by the infrastructure of multiple projects	Regional loss of agricultural land	Negative	Regional	Long term	Substantial	Very Likely	Moderate (i.e. Partially)	Moderate	None	Moderate	Not Applicable	3	High

## 12.8 INPUT TO THE ENVIRONMENTAL MANAGEMENT PROGRAMME

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The following main mitigation measures and monitoring requirements are proposed for inclusion in the EMPr:

- Minimize the footprint of disturbance during construction and decommissioning activities.
- Confine vehicle access to roads only.
- Control dust generation during construction and decommissioning activities by implementing suitable, standard construction site dust control measures.
- Strip and stockpile topsoil from all areas where soil will be disturbed.
- After cessation of disturbance, re-spread topsoil over the surface.
- Dispose of any sub-surface spoil material, generated from excavations, where they will not impact on land that supports vegetation, or where they can be effectively covered with topsoil.
- Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.

The following main monitoring requirements are proposed for inclusion in the EMPr:

- Undertake a periodic site inspection to verify the occurrence of off-road vehicle tracks surrounding the site.
- Establish an effective record keeping system for each area where soil is disturbed for constructional and decommissioning purposes. Recommendations for the recording system are included in the EMPr (Part B of the EIA Report).
- Undertake a periodic site inspection to verify and inspect the effectiveness and integrity of the run-off control system and to specifically record the occurrence of any erosion on site or downstream. Corrective action must be implemented to the run-off control system in the event of any erosion occurring.

## 12.9 CONCLUSION AND RECOMMENDATIONS

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The proposed development is on land zoned and used for agriculture. South Africa has very limited arable land and it is therefore critical to ensure that development does not lead to an inappropriate loss of land that may be valuable for cultivation. This assessment has found that the investigated site is on land which is of very low agricultural potential and is not suitable for cultivation.

Because of the low agricultural potential of the site, the development should, from an agricultural impact perspective, be authorised.

Authorisation is promoted by the fact that the site falls within a proposed renewable energy development zone, where such land use has been assessed as very suitable in terms of a number of factors, including agricultural impact. It is preferable to incur a loss of agricultural land in such a region, without cultivation potential, than to lose agricultural land that has a higher potential, to renewable energy development elsewhere in the country.

No agriculturally sensitive areas occur within the site and no part of it is therefore required to be set aside from the development. Because the site is uniformly low potential, from an agricultural point of view, there is no preferred location or layout within the assessed site. There are no conditions resulting from this assessment for inclusion in the environmental authorisation. The following management and mitigation measures should be included in the EMPr:

- Minimize the footprint of disturbance during construction and decommissioning activities.
- Confine vehicle access to roads only.

- Control dust generation during construction and decommissioning activities by implementing suitable, standard construction site dust control measures (i.e. dampening with water) where required. Because of water scarcity, this should only be done where and when dust generation is a significant problem.
- Strip and stockpile topsoil from all areas where soil will be disturbed.
- After cessation of disturbance, re-spread topsoil over the surface.
- Dispose of any sub-surface spoil material, generated from excavations, where they will not impact on land that supports vegetation, or where they can be effectively covered with topsoil.
- Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.

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## 12.10 REFERENCES

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Agricultural Research Council. Undated. AGIS Agricultural Geo-Referenced Information System available at <http://www.agis.agric.za/>.

Fey, M. 2010. Soils of South Africa. Cambridge University Press, Cape Town.

Water Research Commission. Undated. South African Rain Atlas available at <http://134.76.173.220/rainfall/index.html>.

## APPENDIX 12.1: SOIL DATA

**Table A1: Land type soil data for site.**

Land type	Land capability class	Soil series (forms)	Depth (cm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Ag6	7	Hutton	10-35	6-12	7-15	ca, so, db	43
		Mispah	5-15	5-12		R	14
		Hutton	45->120	6-12	7-15	ca, so, R	10
		Hutton	10-35	10-20	15-25	ca, so, db	9
		Rock outcrop	0			R	8

Land capability classes: 7 = non-arable, low potential grazing land.

Depth limiting layers: R = hard rock; so = partially weathered bedrock; ca = hardpan carbonate; db = dorbank hardpan.



# EIA REPORT



## CHAPTER 13:

### Social Impact Assessment

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

*Report prepared for:*

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April 2016

## COMPLIANCE WITH THE APPENDIX 6 OF THE 2014 EIA REGULATIONS

Requirements of Appendix 6 - GN R982	Addressed in the Specialist Report
1. (1) A specialist report prepared in terms of these Regulations must contain-	Appendix A of the EIA Report
a) details of- <ul style="list-style-type: none"> <li>i. the specialist who prepared the report; and</li> <li>ii. the expertise of that specialist to compile a specialist report including a curriculum vitae;</li> </ul>	
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 13.1.6 of this chapter and Appendix B of the EIA Report
c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 13.1.1
d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	30 July 2014. The season of the site visit is immaterial as social impacts likely to result from the proposed project are not seasonal in nature.
e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 13.1.3
f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 13.3
g) an identification of any areas to be avoided, including buffers;	Not applicable as the project is not proposed in an urban area where social impacts are expected to manifest.
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Not applicable as the project is not proposed in an urban area where social impacts are expected to manifest.
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 13.1.5
j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Sections 13.4.3, 13.4.4, 13.4.5 and 13.4.6
k) any mitigation measures for inclusion in the EMPr;	Section 13.5
l) any conditions for inclusion in the environmental authorisation;	No conditions identified or required.
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	No monitoring conditions identified or required.

Requirements of Appendix 6 - GN R982	Addressed in the Specialist Report
n) a reasoned opinion- <ul style="list-style-type: none"> <li>i. as to whether the proposed activity or portions thereof should be authorised; and</li> <li>ii. if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;</li> </ul>	Section 13.6
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 13.3.1.2
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Section 13.4.1
q) any other information requested by the competent authority.	External Peer Review required by the DEA. This external review report is included as an appendix to this specialist report (i.e. Appendix 13.A).

## list of abbreviations

<b>CLD</b>	Causal Loop Diagram
<b>DEA</b>	Department of Environmental Affairs
<b>ECT</b>	Equity Control Theory
<b>EIA</b>	Environmental Impact Assessment
<b>IDP</b>	Integrated Development Plan
<b>MW</b>	Megawatt
<b>PV</b>	Photovoltaic
<b>SIA</b>	Social Impact Assessment
<b>SES</b>	Socio-ecological System

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## 13 SOCIAL IMPACT ASSESSMENT

### 13.1 INTRODUCTION

This Social Impact Assessment (SIA) was commissioned in response to the Environmental Impact Assessment (EIA) and Basic Assessment (BA) application processes initiated by Scatec Solar SA 163 (PTY) Ltd (Scatec) for the three proposed 75 Megawatt (MW) Solar Photovoltaic (PV) Facilities and three transmission lines to connect each facility to the National Grid, near Kenhardt in the Northern Cape. The proposed EIA and BA projects are referred to as follows:

- EIA Projects - Kenhardt PV 1, Kenhardt PV 2, and Kenhardt PV 3; and
- BA Projects - Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line, and Kenhardt PV 3 - Transmission Line.

This SIA has been compiled by Rudolph du Toit of the Council for Scientific and Industrial Research (CSIR) and externally reviewed by Ms. Liza van der Merwe (a private consultant). As part of the acceptance of the Scoping Reports, the Department of Environmental Affairs requested for an external review of the SIA to be conducted. The review report is included as Appendix 13.A of this report.

A single SIA has been compiled based on the following reasons:

- The proposed project sites (as included in the official survey area) are located in very close proximity to each other and therefore present very similar baseline social conditions;
- The nature of the proposed development (i.e. solar PV electricity generation and transmission line development) is exactly the same for all the proposed projects sites. As such, the anticipated impacts resulting from the proposed developments will be similar regardless of its location; and
- Anticipated significant social impacts are expected to manifest in the urban node or sizeable human settlement in closest proximity to the proposed development (i.e. the town of Kenhardt) and not on the actual project sites. This is due to the extremely low population density of the relevant farms, its remote location and the relative absence of infrastructure and economic opportunity capable of attracting and sustaining agents of social change. Accordingly, it makes no difference on which land parcel or ERF the relative impacts originate, as the consequences resulting from such impacts are expected to manifest in Kenhardt, and can therefore be addressed in a single report.

A SIA can be defined as the process of determining “[t]he consequences to human populations of any public or private actions (these include policies, programmes, plans and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally live and cope as members of society. These impacts are felt at various levels, including individual level, family or household level, community, organisation or society level. Some social impacts are felt by the body as a physical reality, while other social impacts are perceptual or emotional” (Barbour, 2007).

Evidently, the realm of human experience is characterised by subjectivity; both in terms of affected community’s experiences and the SIA practitioner’s interpretation of such experiences. Such subjectivity is known as the “social construct of reality” (Anderson & Taylor, 2002). However, social well-being can largely be agreed upon regardless of ones worldview. Accordingly, the SIA process must be committed to the following objectives (Barbour, 2007):

- The principles of sustainable development and social sustainability;
- Vulnerable groups;
- Meeting basic needs and services;
- Livelihood strategies;
- Fairness and equity;
- Social justice;
- Openness and participation; and,
- Accountability.

In pursuit of these objectives, it is imperative that an SIA looks beyond the direct positive and negative impacts likely to result from proposed projects and looks at promoting the well-being of communities



potentially affected by a project by addressing entrenched structural issues of empowerment, minority groups, gender issues and poverty reduction.

### **13.1.1 Scope and Objectives**

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This SIA Report investigates the potential social disruptors and associated social impacts likely to result from the development of the proposed Kenhardt PV 1, Kenhardt PV 2, and Kenhardt PV 3 solar energy projects, as well as the proposed Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line, and Kenhardt PV 3 - Transmission Line projects near Kenhardt in the Northern Cape. In this regard, the study focuses on the town of Kenhardt and not the individual land parcels on which the proposed projects will developed, as most, if not all, of the anticipated social impacts will be experienced in the urban area nearest to the proposed developments (i.e. Kenhardt). Social disruptors and impacts under investigation are those which are most likely to significantly influence social and cultural concerns, values, consequences and benefits to communities.

The objective of this SIA is to assist with informed decision-making by the competent authority (DEA) as, as well as the development of appropriate management directives, as it relates to the consideration of social impact likely to result from the proposed development.

### **13.1.2 Terms of Reference**

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The SIA will include:

- A review of existing information, and collecting and reviewing baseline social information etc.
- Conducting interviews with key affected parties, including local communities, local landowners, key government officials (local and regional) etc.
- An identification and assessment of key social issues and potential impacts (negative and positive) associated with the construction, operational and decommissioning phases of the proposed projects.
- An identification of potential mitigation and enhancement measures.
- A specialist report which includes an assessment of the potential social impacts associated with the proposed projects.
- An outline of mitigatory measures and additional management or monitoring guidelines.
- Provide input to the Environmental Management Programme (EMPr), including mitigation and monitoring requirements to ensure that negative social impacts are limited.

### **13.1.3 Study Approach and methodology**

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This SIA consulted secondary data sources (published documentation) to obtain basic socio-economic baseline demographics. This secondary data was then augmented with primary data generated by a site visit to the proposed project site as well as the town of Kenhardt and the surrounding areas.

#### **13.1.3.1 Applied Anthropological Methods**

Collection of primary data during the site visit was guided by a Participant Observation Methodology (Anderson & Taylor, 2002). Participant observation is an applied anthropological approach, whereby the researcher 'becomes' a resident in the community for a given period of time to observe the normal daily lives of community members and to conduct informal interviews with informants. The intention of interviews is to uncover the major livelihood strategies present in the study area, to understand the key socio-economic challenges, and gain insights into the 'constructed reality' of the Kenhardt community. Observation of community members' lives, routines and living environments help to gain insight into practices, patterns and processes which community members may not be consciously aware of.

#### **13.1.3.2 Systems Theory**

Conventional SIA reports generally describe the affected environment in terms of social and economic conditions, with only very cursory references to the biophysical environment. Due to the inherent complexity of human-nature interaction, and the profound impacts resulting from this interaction, a more holistic approach was adopted towards understanding and representing the affected environment. Accordingly, the receiving environment and subsequent impacts thereon were viewed and interpreted as a coupled socio-

ecological system (SES). This approach is a radical departure from viewing the receiving environment as a loose collection of independent economic, social and environmental variables.

Systems theory provides insight into complex system relationships by interpreting a given system through the following set of principles:

- Complex systems are **open systems** (i.e. free interaction with other systems across systemic boundaries);
- Complex systems operate under conditions **not at equilibrium** (i.e. supply and demand of systemic services are not in balance, also known as redundancy in cases of over supply);
- Complex systems have an **asymmetrical structure** (i.e. structure is maintained, though component parts may change);
- Complex systems consist of **many** components;
- In a complex system, components on average **interact with many others** via numerous possible routes;
- Some sequences of interaction within complex systems will result in **feedback routes**;
- Parts of a complex system interact in non-linear ways to create properties and behaviours which is not inherent to the system's component parts; known as **emergence**.

Subsequently, typical socio-economic baseline data is then represented in a Causal Loop Diagram (CLD) to illustrate the systemic causal linkages between variables present in the SES in which the study area is located.

### 13.1.3.3 Vulnerability Context

Finally, an Asset Pentagon has been used to interpret the collected information. An Asset Pentagon is an assessment method developed within the discipline of Livelihoods Assessment, and aims to establish the vulnerability context of a given social grouping. People's access to productive assets (Human-, Social-, Natural-, Physical- and Financial capital) lies at the heart of their vulnerability context. Generally, the greater access people have to assets, the more livelihood strategies are available and the easier it is for them to switch from one strategy to the next. Conversely, limited access to assets results in reduced livelihood strategies and impaired ability to assume alternative strategies should the need arise.

As a result, the SIA research approach is descriptive in nature and uses indicative reasoning to reach its impact assessment findings. In terms of the impact assessment, the methodology adopted is outlined in Chapter 4 of the EIA Report.

### 13.1.4 Information Sources

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The primary and secondary data sources used in the SIA include:

- Primary data generated through participant observation techniques;
- The South African Guideline for Involving Social Assessment Specialists in EIA (Barbour, 2007);
- The Kai !Garib Local Municipality Draft IDP of 2014;
- Orlight SA (Pty) Ltd's "Kenhardt Solar PV Power Plant"; BioTherm (Pty) Ltd's "Aries Solar PV Facility"; AES Solar Energy Limited's "Olvyn Kolk PV Power Plant" and the Eskom SOC's "Aries-Helios 765 kV transmission line upgrade";
- The 2011 Census report (Statistics South Africa (StatsSA), 2011); and
- Academic journal articles on the topics of vandalism, teenage pregnancy and poverty such as Ceccato and Haining (2005).

### 13.1.5 Assumptions and Limitations

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Secondary data on the study area is very limited. The site visit was therefore intended to gather sufficient primary data to guide the SIA. However, information gathered during the site visit generally carries a medium level of confidence as the SIA is an applied research method, as opposed to a scientific research method. This means that much less time and resources are available for primary research and the subsequent verification of findings. As a result, the majority of significance ratings ascribed to both the potential positive and negative impacts of the proposed Kenhardt PV and Transmission Line projects were given a **medium** confidence rating.

The SIA<sup>1</sup> assumes that the majority of socio-economic impacts will be experienced in the town of Kenhardt; due to its proximity to the project site. It is however possible for socio-economic impacts to be experienced in other urban nodes close to the project site. The project boundary, in terms of socio-economics, is therefore arbitrarily constructed.

Various energy-related developments are present in the general study (i.e. within a 50 km radius) area and were considered in this study (e.g. Mulilo Renewable Project Developments (Pty) Ltd's "Phase 1 and Phase 2-Nieuwehoop Solar PV Power Plants"; Orlight SA (Pty) Ltd's "Kenhardt Solar PV Power Plant"; BioTherm (Pty) Ltd's "Aries Solar PV Facility"; AES Solar Energy Limited's "Olvyn Kolk PV Power Plant" and the Eskom SOC's "Aries-Helios 765 kV transmission line upgrade"). However, when considering cumulative impacts, the combined impacts of *all* developments in a given area should be considered; not only the impacts resulting from *similar* activities/projects. Clearly, considering the possible socio-economic impacts likely to result from all development in an arbitrarily defined study area is not practically possible in the limited timeframe of the EIA process. However, this SIA attempts to identify and understand the cumulative socio-economic impacts likely to result from the interaction of similar (i.e. solar energy and electrical infrastructure developments) development activities within the general study area. Chapter 4 of the EIA Report notes the developments within a 20 km radius that have been considered in order to assess cumulative impacts.

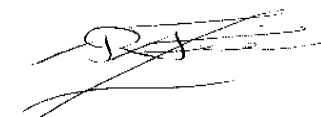
In terms of the employment estimates, the man months noted in this study, which are also known as "person months", is the total number of employees in each of the Contract Months, within the Construction Measurement Period and the Operating Measurement Period, as applicable. It should be noted that the said "person months" are, at present, best estimates only and could well change once the project is initiated.

### 13.1.6 Declaration of Independence of Specialist

Refer to Appendix A of this EIA Report for the Curriculum Vitae of Rudolph du Toit, which highlights his experience and expertise. The declaration of independence by the specialist is provided in Box 13.1 below and included in Appendix B of this EIA Report.

#### BOX 13.1: DECLARATION OF INDEPENDENCE

I, Rudolph du Toit, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Kenhardt PV Facilities and Transmission Lines Project, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



RUDOLPH DU TOIT

## 13.2 PROJECT CONTEXT (SOCIO-ECONOMICS)

### 13.2.1 Project Information

As noted above, Scatec is proposing to develop three 75 MW Solar PV power generation facilities and associated electrical infrastructure (including transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the Eskom Nieuwehoop Substation on the

<sup>1</sup> This study is a SIA as per the definition contained in the *Guideline for Involving Social Assessment Specialists in the EIA Process* (Barbour, 2007): "Social impacts can be defined as 'The consequences to human populations of any public or private actions (these include policies, programmes, plans and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally live and cope as members of society'".

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

remaining extent of Portion 3 of Gemsbok Bult Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province (Figure 13.1).

The three proposed 75 MW Solar PV facilities require a separate EIA Process and the three transmission line/electrical infrastructure projects (that will support the Kenhardt PV facilities) require a BA Process.

The following proposed transmission line and electrical infrastructure connectivity options have been considered in the BA Process:

- Each PV facility will be connected by a separate short 132 kV transmission line to the Eskom Nieuwehoop Substation that is currently being constructed on Farm Gemsbok Bult (remaining extent of Portion 3 of Farm 120); or
- Connect the Kenhardt PV 2 and Kenhardt PV 3 projects via separate 22/33 kV transmission lines to the proposed Kenhardt PV 1 on-site substation which will link via a 132 kV line to the Eskom Nieuwehoop Substation; or
- Construct one 132 kV transmission line from the Kenhardt PV 1 project to the Eskom Nieuwehoop Substation and connect the Kenhardt PV 2 and Kenhardt PV 3 facilities together via medium voltage transmission lines to either the on-site substation of Kenhardt PV 2 or PV 3, followed by the construction of one 132 kV transmission line from the on-site substation to the Eskom Nieuwehoop Substation.

The above connectivity options occur within an electrical infrastructure corridor (Figure 13.1).

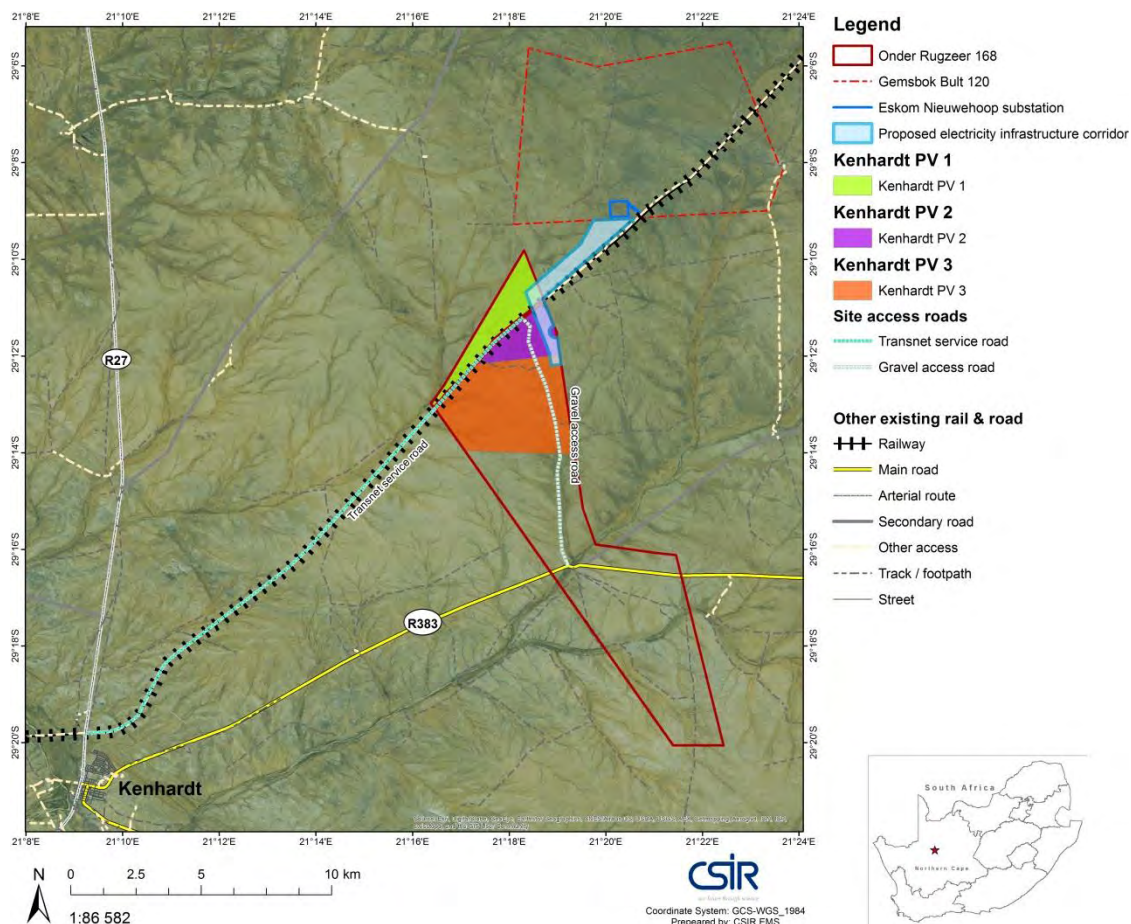


Figure 13.1: Preferred site locations of the three proposed Kenhardt PV solar developments (namely Kenhardt PV 1 (outlined in green); Kenhardt PV 2 (outlined in purple); and Kenhardt PV 3 (outlined in orange), and the transmission line projects (namely Kenhardt PV 1 - Transmission Line; Kenhardt PV 2 - Transmission Line; and Kenhardt PV 3 - Transmission Line) which will collectively occur within an electrical infrastructure corridor (outlined in blue).

The current land use of the proposed project areas, as well as the surrounding land parcels is zoned for agricultural development and use. The construction phase of each proposed solar PV facility would last approximately 14 months. The construction phase of each proposed transmission line (which is subject to the BA Process) is expected to last 12 to 14 months. However, it should be noted that the construction period is subject to the final requirements of Eskom and the REIPPPP Request for Proposal provisions at that point in time. Employment opportunities created during the construction phase for the PV projects equates to approximately 1 260 - 2 100 man months (for skilled opportunities) and approximately 5 600 - 6 400 man months (for unskilled opportunities) per project (i.e. three 75 MW PV projects in total). Employment opportunities created during the construction phase of each transmission line project are estimated to range between 1 560 and 1 820 man months. Table 13.1 lists the anticipated number of skilled and unskilled employment associated with the solar PV plant developments as well as the associated transmission lines projects. It should be noted that the employment opportunities provided in this report are estimates and is dependent on the final engineering design and the REIPPPP Request for Proposal provisions at that point in time.

Employment opportunities to be created during the operational phase equate to approximately 4 800 man months (for skilled opportunities) and approximately 9 600 man months (for unskilled opportunities) per project (i.e. three 75 MW PV projects in total) over the 20 year plant lifespan.

Scatec further proposes an Economic Development Plan which sets out to achieve the following:

- Create a local community trust which has an equity share in the project life to benefit historically disadvantaged communities;
- Initiate a training strategy to facilitate employment from the local community; and
- Give preference to local suppliers of components for the construction of the facility.

**Table 13.1: Anticipated skilled and unskilled employment opportunities created during construction and operational phases of the project**

<b>EIA SOLAR PV PROJECTS:</b>	
<b>Construction Phase</b>	<b>Man Months</b> (Man months is also known as “Person Months”: means the total number of Employees in each of the Contract Months, within the Construction Measurement Period and the Operating Measurement Period, as applicable, which are adjusted for the actual working time, compared to normal working time).
Kenhardt PV 1 - between 90 and 150 skilled and 400 and 460 unskilled employment opportunities are expected be created during the construction phase.	Skilled: 90 * 14 months = 1260 man months Skilled: 150 * 14 months = 2100 man months Unskilled: 400 * 14 = 5600 man months Unskilled: 460 * 14 = 6440 man months
Kenhardt PV 2 - between 90 and 150 skilled and 400 and 460 unskilled employment opportunities are expected be created during the construction phase.	Skilled: 90 * 14 months = 1260 man months Skilled: 150 * 14 months = 2100 man months Unskilled: 400 * 14 = 5600 man months Unskilled: 460 * 14 = 6440 man months
Kenhardt PV 3 - between 90 and 150 skilled and 400 and 460 unskilled employment opportunities are expected be created during the construction phase.	Skilled: 90 * 14 months = 1260 man months Skilled: 150 * 14 months = 2100 man months Unskilled: 400 * 14 = 5600 man months Unskilled: 460 * 14 = 6440 man months
<b>Operation Phase</b>	
Kenhardt PV 1 - approximately 20 skilled and 40 unskilled employment opportunities will be created over the 20 year lifespan of the proposed facility	Skilled: 20 * 240 months = 4800 man months Unskilled: 40 * 240 months = 9600 man months
Kenhardt PV 2 - approximately 20 skilled and 40 unskilled employment opportunities will be created over the 20 year lifespan of the proposed facility.	Skilled: 20 * 240 months = 4800 man months Unskilled: 40 * 240 months = 9600 man months
Kenhardt PV 3 - approximately 20 skilled and 40 unskilled employment opportunities will be created over the 20 year lifespan of the proposed facility.	Skilled: 20 * 240 months = 4800 man months Unskilled: 40 * 240 months = 9600 man months
<b>BA TRANSMISSION LINE PROJECTS:</b>	
<b>Construction Phase</b>	
Transmission Line for PV 1 - about 130 employment opportunities, 30 % of which will accrue to previously disadvantaged individuals.	130 * 12 construction months = 1560 man months 130 * 14 construction months = 1820 man months
Transmission Line for PV 2 - about 130 employment opportunities, 30 % of which will accrue to previously disadvantaged individuals.	130 * 12 construction months = 1560 man months 130 * 14 construction months = 1820 man months
Transmission Line for PV 3 - about 130 employment opportunities, 30 % of which will accrue to previously disadvantaged individuals.	130 * 12 construction months = 1560 man months 130 * 14 construction months = 1820 man months
<b>Operational Phase</b>	
There will no additional new employment opportunities as the operation and maintenance of transmission lines is an Eskom competency.	n/a

It is important to note that a detailed project description is provided in Chapter 2 of the EIA Report and Section A of the BA Report.

### **13.2.2 Legal, Policy and Planning Context**

The Draft Integrated Development Plan (IDP) (2014) for the Kai! Garib Local Municipality was considered in the drafting of this specialist study, due to its specific relevance to social and economic considerations related to proposed developments. Note that other key statutes were also considered in drafting this study (i.e. National Environmental Management Act (NEMA); National Heritage Act; and the Development Facilitation Act), but are discussed in greater detail in Chapter 4 of this EIA Report.

#### **13.2.2.1 Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)**

Section 24 of the Constitutional Act states that everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures, that -

- i. Prevents pollution and ecological degradation;
- ii. Promotes conservation; and
- iii. Secures ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

In support of the above rights, the environmental management objectives of proposed projects are to protect ecologically sensitive areas and support sustainable development and the use of natural resources, whilst promoting justifiable socio-economic development in the towns nearest to the project sites.

#### **13.2.2.2 National Environmental Management Act, 1998 (Act No. 107 of 1998)**

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) requires cooperative environmental governance by establishing principles for decision making on matters affecting the environment, institutions that will promote cooperative governance and procedures for coordinating environmental functions exercised by organs of state. NEMA also aims to achieve sustainable development. In this regard NEMA requires the integration of social, economic and environmental factors into planning, implementation and decision-making to ensure that development serves present and future generations.

#### **13.2.2.3 National Heritage Resources Act, 1999 (Act No. 25 of 1999)**

The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) transfers responsibility for the identification of local heritage resources and the inclusion of heritage areas to all municipalities in South Africa. Developers/proponents need to integrate the NHRA into relevant planned projects and obtain approval (if necessary) from the relevant heritage authorities or municipalities before commencement of the project.

#### **13.2.2.4 Draft Integrated Development Plan, 2014 for the Kai !Garib Local Municipality**

The objective of the IDP is to create an economically viable and maturely developed municipality, which enhances the standard of living of all the inhabitants and communities through good governance and excellent service. The IDP has identified key priority issues for the municipality.

#### **13.2.2.5 Development Facilitation Act (Act 67 of 1995)**

The Development Facilitation Act, 1995 (Act 67 of 1995) (DFA) sets out a number of key planning principles which have a bearing on assessing proposed developments in light of the national planning requirements. The planning principles most applicable to the study area include:

- Promoting the integration of the social, economic, institutional and physical aspects of land development;
- Promoting integrated land development in rural and urban areas in support of each other;
- Promoting the availability of residential and employment opportunities in close proximity to or integrated with each other;
- Optimising the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;
- Contributing to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs;
- Promoting the establishment of viable communities; and,
- Promoting sustained protection of the environment.

### 13.3 AFFECTED SOCIO-ECONOMIC ENVIRONMENT

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The intention of this section is to provide background information of the socio-economic baseline conditions present in the study area. Information sources used to compile the socio-economic baseline consists of both primary (a site visit conducted on the 30 July 2014) and secondary research (relevant published literature and policy documents).

#### *13.3.1 Socio-economic Baseline Data*

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##### *13.3.1.1 Secondary Data*

The study area is located within the ZF Mgcawu District Municipality (formally known as the Siyanda District Municipality). The actual project footprint (i.e. the remaining extent of Onder Rugzeer Farm 168 and the remaining extent of Portion 3 of Gemsbok Bult Farm 120 (for the connection points to the Eskom Nieuwehoop Substation)) is located in the !Kheis Local Municipality (part of the ZF Mgcawu District Municipality). However, the closest urban centre, Kenhardt, is located in the Kai !Garib Local Municipality. Given the proximity of the proposed projects to the town of Kenhardt; the focus of this SIA will be on the Kai !Garib Local Municipality (Figure 13.2), as this is where the vast majority of potential project impacts (both positive and negative) might manifest.



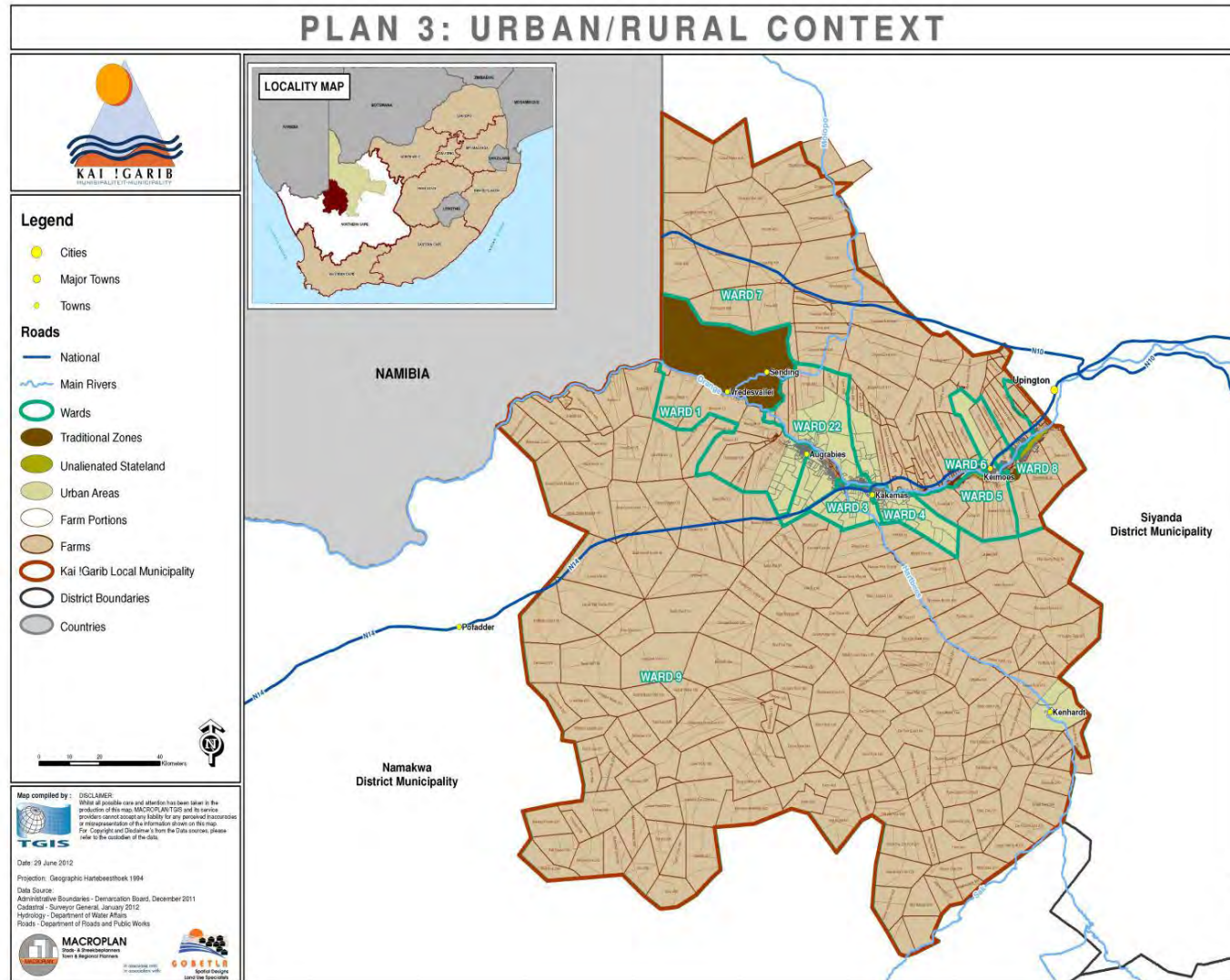


Figure 13.2: Kai !Garib Local Municipality  
 (Source: Kai !Garib Draft IDP, 2014)

According to the Kai !Garib Draft IDP (2014) and the Stats SA 2011 Census data, the total population of the Kai !Garib municipal area is 65 869; of which 6 679 resides in the Kenhardt area. A total of 16 703 households resides in the Kai !Garib Local Municipality, with 35% of households being female headed. The total female population dominates the total male population by 8.5% (Kai !Garib Draft IDP, 2014). Population of the working age demographic (15 to 65 years) makes-up 70.5% of the population, whereas those below 15 years of age comprises 24.4% of the population; the + 65 years age group makes-up 5.1% of the population. Accordingly, the dependency ratio (the economically active population vs the non-economically active population) is 41.9% (Stats SA, 2011).

The official unemployment rate of 10% has decreased by 6.1% since the 2011 Census measurement of 16.1%. The economic sector is dominated by agriculture which provides 51.8% of jobs, followed by the Community and Government Services sector with 15.9% (Figure 13.3).

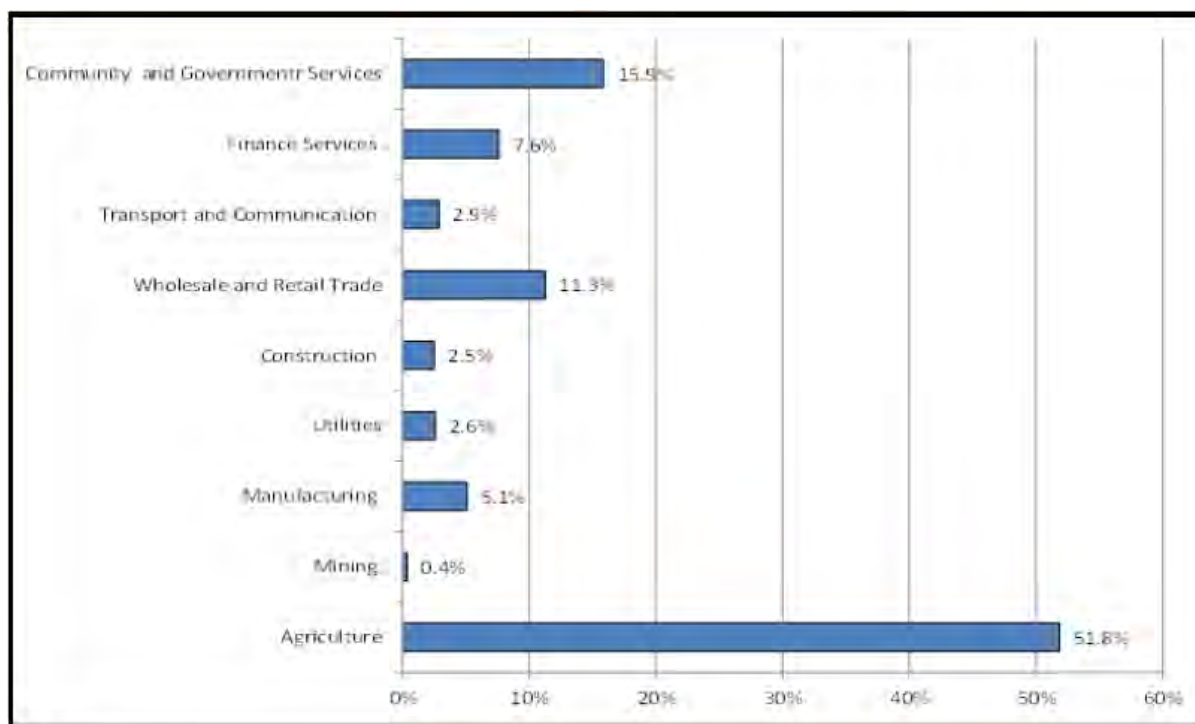


Figure 13.3: Most active economic sectors within the Kai !Garib Local Municipality  
(Source Kai !Garib Draft IDP, 2014)

The major social challenges faced in the Kai !Garib Municipal area include (Kai !Garib Draft IDP, 2014):

- Increases in drug abuse;
- Increases in children under 10 years abusing alcohol;
- Increases in teenage pregnancies;
- Increased crime linked to alcohol and drug abuse;
- High youth unemployment rates; and
- Increased prevalence of HIV & AIDS.

### 13.3.1.2 Fieldwork

Clearly, the above mentioned figures and findings relate to the larger municipal area and subsequently provide limited detailed information regarding the actual study area (i.e. Kenhardt and surrounding areas). Furthermore, a dramatic difference in landscape character and environmental features occurs throughout the Kai !Garib municipal area that are due to the availability of irrigation water along the areas immediately adjacent to the Orange River. For example, due to the higher productivity of areas under irrigation, the total employment opportunities in the municipal area (especially in the agricultural and support services sector) tend to be limited to the banks of the Orange River. It is therefore safe to assume that Kenhardt, being located approximately 70 km away from the Orange River, has a different profile in terms of employment figures, as well as the various socio-economic impacts resulting from gainful employment. Consequently, it

was deemed necessary to supplement the limited secondary data with a site visit to Kenhardt and the surrounding area to try and obtain useful data relating to socio-economic conditions.

Informants<sup>2</sup> in Kenhardt indicated that levels of unemployment in the town are particularly high. All informants interviewed indicated that the vast majority of the economically active population is dependent on some form of government subsidy (reported to be approximately R 1300 per person per month). These statements appear to be reliable given the very limited amount of businesses operating within Kenhardt. Businesses generally consist of liquor stores, restaurants and accommodation (Bed and Breakfast), with only one observed clothing store (PEP) and one general dealer (KLL). Employment figures for these businesses appear to range from a minimum of one to a maximum of four employees. Agriculture in the Kenhardt area is dominated by sheep farming which requires particularly low levels of labour (approximately 2-4 labours per farm) (R. Grobbelaar, personal communication, 31 July 2014), with limited seasonal increases in labour requirements during the shearing season. Larger employers in Kenhardt include the local high school, the Kai !Garib municipal offices, the Department of Social Development satellite office and the local police station.

Subsequently, the local labour market appears to offer very limited absorption of the economically active component (i.e. approximately 4675 employment opportunities, based on a 70.5% working age demographic for the Kai !Garib municipal area) of the 6679 inhabitants of the Kenhardt area.

Participant observation further supports the claim of high unemployment. Groups of young men (approximately 16 to 30 years of age) were observed loitering on various street corners during the normal working hours of both days of the site visit (a Wednesday and Thursday during the weekday). Furthermore, public infrastructure (public telephones, the public swimming pool and benches) were vandalised to such an extent that further use of these facilities is impossible. Acts of social disorder, such as loitering and vandalism, are regularly associated with poverty and elevated levels of distress within communities (Richardson & Shackleton, 2014). According to Fisher and Baron's (1982) Equity-Control Theory (ECT), acts of vandalism are often triggered by a perceived violation of norms related to fairness in terms of social and environmental arrangements. From this perspective, acts of vandalism can be understood as an attempt to reduce inequality.

Ceccato and Haining (2005) report that vandalism is particularly obvious in areas with low social integration and organisation; whereas Nowak *et. al.* (1990) reports higher levels of vandalism in areas with high unemployment rates and low private property ownership. A possible alternative interpretation of social disorder could be the "Broken Windows" theory put forward by Wilson and Keeling (1982). According to this theory, the presence of vandalism (or social disorder), however minor, creates a condition in which further vandalism is sanctioned; thereby increasing its frequency. However, acts of vandalism in Kenhardt were perpetrated in the formal, well maintained precinct of the town, as well as in the informal, poorly maintained precinct. This suggests that the "Broken Windows" theory does not apply to the observed social disorder in Kenhardt.

Informants further indicated that teenage pregnancies and drug abuse were major social issues in Kenhardt, and that the prevalence of these issues is increasing. This claim is validated by secondary data contained in the Kai !Garib Draft IDP (2014), which lists teenage pregnancy and drug abuse as major social challenges within the larger municipal area. Both these issues elevate the local dependency ratio, thereby placing already stressed livelihood strategies under even more strain.

Teenage pregnancy may be positively related to elevated levels of poverty, associated idleness and inappropriate forms of recreation (Were, 2007). Recreational opportunities in Kenhardt are extremely limited. A public rugby field and an oval racing track just outside of town are the only public recreational facilities offered. Informants identified an informal nightclub on the north-eastern outskirts of Kenhardt, which is associated (according to informants) with alcohol abuse and other forms of inappropriate recreation. Informants further confirmed that no internet cafes or public internet facilities are available in Kenhardt, which contributes to the overall lack of recreation/entertainment opportunities. Poverty and limited recreation opportunities may be contributing factors to the high teenage pregnancy rate. However, poor sex education, limited understanding of and access to modern contraception and lack of parental guidance are likely exacerbating factors.

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<sup>2</sup> Sociological research ethics dictates that the identity of informants (i.e. those being interviewed) should be protected if *any* possibility of physical, mental, emotional or legal harm exists. Accordingly, the identities of informants are not disclosed in this study.

With regards to teenage pregnancy; interviewed parents communicated disappointment and indignation, rather than concern about the practical implications of teenage pregnancy. This suggests a violation of existing cultural norms. It is therefore assumed that further escalation of teenage pregnancies (and/or teenage sexual activity) would continue to disrupt the Kenhardt community not only in terms of livelihoods, but also in terms of family relations. The relative lack of employment in and around Kenhardt is suggestive of a community heavily reliant on kinship and reciprocity for its economic survival. Accordingly, further deterioration of kinship ties as a result of cultural taboos might jeopardize the already precarious livelihood strategies of young mothers and their children.

A study of Kenhardt's urban form is revealing. The town displays typical apartheid planning structure, with a distinct poorer urban node (previously a coloured township) to the north and a wealthier urban node (previously white urban node) to the south. A clear buffer zone (*cordon sanitaire*) separates the two areas (Figure 13.4). The poorer urban node to the north is characterised by small ERF sizes, erratic street patterns, a significant informal housing component and no business nodes.

Conversely, the wealthier urban node to the south is characterised by larger ERF sizes, a clear grid patterned road infrastructure, a complete absence of informal structures and a business node in the shape of a ribbon development along the R 27. Furthermore, the secondary school, municipal offices, and local clinic are all located within the wealthier southern node. During fieldwork, it was also observed that informal traders are located throughout the poorer northern node, but are virtually absent from the wealthier southern node. Informants complained that informal shop owners and traders are generally foreign nationals and are not seen as 'members' of the community. This outsider versus insider experience, coupled with a dependency of the local community on the services offered by outsiders appears to generate feelings of distrust and vulnerability. A secondary issue might also be the potential "leakage" of investment from the local economy due to foreign nationals not reinvesting in Kenhardt, but rather evacuating their funds to friends and family abroad or residing elsewhere. This existing outsider versus insider phenomenon suggests that the local community could be sensitive to the influx of job seekers and other forms of in-migration into Kenhardt.

Interestingly, the poorer northern node is expanding, while the wealthier southern node remains unchanged. Figure 13.5 indicates the expansion of the northern urban node through satellite imagery from 2005 and 2013, respectively. The yellow polygons indicate new informal residential units and the orange polygons indicate densification of informal units. These images show a potentially significant residential growth in the poorer community of Kenhardt.

Figure 13.6 indicates the wealthier southern node in 2005 and 2013, respectively. No discernable growth in the formal residential housing stock can be observed. Fieldwork also revealed that some houses in the southern node are for sale. This suggests that the southern urban node may be shrinking.

The growth of informal housing in Kenhardt is difficult to explain as the town does not appear to offer any significant social or economic pull factors. Recent declines in local rainfall and subsequent knock-on effects on agriculture are unlikely to fully account for increased urbanisation, as sheep farming does not generate significant employment opportunities. It therefore seems reasonable to assume that the increase can, to a large degree, be attributed to natural growth. This would suggest that wealthier residents (residing in the south) have the ability to 'escape' from the area, should they wish to; whereas the poorer residents (residing in the north) are 'trapped' in the area, thereby causing a natural growth in population numbers. The general trend of declining birth rates among white South Africans might also be a contributing factor. This increase in population is bound to add additional strain on the livelihoods of the poor community.

The fastest growing industry in Kenhardt appears to be Bed and Breakfast (B&B) establishments. Observations during fieldwork indicated that B&Bs were the single largest industry (in terms of number of establishments, not turnover) in the town. This observation is supported by local informants who suggested that the growth in the industry is attributable to the recent increases in energy-related projects (solar energy and Eskom transmission lines) proposed in the area.

Informants further reported frustration regarding job creation expectations created by other developments in the area. Apparently, other energy-related developments in the Kenhardt area, for which EIA processes are currently underway, communicated to the community that employment opportunities will be offered to local residents. When residents established that these jobs would only materialise in 5 to 10 years' time; considerable frustration and anger was (and is) experienced. According to Barbour (2007), the expectation of an occurrence (in social terms) should be considered as an impact resulting from a planned development. Consequently, the Kenhardt community is likely to be particularly sensitive to similar expectation which could be created by the proposed development.

### ***13.3.2 Vulnerability Context***

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According to the Department for International Development (DFID) (1999), a community's vulnerability context is a product of *trends*, *shocks* and *seasonality* within the context of the community being researched. Informants indicated that very little seasonal variation is experienced in income levels and livelihood strategies; therefore seasonality is of negligible interest in the vulnerability context of the Kenhardt community. Shocks, interpreted as an impact of sudden occurrence which directly destroy assets or livelihood strategies, also appears to have a limited role in the Kenhardt community. Trends do however seem to have a significant impact on those living in the area. Of particular importance are the increasing trends in unemployment and social deviance (teenage pregnancies and drug abuse), as well as the decreasing trend in the relative contribution of agriculture to job creation in Kenhardt.



Figure 13.4: Urban form of Kenhardt, with the (i) red polygon indicating the historical coloured township, (ii) the yellow polygon indicating the historical white urban node; and (iii) the green arrow indicating the cordon sanitaire

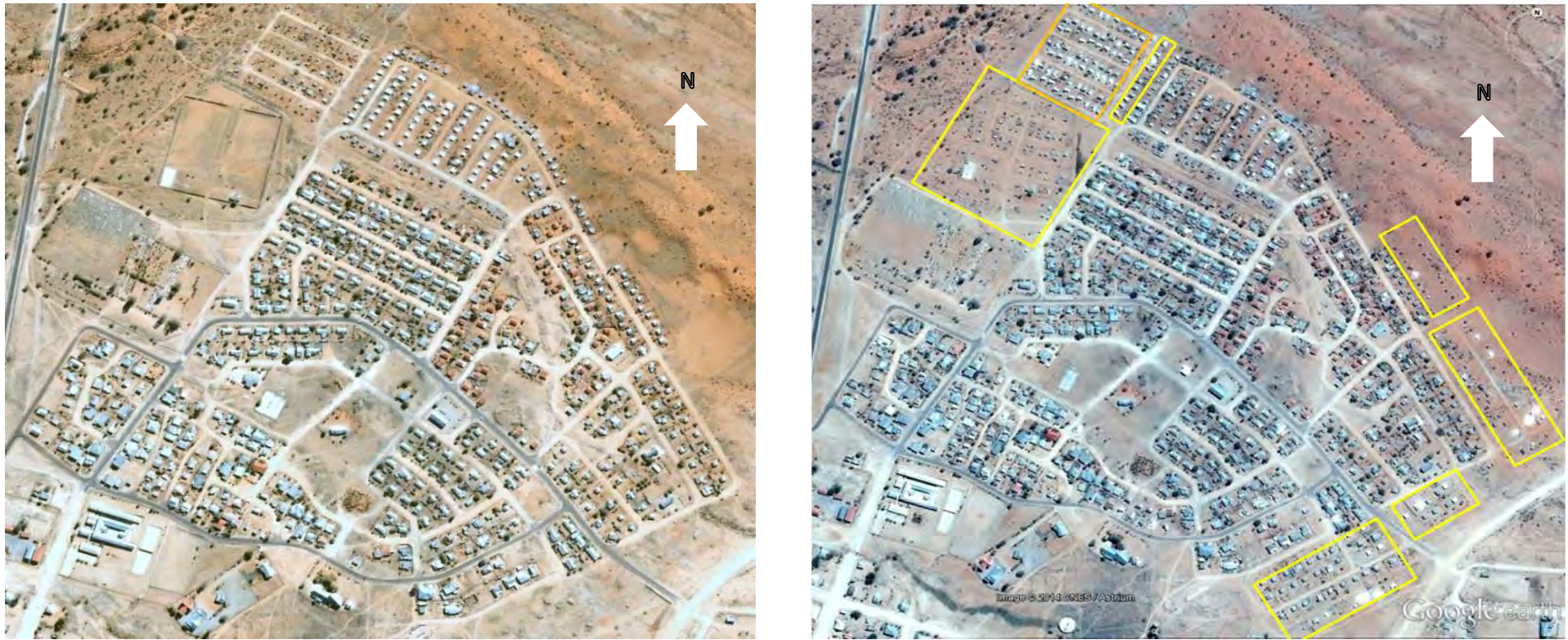


Figure 13.5: Satellite image of the poorer (northern) urban node of Kenhardt in 2005 on the left, and a satellite image of the same node in 2013 on the right; with (i) the yellow polygons indicating urban expansion; and (ii) the orange polygon indicating densification.



Figure 13.6: Satellite image of the wealthier (southern) urban node of Kenhardt in 2005 on the left, and satellite image of the same node of Kenhardt in 2013 on the right; indicating no discernible expansion or densification



People’s access to productive assets (Human-, Social-, Natural-, Physical- and Financial capital) lie at the heart of their vulnerability context. Table 13.2 provides a brief explanation of the various forms of capital. Generally, the greater access people have to assets, the more livelihood strategies they have available and the easier it is for them to ‘switch’ from one strategy to the next. An effective way to assess access to assets is by using an Asset Pentagon (Figure 13.7).

The Asset Pentagon schematically represents variations in people’s access to assets. The centre of the pentagon represents zero access to assets. Consequently, a resilient<sup>3</sup> community will have a pentagon characterised by a relative balance between all 5 forms of capital. Conversely, a pentagon wherein one or two capital classes dominate could be indicative of a vulnerable community.

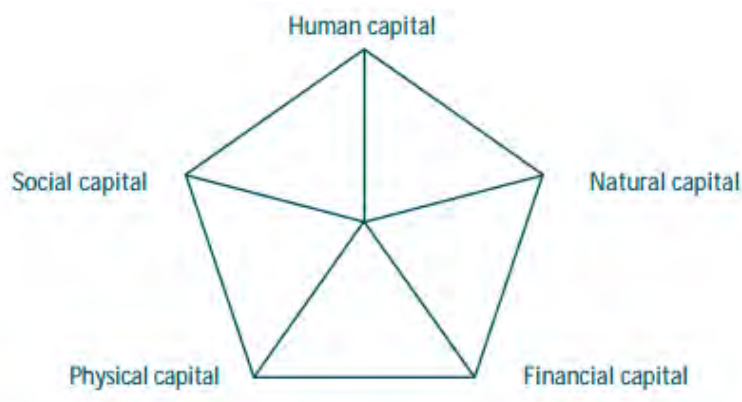


Figure 13.7: Example of an Asset Pentagon with 100% access to all 5 forms of capital

Table 13.2: Brief definition of the 5 capital forms

Capital class	Description
Human capital	Human capital signifies the ability to perform labour, skills-set, knowledge and health that empowers people to pursue different livelihood strategies and attain their livelihood objectives.
Social capital	These are the social resources available to people in the pursuit of their livelihood strategies. These include: networks and social connectedness, membership of formalised groups and/or relationships of trust reciprocity and exchange.
Natural capital	Natural capital refers to the natural resource stocks, flows and services which are beneficial for livelihoods. There are numerous natural resources that make up natural capital, from intangible services such as the atmosphere, to divisible assets used directly for production.
Physical capital	Physical capital is the basic infrastructure and producer goods, necessary for people to pursue their relevant livelihood strategies. Such capital includes; inexpensive transport, affordable energy, secure shelter, adequate and safe potable water supply, and access to information.
Financial capital	Financial capital simply refers to the financial resources people use to achieve their livelihood strategies. Generally financial capital consists of available stocks (savings, livestock, jewellery, etc.) or, regular inflows (pensions, remittances, government subsidies, etc.).

Source: DFID (1999)

<sup>3</sup> The use of the term ‘resilient’ in this context should not be confused with ‘resilience theory’ (i.e. the ability of a system to accommodate change while still maintaining its core function structure and identity), but is here merely used to refer to adaptability and robustness.

The Kenhardt community appears to have acceptable access to both Human and Social capital. Informants reported that community members are generally in very good health and that most young adults have a secondary education. The high level of unemployment and the increasing number of teenage pregnancies present in Kennard requires robust social capital to prevent affected community members from falling into abject poverty. The relative success of the local community in preventing this, suggests that access to Social capital is satisfactory.

Access to Physical capital in Kenhardt seems average to low. The community has access to bulk services (water, electricity and waste collection), and a range of housing types ranging from formal to informal. Transport is not a significant factor within Kenhardt, due to its very small size; however, access to other urban areas (e.g. Keimoes, Kakemas and Upington) is limited to private transport. Informants also indicated that access to information and awareness of basic rights and public services are very low. Natural capital in Kenhardt is limited due to the harsh climatic conditions and general lack of irrigation water. As a result, community members appear to have limited access to productive natural assets. Finally, access to financial capital is very limited as the bulk of the vulnerable section of the Kenhardt community seems to be dependent on government subsidies and pensions.

Represented as an Asset Pentagon; the Kenhardt community's access to assets is indicated in Figure 13.8.

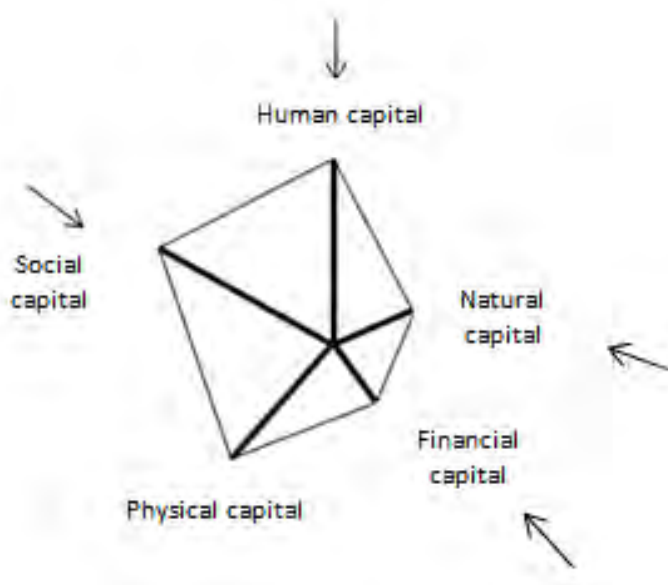


Figure 13.8: Kenhardt Asset Pentagon

The Kenhardt community appears to be vulnerable in terms of its livelihood strategies due to a relative imbalance in access to assets classes, with Human and Social capital dominating the pentagon. The arrows (Figure 13.8) indicate downward pressure (or trends) on the various asset classes. Climate change is expected to continue to deteriorate Natural capital; while high levels of unemployment coupled with a growth in population size is likely to weaken Human, Social and Financial capital. Future development in the Kenhardt area needs to take cognisance of the community's current vulnerability context. In this context, the proposed solar energy development could offer much need relief in terms of Human, Social and Financial capital through the creation of employment (even short-term employment) and local spending. Accordingly, the receiving social environment is not deemed to be sensitive (in a negative sense) to the proposed development, its structures and associated infrastructure.

### 13.3.3 Systems Analysis

A systemic analysis of the SES of Kenhardt is informed by the discipline of Systems thinking. According to Systems thinking, development (as proposed by Scatec) is introduced in complex systems of human-nature interaction. Such systems are open, functions in non-linear ways, are characterised by feedback loops and display emergence. Emergence is simply the creation of system characteristics which are not present in the

individual variables constituting the system. Put differently, the sum of the individual parts does not necessarily equal the whole.

Systems thinking has been applied in this SIA for its ability to engage with complexity and uncertainty; something conventional reductionist and empirical research methods fails to do effectively. Of particular interest are the unintended consequences or causal relationships of the proposed development (indirect impacts), as well as the cumulative impacts likely to result from it. Such impacts are systemic consequences and are therefore complex in nature.

The CLD presented in Figure 13.9 is a simplified representation of the SES of which Kenhardt is part. The CLD contains system variables (i.e. goods, services and stocks of capital) displayed as boxes; linking relationships indicating the causal flow of goods, services and/or impacts which are displayed as arrows; and the polarity of causal flows (i.e. is the causal flow reinforcing or diminishing a subsequent variable), indicated by a "+" or "-" at the head of each arrow (reinforcing relationships are depicted in blue and diminishing relationships are depicted in red). Linking relationships represented by dashed arrows indicate weak causality, while solid arrows show strong causality (the thicker the arrow, the stronger the causal relationship). Together, these attributes of the CLD enables a more holistic understanding of causality and the relative impact of causal relationships.

Figure 13.9 consists of 27 causal relationships. However, of greatest importance to this study are relationships 9, 11 and 12. Relationship 9 indicates a strong causal relation between "Government subsidies" and "Livelihoods", wherein subsidies are heavily contributing to the livelihoods of the local community. Relationship 11 explains a strong causal link between "Energy sector developments" in the study area with "Livelihoods". Accordingly, new energy-related developments in the area are contributing significantly to livelihoods. Relationship 12 indicates that "Sheep farming" has a weak causal link with "Livelihoods", as it has a limited contribution to local livelihood strategies.

Both "Government subsidies" and "Energy sector developments" are variables which are sustained by exogenous capital flows (i.e. it is *not* generated and maintained by the Kenhardt SES); however, both contribute significantly to local livelihood strategies. "Sheep farming" is endogenous to the SES (i.e. it *is* generated and maintained by the Kenhardt SES), but it is suggested that it only contributes weakly to local livelihoods. This suggests that the Kenhardt SES is vulnerable to exogenous shocks. Any proposed developments within the Kenhardt SES should therefore aim to reduce this vulnerability by growing the number of alternative endogenous livelihood strategies. The ability to choose from a variety of income streams (redundancy<sup>4</sup>) enables adaptive capacity within the system.

A second observation relates to relationships 21 and 22. Relationship 21 indicates a diminishing causal relationship between "Energy sector developments" and "Biodiversity". Similarly, relationship 22 explains a diminishing causal link between "Energy sector developments" and "Tourism". These relationships demonstrate that energy related developments in the study area will ultimately reduce biodiversity and could also negatively impact on tourism. Clearly, this could impact negatively on livelihood strategies related to biodiversity and tourism. However, the significant vulnerability of the SES to exogenous shocks and the subsequent need to transform exogenous capital flows into endogenous adaptive capacity; suggests that *limited* loss of biodiversity, tourism and subsequent income is acceptable in order to achieve greater *systemic* resilience.

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<sup>4</sup> Redundancy is used here in a systems perspective, and aims to indicate that the SES under consideration does not necessarily function at equilibrium levels (i.e. a balance between supply and demand of goods, services and functions). Accordingly, an oversupply of income generating options, though not resulting in equilibrium, does cause greater adaptive capacity by allowing people to change from one option to the next as needed.

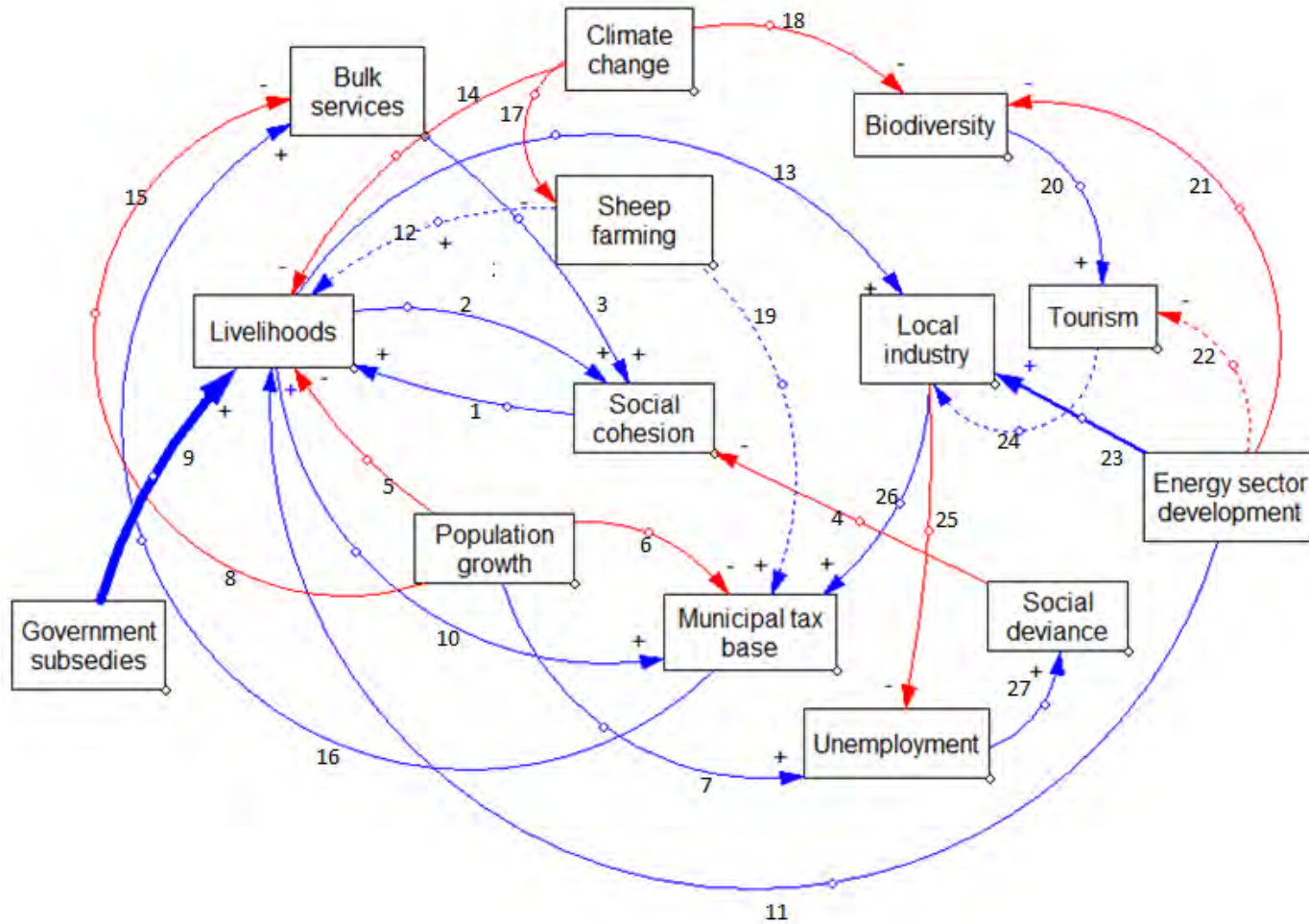


Figure 13.9: Causal Loop Diagram (CLD) of the Kenhardt Socio-ecological System (SES)

## 13.4 IDENTIFICATION OF KEY ISSUES AND ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MANAGEMENT ACTIONS

This section of the report discusses the expected social impacts resulting from the proposed Solar PV and transmission line projects near Kenhardt. These impacts are discussed in terms of its construction-, operational- and/or decommissioning phase impacts. Impacts are determined based on the assessment methodology discussed in Chapter 4 of the EIA Report.

All proposed projects will result in the same anticipated impacts. This is due to the remote location of the actual project footprint and the subsequent absence of substantial concentrations of people (i.e. communities) wherein socio-economic impacts could manifest. As previously noted, Kenhardt is the closest settlement; accordingly, most of the significant socio-economic impacts are expected to be experienced here.

### 13.4.1 Key issues identified during the Project Initiation and Scoping Phase

By far the most significant driver of change likely to result from the proposed project is the influx of people into the study area, and the corresponding increase in spending and employment. Such an influx of “strangers” into the receiving environment is likely to cause a disturbance in the order of the existing social structure and might also lead to increases in social deviance. Increased spending and employment (even though such employment might be short-term) generates positive impacts through the multiplier effect and by providing much needed financial relief in the area. However, it also creates significant, and often unrealistic, expectations regarding potential employment. The specific influence of anticipated impacts on woman and children will be an important consideration in the SIA.

During the Project Initiation Phase in July 2015, the Background Information Document was made available to I&APs for a 30-day comment period. The Scoping Report was released for a 30-day comment period which extended from 25 September 2015 to 27 October 2015. The Addendum to the Scoping Report was also released for a 30-day comment period, extending from 6 October 2015 to 5 November 2015. The EIA Report was also released for a 30-day comment period, extending from 3 March 2016 to 5 April 2016. To date, no specific comments have been raised by I&APs that relate to social impacts. However, the following comment relating to the change in land use was raised by the Northern Cape Department of Environment and Nature Conservation on 5 November 2015:

- The EIA should indicate how the Social-Agricultural-Conservation dynamic will change in terms of land use. Will the properties on which the developments occur still be actively farmed or will they become dormant or effectively be converted into conservation land with minimal land use management. Will problem animal control still occur as in standard practice in small livestock farming? How will fencing infrastructure change around the properties which has a bearing on problem animal control, but also on wildlife movement and landscape connectivity.

The above comment asks multiple questions, some of which fall beyond the scope of the SIA (e.g. issues related to conservation management, land-use management, fencing and problem animal control). However, the issue of whether the farms on which the developments are proposed will still be actively farmed once the developments are operational appears to have at least some bearing on social impacts likely to result from the project.

Given the limited footprint of the proposed developments in relation to the overall size of the relevant properties, and given the large surface area but low density nature of sheep farming; the likelihood of property owners abandoning their commercial farming operations as a result of the presence of the proposed solar PV plants on their properties appears unlikely. This is due to the fact that sheep farming will remain commercially viable and profitable on the remaining extents of the affected properties and it would therefore be economically irrational to abandon such a profitable income generating activity (in which the property owners have invested money over extended periods of time) simply because an additional income generating activity (i.e. solar PV plants) is present on their properties. Furthermore, to the best of the author's knowledge, other South African farms on which commercial-scale solar PV plants have been constructed are still being actively farmed. This would suggest that the abandonment of farming in favour of limited passive income from solar PV plants is a conceivable, but relatively unlikely impact to result from the proposed projects.

### 13.4.2 Identification of Potential Impacts

Based on the status quo conditions of the study area and the nature of the proposed development, the following social impacts are identified:

- Influx of jobseekers;
- Increases in social deviance;
- Increases in incidence of HIV/AIDS infections;
- Expectations regarding jobs;
- Local spending;
- Local employment;
- Human development resulting from the proposed Economic Development Plan; and
- Job losses at the end of the project life-cycle.

The above mentioned impacts are discussed and assessed according to its relevant construction phase and operational phase (Section 13.4.3) and decommissioning phase (Section 13.4.4) impacts, as well as expected residual (Section 13.4.5) and cumulative impacts (Section 13.4.6) below.

### 13.4.3 Construction and Operational Phase Impacts

Social impact discussed in this section is expected to occur in the construction phase and persist into the operational phase of the project.

#### 13.4.3.1 Potential Impact 1: Influx of job seekers

Construction of the proposed projects is likely to attract job seekers to the town of Kenhardt. Such an influx generally causes a disturbance in the existing social order as prevailing leadership, kinship and social control mechanisms are challenged by new and alternative values, beliefs and practices. Disturbance of the existing social order commonly results in the deterioration of social capital and general disorientation of affected communities. Furthermore, in-migration is likely to place additional strain on formal housing and bulk services. This can lead to a growth in informal housing and a deterioration of hygiene conditions in informal areas. It should however be noted that influx of job seekers is considered as a social disruptor and not an impact in itself. Accordingly, disturbance in the existing social order might result from such an influx, or it might not. The influx of job seekers, in the interest of the precautionary principle, is treated as an impact for the purposes of this impact assessment process.

The potential impact is expected to be *long to medium term* in duration and *local in extent*. Influx of job seekers into the study area is therefore rated as having a *moderate significance (negative)* rating before mitigation. Should the mitigation measures discussed below be implemented, this significance rating will drop to *low*.

#### **Mitigation**

The proponent (Scatec) must develop a Workforce Recruitment Policy. This policy must clearly state the criteria used to allocate jobs. It is strongly recommended that the Workforce Recruitment Policy should reserve employment, where practically possible, for local residents (particularly for vulnerable groups such as women and previously disadvantaged individuals). This requirement should be contractually binding. Local in this regard is defined as firstly, the residents of Kenhardt (given its close proximity); followed by the residents of the other urban nodes in the immediate area (i.e. Grobelaarshoop, Marydale and Keimoes). Position should only be filled with outsiders should the requisite skills not be available in the study area.

The proponent must also clearly define who is considered to be local (Kenhardt) residents; known as the Project Affected People (PAP). This should ideally be conducted in collaboration with the local community and local government structures. The purpose of demarcating the PAP is to develop a criterion of characteristics considered to identify a given job seeker as a PAP. Once this criterion is known; all subsequent job seekers can be screened against it in order to determine whether they qualify for employment. The criterion for a PAP should be incorporated into the Workforce Recruitment Policy.

It is also suggested that the proponent assembles a database of local residents and their relevant skills and experience (in collaboration with local structures such as the NGO Marcyrox: [www.marcyrox.org](http://www.marcyrox.org)) well in advance of the construction phase of the project. This will assist in the early identification of a suitable workforce. Should a similar database already be available in the study area; it can be used by the proponent

to achieve the same purpose. However, such an existing database must be regarded as legitimate by the local community in order for it to be used as a substitute by the proponent.

Finally, the proponent must develop a Stakeholder Engagement Plan which sets-out the communication strategy to be followed with regards to the proposed projects. This should be done well in advance of the construction phase of the project. The intention of the plan should be to ensure that all project related information (including those related employment) is communicated: (i) accurately; (ii) timeously; (iii) to the appropriate constituency; (iv) in an appropriate format; and is aimed towards fostering realistic expectations.

#### **13.4.3.2 Potential Impact 2: Increases in social deviance**

In-migration into the study area, particularly Kenhardt, could lead to an increase the incidence of teenage pregnancies, drug abuse, prostitution and other socially deviant behaviour. As discussed above, such increases are associated with the social disturbance caused by in-migration; however, it is also related to a growth in alternative livelihood strategies (e.g. prostitution) and conflict regarding limited employment opportunities. Increase in socially deviant behaviour could deteriorate both Social and Human capital through the violation of cultural norms and values (Social capital), as well as through the spread of Sexually Transmitted Diseases (STDs) (Human capital).

This impact is expected to be **long term to medium term** in duration and **local** in extent. Increases in social deviance within the study area are therefore rated as having a **moderate significance (negative)** rating before mitigation which drops **to low significance** after mitigation. Increases in social deviance are extremely difficult to control and often lies outside the exclusive control of the proponent as it is driven by complex socio-ecological conditions related to poverty and feelings of hopelessness.

##### **Mitigation**

Mitigation against increases in social deviance is largely indirect in nature. In other words, the overall success of the project and the ability and commitment of the proponent to involve the local community in the benefits of the project is of much greater importance than direct interventions. This is due to the need to change the prevailing conditions of unemployment, poverty and disempowerment, as opposed to command and control mechanisms aimed at simple regulation of activities.

The mitigation measures proposed for Potential Impact 1 must also be used to mitigate impacts resulting from increases in social deviance, as Potential Impact 1 is a precursor to Potential Impact 2. Furthermore, the proponent should be contractually bound to deliver on its Economic Development Plan for the area once the proposed projects are successfully awarded preferred bidder status.

Though not an official mitigation measure; it is proposed that the proponent seeks to actively engage with Marcyrox NPC to investigate possible synergies in community development within Kenhardt.

#### **13.4.3.3 Potential Impact 3: Expectations regarding jobs**

Informants in the Kenhardt area indicated a significant level of frustration with other potential developments in the area due to expectations related to possible employment. Unrealised expectations in a poor community could lead to feelings of desperation, disempowerment, anger and a general distrust in developers. In isolated cases, such frustration of expectations might lead to malicious damage of project property and intimidation of employees.

The impact is expected to be **short term** in duration and **local in extent**. Influx of job seekers into the study area is therefore rated as having a **low (negative)** rating before mitigation. Should the mitigation measures discussed below be implemented, this significance rating will drop to **very low**.

##### **Mitigation**

It should be recognised that expectations of employment are probably unavoidable in totality. However, proper implementation of the Stakeholder Engagement Plan proposed for Potential Impact 1 should lead to realistic expectation of employment for most of the local community. It is important to note that communication should not only elaborate on what kind of employment is on offer and to whom it is offered; but also the worst-case timeframe for such employment to commence. Forewarned community members are better equipped to adjust livelihood strategies to the variability of the project timeframe.

#### **13.4.3.4 Potential Impact 4: Local Spending**

Procurement of goods and services in the Kenhardt area during the construction and operational phases of the proposed projects is likely to hold socio-economic benefits as a result of the multiplier effect (i.e. the

increase in final income resulting from a new injection of spending). Such benefits are already evident in Kenhardt as a result of other energy-related developments in the area. As indicated earlier, B&B establishments appear to dominate local industry in Kenhardt as a result of increased numbers of consultants and project staff frequenting the area. It is therefore reasonable to assume that the proposed project will result in similar positive impacts.

A secondary positive impact might result from entrepreneurial development in the project area, whereby niche and/or supporting goods and service industries are developed in response to the demand created for such services in the area. It is important to note the unintended consequence related to this positive impact. Clearly, the economic pull factors created by demand could lead to the in-migration of outsiders.

The impact is expected to be *medium to long term* in duration and *local in extent*. Local spending in the study area is therefore rated as having a *low significance (positive)* rating.

#### **Enhancement**

The proponent must procure goods and services, as far as practically possible, from within the project area (with a focus on Kenhardt). Only if required goods and services are not available in the study area should the proponent seek to obtain it elsewhere. It is also suggested that regularly required goods and services (e.g. food and accommodation) be obtained from as large a selection of service providers as possible to ensure distribution of project benefits.

#### **13.4.3.5 Potential Impact 5: Local Employment**

The creation of short term employment for low skilled community members in the study area, though not ideal, does provide much needed temporary financial relief, while also contributing to a sense of empowerment and dignity. The limited number of long term employment offered by the proponent provides long term (small scale) socio-economic benefit to the affected community and may also contribute to the multiplier effect, as more income generally results in greater spending.

Local employment not only improves access to Financial capital, but also boosts Human and Social capital as skills sets and experience increases and reciprocal and kinship relationships are invigorated through the ability to give and support. Importantly, on an individual level, employment has the ability to empower people. Such empowerment could lead individuals (and communities) to perceive themselves not as suffering entities, but as active, doing entities that has the ability and potential to change their environment in a positive way (Davids, Theron & Maphunye, 2005).

The impact is expected to be *long term* in duration and *local in extent*. Local employment is therefore rated as having a *moderate significance (positive)* rating.

#### **Enhancement**

As recommended for Potential Impact 1, the proponent must develop a Workforce Recruitment Policy. This policy should reserve employment, where practically possible, for local residents (particularly for vulnerable groups such as women and previously disadvantaged individuals). This requirement should be contractually binding on the proponent.

Though not an official mitigation measure; it is proposed that the proponent actively engages with the local government and other NGOs and CBOs to investigate how skills can be developed to enable short term workers to gain the necessary skills in pursuit of longer-term employment. Such employment does not necessarily have to be with Scatec.

#### **13.4.3.6 Impact 6: Human development via the proposed Economic Development Plan**

Scatec indicated that an Economic Development Plan will be developed, should the proposed project be successful (i.e. selected as a preferred bidder, not merely obtaining a positive Environmental Authorisation). The proposed Economic Development Plan aims to achieve the following broad objectives:

- Create a local community trust which has an equity share in the project life to benefit historically disadvantaged communities;
- Initiate a training strategy to facilitate employment from the local community; and
- Give preference to local suppliers of components for the construction of the facility.

It is recognised that this plan is still in its infancy and will be refined once the proposed project has reached maturity. However, it is clear that even the obtainment of the broad objectives alone will result in significant positive and negative impacts.



The positive impacts are self-evident and will relate to the creation of employment, local spending and human capacity development. However, the attainment of these positive impacts will create substantial social and economic pull factors which are likely to attract job seekers. Such job seekers will not only be attracted by the employment offered by Scatec, but also by the secondary growth and development which might result from the Economic Development Plan. Accordingly, negative socio-economic impacts resulting from in-migration are inherent to the positive impacts of the Economic Development Plan. Such negative impacts are however considered to be acceptable in light of the much needed development in the area. Furthermore, these negative impacts are largely unavoidable, especially through EIA-level (i.e. project-level) interventions; as it is caused by complex structural inequalities which needs to be addressed at a strategic policy level. Subsequently, no mitigation is proposed.

The impact is expected to be **long term** in duration and **local in extent**. Human development is therefore rated as having a **moderate significance (positive)** rating.

#### **Enhancement**

A systems thinking approach (discussed in Section 13.3.3) reveals that the SES of which the Kenhardt area is a part of, can be considered to be vulnerable. This vulnerability is attributed to, amongst others, the system's disproportional dependence on exogenous flows of capital for its continued existence. It is therefore imperative to build resilience within the SES to enable greater adaptive capacity. Such adaptive capacity could be created by growing the skills base of the local community. However, such skills development should not be limited to vocational training relevant to the solar energy industry, but should also be extended to address life skills and other relevant skills/competencies as might be required.

The Economic Development Plan, once fully developed, must be implemented. It is also proposed that the proponent should engage with local NGOs, CBOs and local government structures to identify and agree upon relevant skills and competencies required in the Kenhardt community. Such skills and competencies should then be included in the proponent's Economic Development Plan. The proponent must also align economic development and skills development initiatives with the Kai !Garib Local Municipality's IDP objectives.

### **13.4.4 Decommissioning Phase Impacts**

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Impacts identified in this section are expected to occur during the decommissioning phase of the proposed projects. Decommissioning of the proposed solar energy developments and transmission lines entails termination of most (if not all) local created employment opportunities.

#### **13.4.4.1 Impact 7: Job Losses**

It is expected that the proposed projects could be decommissioned after an operational lifespan of approximately 20 years. Decommissioning of the proposed development will result in job losses. Though unavoidable in projects of this nature, appropriate measures should be taken to plan for such retrenchments and to provide the affected community with alternatives where practical and appropriate. Secondary impacts might result from incorrect decommissioning of project infrastructure which might be used for inappropriate purposes. This in turn could result in health and safety impacts on the local community.

This impact is expected to be **long term** in duration and **local** in extent. Job losses resulting from decommissioning within the study area are therefore rated as having a **moderate significance (negative)** rating before mitigation and **low (negative)** with mitigation. This impact is however considered to be acceptable in light of the local need for employment and development.

#### **Mitigation**

The proponent must comply with relevant South African labour legislation when retrenching employees. Scatec should also consider appropriate succession training of locally employed staff earmarked for retrenchment during decommissioning. Such training could gradually equip workers to enter gainful employment in other locally viable sectors. Finally, all project infrastructures should be decommissioned appropriately and thoroughly to avoid misuse.

### **13.4.5 Residual Impacts**

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A number of potential negative socio-economic impacts resulting from the proposed projects are likely to persist regardless of proposed mitigation measures. Increases in social deviance are unlikely to be mitigated completely and a certain measure of social disruption and loss of social capital must be accepted as part of

the proposed developments. Secondly, an influx of job seekers will occur in spite of the mitigation proposed. In-migration is a double edged sword; as not all in-migration necessary leads to social disruption. Lastly, job losses once the project reached the end of its operational lifespan are unavoidable.

#### 13.4.6 Cumulative Impacts

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Socio-ecological cumulative impacts associated with the proposed projects, as with most cumulative impacts, are notoriously difficult to predict. Part of this challenge is due to the fact that a certain level of educated guesswork is required in order to construct a probable picture of the future as it relates to socio-economics in particular and the development in the area in general. Significant subjectivity in this regard should not be denied, nor should it be rejected. When faced with complex problems, like cumulative impacts, conventional reductionist and empirical processes tend to become less useful. It is therefore appropriate to employ subjective (but informed) reasoning as a pragmatic solution.

Development of more solar energy facilities and associated electrical infrastructure (such as transmission lines) in the study area is likely to negatively impact on biodiversity, farming and tourism. These impacts might further negatively affect local industries, and consequently diminish certain livelihood strategies. However, the relationship of biodiversity, tourism and farming to the majority of local livelihood strategies is weak (Section 13.3.3). As a result, cumulative impacts on biodiversity, tourism and farming in the study area appear to be acceptable.

Similarly, the incidence and severity of the in-migration of job seekers as well as increases in social deviance might increase as more solar energy facilities and associated electrical infrastructure (such as transmission lines) are developed in the study area. This is of importance as several other solar energy developments are being proposed in the Kenhardt area (e.g. the Mulilo Renewable Project Developments (PTY) Ltd Nieuwehoop Phase 1 and Phase 2 solar energy developments), as listed in Chapter 4 of the EIA Report. However, such increases are also associated with most other forms of economic and social development and should therefore be expected from any industrial scale developments in the study area.

Finally, the cumulative success of the proposed project and other projects offering significant socio-economic benefits are likely to present a major economic pull factor which might exacerbate in-migration into the study area as well as increases in social deviance. However, the cumulative socio-economic benefit offered by industrial scale development in the study area outweighs the negative impacts associated with economic growth. It should also be borne in mind that influx of job seekers does not necessarily equate in social deviance; i.e. influx of job seekers is a social disruptor which *could* result in social impacts. Given the relative balance between cumulative benefits and impacts, the significance rating ascribed to the cumulative impact of the proposed development is rated as is expected to be of *long term to medium term* in duration, *local* in extent and of *moderate significance* (negative) rating.

Table 13.3: Impact rating table

Aspect/ Impact pathway	Nature of potential impact/ risk	Status	Spatial Extent	Dura- tion	Conse- quence	Proba- bility	Reversi- bility of impact	Irreplace- ability of receiving environ- ment/ resource	Potential mitigation measures	Significance of impact/risk = consequence x probability		Ranking of impact/ risk	Confi- dence level
										Without mitigation /management	With mitigation /management (residual risk/impact)		
<b>CONSTRUCTION AND OPERATIONAL PHASE</b>													
Impact 1: Influx of job seekers into the Kenhardt area	Disruption of existing social structures	Negative	Local	Medium to Long- term	Substantial	Likely	Low	Moderate	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Plan</li> <li>Reserve employment, where practical, for local residents</li> <li>Clearly define and agree upon the PAP</li> <li>Develop a database of PAP and their relevant skills and experience</li> <li>Develop and implement a Stakeholder Engagement Plan</li> </ul>	Moderate	Low	4	Medium
Impact 2: Outsiders moves into the Kenhardt area	Increases in social deviance	Negative	Local	Medium- term	Substantial	Likely	Low	Moderate	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Plan</li> <li>Reserve employment, where practical, for local residents</li> <li>Clearly define and agree upon the PAP</li> <li>Develop a database of PAP and their relevant skills and experience</li> <li>Develop and implement a Stakeholder Engagement Plan</li> <li>Delivery on the Economic development Plan must be contractually binding on the proponent</li> </ul>	Moderate	Low	4	Medium

Aspect/ Impact pathway	Nature of potential impact/ risk	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility of impact	Irreplaceability of receiving environment/ resource	Potential mitigation measures	Significance of impact/risk = consequence x probability		Ranking of impact/ risk	Confidence level
										Without mitigation /management	With mitigation /management (residual risk/impact)		
Impact 3: Expectations created regarding possible employment	Increased frustration in the local community	Negative	Local	Short-term	Moderate	Likely	High	Moderate to low	<ul style="list-style-type: none"> <li>Develop and implement the Stakeholder Engagement Plan</li> </ul>	Low	Very low	5	Medium
Impact 4: Local spending	Socio-economic benefits as a result of the multiplier effect	Positive	Local	Medium to long-term	Moderate	Likely	n/a	n/a	<ul style="list-style-type: none"> <li>Procure goods and services, where practical, within the study area</li> <li>Obtain regularly required goods and services from as large a selection of local service providers as possible</li> </ul>	Low	Low	4	Medium
Impact 5: Local employment	Socio-economic benefits	Positive	Local	Long-term	Substantial	Very likely	n/a	n/a	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Policy</li> </ul>	Moderate	Moderate	3	High
Impact 6: Economic Development Plan	Contribute to local employment, local spending and human capacity development	Positive	Local	Long-term	Substantial	Very likely	n/a	n/a	<ul style="list-style-type: none"> <li>The proponent should engage with local NGOs, CBOs and local government structures to identify and agree upon relevant skills and competencies required in the Kenhardt community</li> <li>Such skills and competencies should then be included in the Economic Development Plan</li> <li>Where possible, align Economic development Plan with Local Municipality's IDP</li> </ul>	Moderate	Moderate	3	High

Aspect/ Impact pathway	Nature of potential impact/ risk	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility of impact	Irreplaceability of receiving environment/ resource	Potential mitigation measures	Significance of impact/risk = consequence x probability		Ranking of impact/ risk	Confidence level
										Without mitigation /management	With mitigation /management (residual risk/impact)		
<b>DECOMMISSIONING PHASE</b>													
Impact 7: Decommissioning of the proposed development	Job losses	Negative	Local	Long-term	Substantial	Very likely	Moderate	Moderate	<ul style="list-style-type: none"> <li>The proponent should comply with relevant South African labour legislation when retrenching employees</li> <li>Scatec should also implement appropriate succession training of locally employed staff earmarked for retrenchment during decommissioning</li> <li>All project infrastructures should be decommissioned appropriately and thoroughly to avoid misuse</li> </ul>	Moderate	Low	4	High
<b>CUMULATIVE IMPACTS</b>													
Exacerbated in-migration	Disruption of social structures	Negative	Local	Medium to long-term	Substantial	Likely	Low	Moderate	n/a	Moderate	Moderate	3	Medium

## 13.5 INPUT TO THE ENVIRONMENTAL MANAGEMENT PROGRAMME

The key mitigation measures proposed by the specialist, and which needs to be included in the EMPr are listed below.

### Construction and Operational Phase Mitigations:

- Develop and implement a Workforce Recruitment Plan;
- Reserve employment, where practical, for local residents;
- Clearly define and agree upon the PAP;
- Develop a database of PAP and their relevant skills and experience, or use an existing legitimate database of skills and expertise;
- Develop and implement a Stakeholder Engagement Plan;
- Delivery on the Economic Development Plan must be contractually binding on the proponent;
- Procure goods and services, where practical, within the study area;
- Obtain regularly required goods and services from as large a selection of local service providers as possible;
- The proponent should engage with local NGOs, CBOs and local government structures in the Kenhardt community to identify and agree upon relevant skills and competencies required;
- Such skills and competencies should then be included in the Economic Development Plan; and
- Where possible, align the Economic Development Plan with Local Municipality's IDP.

### Decommissioning Phase Mitigations

- The proponent should comply with relevant South African labour legislation when retrenching employees;
- Scatec should also consider appropriate succession training of locally employed staff earmarked for retrenchment during decommissioning; and
- All project infrastructures should be decommissioned appropriately and thoroughly to avoid misuse.

Monitoring recommendations for the above mitigation measures are included in the complete EMPr (included as Part B of the EIA Report).

## 13.6 CONCLUSION AND RECOMMENDATIONS

Very little socio-economic data is available for the study area. Census data and information from the Kai !Garib Local Municipality Draft IDP (2014) was obtained; however, these only deal with the larger municipal area and offer no site specific data on socio-economic conditions within and around the town of Kenhardt. Secondary data was subsequently augmented by a site visit. The site visit suggests that Kenhardt is an area of low employment, substantial poverty and limited livelihood strategies. Access to Human and Social capital appears to be acceptable, while access to Physical capital seems average. However, access to Natural and Financial capital is limited. This constrained access to capital limits the ability of vulnerable members of the community to adapt livelihood strategies should it be required; which results in vulnerability.

The main income source among vulnerable communities appears to be government subsidies, with limited income generated from employment within industries operating in Kenhardt. Social deviance (i.e. teenage pregnancy and drug abuse) is a major challenge in the area. Such deviance could threaten Social capital on which much of the existing livelihood strategies depend. Unemployment seems to be the single greatest challenge and problem driver in Kenhardt. Not only does unemployment deprive community members from income, it also constrains empowerment and the subsequent ability to perceive one's subjective social reality as meaningful. This more often than not exacerbates social deviance.

Vulnerable community members might be negatively impact by the proposed project through the influx of opportunistic job seekers. Such an influx might threaten existing social structures and could lead to increased pressure on bulk services and housing. Social deviance might also be increased as a result of the proposed project; as deviant behaviour (e.g. prostitution and teenage pregnancy) are likely to increase as more outsiders migrate into Kenhardt in search of employment. Frustrated expectations of employment, created by the proposed development, could also contribute feelings of distrust in the developer and, in isolated instances, damage to project property and potential intimidation of staff. Furthermore, the likelihood of job losses once the proposed project reaches its decommissioning phase is high.

Positive socio-economic impacts likely to result from the project are increased local spending, the creation of local employment opportunities and the proposed development of an Economic Development Plan. These impacts will benefit the community through the creation of income generation opportunities and human development through skills development and training.

No conditions are proposed for inclusion in the environmental authorisation.

It should be noted that from a social perspective, the applicant can select any 250 ha area within the larger surveyed area to build the PV plants and associated transmission lines, provided that the recommended mitigation measures are implemented as applicable. As explained earlier, this is due (i) to the relative homogenous nature of the surveyed area, and (ii) the relative remoteness of the surveyed area in relation to any major urban node or human settlement where social impacts are likely to manifest.

### 13.6.1 Overall Significance Rating and Specialist Opinion

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The overall significance rating of the *negative* socio-economic impacts associated with the proposed project is **low to moderate**; whereas the overall significance rating of the *positive* socio-economic impacts associated with the proposed development is **moderate**.

It should be accepted that the development of the proposed projects is likely result in some form of negative social impact to the local community. However, such a negative impact needs to be weighed against the potential benefit likely to result from the same development. Given the overall medium significance negative impact of the project, as compared to the overall medium-high significance positive impact of the project; it can be concluded that the prospective socio-economic benefits of the proposed project outweighs the socio-economic losses/impacts. In addition, the local vulnerability context strongly suggests that acceptable, though declining, levels of Social and Human capital is present within the Kenhardt community, which should assist with the mitigation of potential negative socio-economic impacts resulting from the proposed project. Conversely, very limited Financial capital is available in the local community, which in turn adds to the erosion of existing Social and Human capital. Accordingly, there appears to be a clear need to invest in the development of Financial capital within the Kenhardt community in order to restore some level of balance between asset classes which in turn should facilitate more options to local community members in terms of viable livelihood strategies.

From a social impact perspective, in light of the above argument, the specialist conducting this SIA is of the opinion that the proposed projects should be authorised by the competent authority.

## 13.7 REFERENCES

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## APPENDIX 13.A: EXTERNAL REVIEW REPORT

### EXTERNAL PEER REVIEW OF THIS REPORT:

<b>PEER REVIEWER</b>	<b>LIZA VAN DER MERWE</b>
<b>EXPERTISE</b>	<ul style="list-style-type: none"> <li>• Resettlement Planning and Implementation</li> <li>• Social Impact Assessment</li> <li>• Land Acquisition</li> <li>• Social Monitoring</li> </ul>
<b>YEARS OF EXPERIENCE</b>	<ul style="list-style-type: none"> <li>• 28 Years</li> </ul>
<b>ORGANISATION</b>	<ul style="list-style-type: none"> <li>• Independent Consultant</li> </ul>
<b>PROJECT</b>	Proposed 75 MW Solar Photovoltaic Facility and associated Transmission Lines
<b>LOCATION</b>	Remaining extent of Farm Onder Rugzeer 168, north-east of Kenhardt, Northern Cape Province
<b>PROPONENT</b>	Scatec Solar SA 163 (PTY) Ltd
<b>EAP</b>	CSIR
<b>REPORT AUTHOR AND AFFILIATION</b>	Rudolph du Toit (CSIR)
<b>REPORT DATE</b>	January 2016

3 February 2016

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## 1. BACKGROUND

I was appointed by the CSIR on 22 January 2016 to provide expert peer review of the above mentioned Social Impact Assessment (SIA) report. The peer review encompasses issues which include:

- Adequacy of the Social Impact Assessment (SIA);
- Validity of the report content; and
- Benchmarking against best practice.

## 2. DECLARATION

I **Liza van der Merwe**, declare that I am independent expert and that no conflict of interest exists in the performance of my review for the CSIR. In familiarising myself about the project, I have read the SIA report.



Liza van der Merwe  
31 January 2016

## 3. SCOPE OF REVIEW

The scope of the review of the SIA report includes a focus on:

- Objective and non-judgemental presentation of information;
- Scientific validity and robustness of SIA methods;
- Technical credibility of report content;
- Impacts to be disaggregated from the impacts of other projects and the background social environment;
- Clear and systematic logic in identification of cause and effect relationships in terms of impact identification, quantification and assigning significance;
- Appropriateness and soundness of proposed mitigation and/or enhancement actions;
- Logical and systematic presentation of information;
- Identification of information gaps;
- Probability of alternative interpretations of impacts; and
- SIA Report is consistent with best practice.

## 4. REVIEW CRITERIA

The review is structured to assess the report in a systematic manner in terms of content, methodology, information gathering, data analysis, assessment and conclusions. The review is divided into the following sections:

<b>1</b>	<b>Project and SIA Context:</b> <ul style="list-style-type: none"> <li>• Project description (project inputs and project activities)</li> <li>• Terms of reference</li> <li>• Issues of concern from Scoping Report</li> </ul>	<b>5</b>	<b>Mitigation and Enhancement:</b> <ul style="list-style-type: none"> <li>• Identification of mitigation options</li> <li>• Identification of enhancement opportunities</li> <li>• Identification of appropriate management actions</li> </ul>
<b>2</b>	<b>Methodology:</b> <ul style="list-style-type: none"> <li>• Data gathering</li> <li>• Method description</li> </ul>	<b>6</b>	<b>Information Gaps, Uncertainty and Assumptions:</b> <ul style="list-style-type: none"> <li>• Qualifying data sufficiency and reliability</li> </ul>

3	<b>Social Baseline:</b> <ul style="list-style-type: none"> <li>• community profile</li> <li>• Project affected people</li> <li>• Economic activities and livelihoods</li> <li>• Social systems</li> <li>• Use of natural resources</li> </ul>	7	<b>References and Data Sources:</b> <ul style="list-style-type: none"> <li>• Credible sources are listed</li> </ul>
4	<b>Impact Assessment and Significance:</b> <ul style="list-style-type: none"> <li>• Identification and understanding of social issues and linkages</li> <li>• social impact pathways</li> <li>• zones of influence</li> <li>• sensitive receptors</li> <li>• Linking social processes to social impacts</li> <li>• Differentiation of social impacts at the individual, household level and community level</li> <li>• Job Creation</li> <li>• Population change</li> <li>• Social networks</li> <li>• Displacement and relocation</li> <li>• Economic opportunities (Lease Payments)</li> <li>• Tourism</li> <li>• Quality of Life</li> <li>• Social Cohesion</li> <li>• Health, noise and visual</li> <li>• Safety and security</li> <li>• Use and access to natural resources</li> <li>• Sense of place</li> <li>• Land acquisition</li> </ul>	8	<b>Report Structure:</b> <ul style="list-style-type: none"> <li>• Organisation of information</li> <li>• Presentation of information</li> </ul>

## 5. PEER REVIEW SCORING SYSTEM

For each question posed under the Review Criteria, professional judgement is expressed in relation to the requirement for decision-making. Commentary is also provided to compare report content against best practice. The specific terminology used to express professional judgement is explained below:

- **Exceeds (E) requirements:** information exceeds requirements for decision-making. No changes to report section is required.
- **Meet (M) requirements:** the information meets requirements for decision-making. Minor edits/changes to report section is required.
- **Fail (F) to meet requirements:** the information does not meet the requirements for decision-making. Major edits/changes to report section is required.
- **Reject (R):** Information cannot be used to decision-making. Major gaps in logic and content. Poor report writing and analysis. Section needs to be re-written.

## 6. PEER REVIEW SUMMARY FINDINGS

	Professional Judgement (E/M/F/R)	Comments
1. Project and SIA Context	F	The project description needs to be improved as suggested in this review. Examples of how the project description can be improved are given in Section 10 of this Review Report.
2. Methodology	E	The choice of systems theory and the application of social methods are commended. However, it is not carried through in the assessment, interpretation and design of mitigation measures.

	Professional Judgement (E/M/F/R)	Comments
3. Social Baseline	M	Social baseline is adequate, but can be improved as suggested in this review.
4. Impact Assessment and Significance	M	In general, impact assessment and significance ratings are adequate. However, there are areas for improvement and suggestions in this regard are provided in Section 11 of this Review Report.
5. Mitigation and Enhancement	M	Mitigation and enhancement measures proposed are adequate.
6. Information Gaps, Uncertainty And Assumptions	E	The SIA report clearly indicates the assumptions and inherent uncertainties.
7. References and Data Sources	E	The data sources and references are more than adequate.
8. Report Structure	E	The report structure is good.

## 7. PEER REVIEW CONCLUSIONS

The conclusion of the peer review is that the report is:

**Good:** The report exceeds the level and quality of information that is required for decision-making. No edits required to the report.

**Adequate:** The report meets the level and quality of information that is required for decision-making. Relatively minor information gaps in the report; requiring minimal changes.

**Poor:** The report is of poor quality with flawed scientific logic. Major information gaps, requiring a complete report re-write. The report should be rejected.

## 8. PEER REVIEW RECOMMENDATIONS

In general the SIA report is adequate. Specific areas in the report have been identified in this peer review where the report can be improved.

## 9. DETAILED REVIEW QUESTIONS AND EVALUATION

	Professional Judgement (E/M/F/R)	Comments
<b>1. PROJECT AND SIA CONTEXT</b>		
i. Does the report provide information on the project inputs, activities, sequencing of activities, nature of infrastructure and footprint of land required? Does the project description contain sufficient detail to understand the resultant social processes and likely impacts. Is there information on labour requirements (actual numbers, by sex and skills-base) and source(s) of such labour for both construction and operational phases?	F	The information provided in Section 2.1 (Project Information) does not give an indication of the spatial footprint (in hectares or m <sup>2</sup> ) of the infrastructure (e.g. PV facilities and transmission lines). There is also a lack of detailed information on the sequence of project activities. For social processes to be identified it needs to be linked to the detailed project activities during all phases of the project. It is suggested that a detailed "Project Activities Register/Table" be developed as a first step (a generic list of project activities is provided in Section 10 of this Review Report as an example). This should form the "y-axis" input to develop a detailed "social processes" list that forms the "x-axis" information in the matrix. The value of such a matrix gives the reader an immediate understanding of the social processes that can potentially be triggered by the individual project activities.  Table 2.1 which outlines the employment opportunities and duration is useful, but not easily understood. It would be useful to differentiate between the specific skilled, semi-skilled and unskilled job categories. For example, it would be useful for local I&APs to know at this stage what the estimates are for semi-skilled labour such as for construction vehicle/heavy equipment operators (e.g. a rough estimate of the number of semi-skilled construction workers required to operate loaders, dump trucks, backhoes, excavators, bulldozers and graders). It is likely that for some local people are able to take advantage of the semi-skilled vehicle operator jobs on offer.
ii. Does the report contain a terms of reference outlining the scope of the SIA?	M	Adequate terms of reference described.
iii. Has the study area been delineated? Has the SIA defined the area of direct and indirect influence of the project? Has the social area of influence, likely impacted and beneficiary communities and stakeholders been identified?	M	SIA study area is defined as the urban node or human settlement at the town of Kenhardt. The project sites are on farm portions which have extremely low population densities.
iv. Have location maps and existing land-use patterns been provided?	M	It would be useful to include an additional map indicating the location of the PV facilities and the transmission lines in relation to Kenhardt.
<b>2. METHODOLOGY</b>		
i. Is the theory and methods for the SIA explained? Is the selected SIA methodology appropriate for the project and location?	E	The author has a good grasp of social theory and methods and uses them appropriately. However, the author does not robustly use the theory and methods to inform data gathering, interpretation and analysis. The use of systems theory is commended; however, it is not carried through in the assessment, interpretation and design of mitigation measures.

	Professional Judgement (E/M/F/R)	Comments
ii. Are the data gathering techniques described?	M	Data gathering techniques are adequately described.
<b>3. SOCIAL BASELINE</b>		
i. Has the location of the local population in relation to the proposed project area been indicated?	M	SIA study area is defined as the urban node or human settlement at the town of Kenhardt.
ii. Has demographic information been provided (population size, age composition, growth, literacy levels, education, etc)?	F	Sufficient demographic and health information has not been provided to contextualise the background social environment (at the municipal level) within which the proposed project will be located.  Information presented in Section 3.3.1 needs to answer the “so what” question to make it relevant for the project. Currently the demographic information and primary qualitative data (gathered from field work) is presented without sufficient interpretation and does not assess the implications of the data for the project. For example, what are the implications to the project of having “35% of households being female headed”? Or, what are the implications to the project of having a high unemployment rate. It would be useful to include demographic graphs on key social indicators such as population diversity, sex and age distribution, employment, income, households, education and poverty levels. Information on the amount of people in the local community who access social grants would have been useful to know.
iii. Has local community health status information been provided (HIV and AIDS prevalence, causes of mortality, incidences of diseases such as TB, STIs; Life expectancy in project area)?	F	No quantitative information has been presented on the health status of the local community. It needs to be stated whether this information is lacking. Qualitative information from interviews reveals the prevalence of teenage pregnancies. Information on the health status of the local community has implications for the proposed project, as it provides an indicator of the ability of the local population to access opportunities from the project.
iv. Have the Project affected people been identified?	M	The project affected people form the human settlement of the town of Kenhardt.
v. Have the existing land uses and economic activities in the project area been described?	M	Adequate information is provided in Section 3.3.1
vi. Has information on public safety and security been provided?	F	No information is provided on the existing levels of safety and security. In farming communities there is typically a feeling of over exposure to crime and stock theft. It would have been useful to even have a qualitative narrative on the perceived sense of safety and security.
vii. Have the implications of the Local Integrated Development Plans and Spatial Development Plans for the project been analysed? What are the spatial policy and planning frameworks for the site and surround areas?	F	A cryptic overview is provided on relevant legislation and local plans and the implications for the project are not assessed. No indication is given whether a Spatial Development Framework exists for the Municipality and whether it covers the project site. A brief evaluation of the implications of the municipal planning frameworks would be useful. Even an indication that there are no implications would be useful to know, as well as a general recommendation that if the proposed project were to proceed, a significant development of this nature would need to be included in future municipal plans.

	Professional Judgement (E/M/F/R)	Comments
viii. Does the report analyse the potential resilience and status of affected communities?	E	The report analyses vulnerability of the local community using an “Asset Pentagon”, as well as provide an insight into social dynamic by applying systems theory in the form of a “Socio-ecological System Causal Loop Diagram”. However, it would be useful if Figure 3.7 (Kenhardt Asset Pentagon) were to be analysed on much more detail, rather than the current high level generic evaluation. Section 3.3.2 (Vulnerability Context) can be much improved by a more in-depth analysis.
ix. What are the existing land uses and land tenure patterns in the area?	M	Adequate information is provided (in Section 2.1) on land use and land tenure patterns for the project farm portions and surrounding area. Detailed information is provided for Kenhardt (in Section 3.3.1.2).
x. What are the existing levels of municipal services (housing, water, electricity, schools, clinics, policing etc) and current state of infrastructure in the area?	F	Information on the level of municipal services and the state of local infrastructure is not provided. An indication needs to be given whether there are any projects implications of the quality of municipal services and the state of infrastructure. Is the project (if it goes ahead) totally independent of municipal services and the state of local infrastructure?
<b>4. IMPACT ASSESSMENT AND SIGNIFICANCE</b>		
<b>4.1 General</b>		
i. Does the SIA focus on the issues that most concern the community? Are the social issues that have been identified in the Scoping Report referred to in the SIA?	M	Issues raised in the Scoping Report are carried through to the SIA Report. However, I am not convinced that issues of concern from the landowner and farming community are reflected in the SIA report. An influx of job seekers, as well as a migrant construction workforce associated with the development, tends to increase the anxiety/concerns of farmers (real and perceived) with regards to issues of security, crime (stock theft) and negligence (e.g. the contractor leaving farm gates open).
ii. Are the discrete social impacts clearly identified?	F	The impacts identified in Section 4.2 are not impacts in my opinion. What are mostly listed are social processes. The impacts are the actual experiences by sensitive receptors to social processes triggered by the development. Section 4.2 needs to be edited to clearly differentiate what social processes are triggered by the different project activities and then identify what the actual social impacts are that are felt by the individual sensitive receptor groups. For example, the influx of job seekers is not a social impact, it is a social process. How receptors (be it the municipality or certain sections of the local community) experience this social process is what matters and is where the impacts are experience and manifested. To explain what I mean, I’ve included a generic list of social processes and social impacts (at the individual and community level) as an example in Section 11 of this Review Report.
iii. Are the social impact pathways identified?	F	Social impact pathways have not been identified. In addition, there is no clear link between project activities, social processes and the resultant social impacts.
iv. Are the spatial zones of influence identified?	M	Kenhardt is considered to be the area of influence.



	Professional Judgement (E/M/F/R)	Comments
v. Are the sensitive receptors (individuals, households and communities) clearly identified?	F	Particular sensitive receptors are not clearly identified. An analysis of the sensitive receptors and their levels of vulnerability need to be undertaken. For analysing “receptor sensitivity” you need to consider the type of receptor (namely, biological/ecological, human and physical receptor/feature) and their resilience to identified stressors. This is a particularly weak aspect of the SIA report.  For each impact identified (in Section 4.2 and Table 4.1), there needs to be an identification of the particular “sensitive receptors”. There is no way that a defined impact as a homogenous and equal impact across all community groups. The SIA makes the common mistake of not disaggregating impacts and differentiating how different groups experience impacts (e.g. women, unemployed men, farmers, etc.).
vi. Is there an indication whether residual impacts would be acceptable?	F	Discussion on residual impacts for each identified “impact” (in Section 4.2 and 4.3 and Table 4.1) is not adequately dealt with. There is hardly any indication of what the residual impacts are and whether they would be acceptable.
<b>4.2 Community impacts</b>		
i. <u>Population change</u> : Will the development lead to an increase in a certain section of the population? What would the impact of such a change be on the existing social environment?	F	The SIA report acknowledges the background local population increase. However, the report does not clearly distinguish what population segment will form the job seekers from outside.
ii. <u>In-migration of unemployed work seekers</u> : Will the development intentionally or unintentionally contribute to the in-migration of work seekers into the area? What would the impact of this change be on the existing social environment? Is rapid population growth predicted?	M	The report acknowledges the potential impact of the influx of job seekers on the population. However, the author assigns a “moderate negative significance” rating to the social process of “influx of job seekers. I disagree with this rating and believe that “with and without mitigation”, the significance rating should be high. The reason is that no matter how good the Proponent is at communication and no matter the type of mitigation, it is inevitable that there will be an influx of job seekers and that it is highly likely that these job seekers will remain in the area after the construction period. No qualitative estimation is made of whether there is likely to be rapid in-migration.  It is important to recognise that the dominant way in which governments and project proponents understand in-migration, is as a problem. In-migration of job seekers cannot be prevented. There is a powerful negative discourse around in-migration. In-migration is not a problem but rather a response to extreme poverty. In-migration needs to be acknowledged as an irreversible and integral part of rural livelihoods. A pragmatic approach to in-migration needs to be taken with the aim of facilitating the benefits and mitigating against the negative impacts faced by both the host community as well as the migrants. When in-migration is viewed through this lens, it then becomes clear that job seekers from elsewhere are also sensitive receptors that need to be acknowledged in the SIA report.

	Professional Judgement (E/M/F/R)	Comments
iii. <u>Disruption of social networks</u> : Will the development impact on existing social networks? (e.g. due to the presence of outsiders in communities with a high degree of homogeneity and social cohesion)	M	Adequately dealt with in report.
iv. <u>Relocation or displacement of individuals or families</u> : Will the development lead to relocation of residents? What will the implications be for their livelihood sustainability?	M	Not relevant.
v. <u>Disruption in daily living and movement patterns</u> : Will the development change the lifestyle of residents? Will it impact on movement patterns? Will it divide communities physically	M	Adequately dealt with in report.
vi. <u>Job creation opportunities</u> : Will the development lead to an increase or decrease in employment opportunities? Does the report clearly describe the gender, number and type of permanent and temporary employees required for each phase of the project, where the labour will be sourced from and the company's employment policies? Will skilled workers be imported? Will the local labour pool be qualified for professional, technical, and supervisory jobs? Has the report identified the secondary employment created indirectly by the facility (e.g. local stores, Bed & Breakfast, services)? Is loss of local labour from current jobs predicted (current workers may be tempted to leave their jobs in pursuit of improved wages)?	M	<p>The report provides general information on job opportunities but does not disaggregate the jobs into the specific and typical type of jobs for unskilled, semi-skilled and skilled classes. No indication is given on whether the local labour would only be able to access the unskilled jobs.</p> <p>The SIA states that: "decommissioning of the proposed developments will result in job losses". The report needs to state what categories of permanent jobs would be lost. Section 10 in this Review Report outlines the activities/services that need to be performed during the Operation and Maintenance Phase. It is the jobs performing these services that will be lost.</p>
vii. <u>Infrastructure and services</u> : Will the development create increased demand for basic services, e.g. water, electricity, sewerage, roads?	M	The SIA predicts that "in-migration is likely to place additional strain on formal housing and bulk services". I think it would be more plausible to suggest that in-migration is likely to be done by unemployed people desperate for jobs and who would likely stay in the informal settlement (which would not place a strain on formal housing and bulk services). In-migration in the short-term will cause a population increase and result in more job seekers for the limited available jobs.

	Professional Judgement (E/M/F/R)	Comments
viii. <u>Change in housing demands</u> : Will the development create a housing need, e.g. due to the in-migration of construction workers?	M	The SIA report suggests that there will be additional strain on formal housing. No indication is given how the Proponent will deal with this matter. The Proponent may choose to specify to the Main Contractor, to price for the construction of temporary accommodation close to the construction site. In this instance, there will be no need for housing for the project. I recommend that the SIA Report includes a provision for the Proponent to commit to providing temporary accommodation.
ix. <u>Impact on other businesses</u> : Will the development impact on tourism?	M	The SIA report considers tourism to only be affected at a cumulative level (when considered with the impact of all the regional renewable projects). No indication is given of whether this project would have any impact on tourism. It is likely that there will be no impact, except as a “curiosity feature” by South African tourists. A positive mitigation measure that can be considered, is for the Proponent to commit to installing interpretative signage on site and working with the local Municipality (to train tour guides) to include the PV facility as a tourism destination option.
x. <u>Local Content (economic)</u> : Will the development provide opportunities for local procurement and training? (e.g. rental housing, restaurants and stores, etc.)	F	The SIA report recommends that the proponent “must procure goods and services, as far as practically possible, from within the project area (with a focus on Kenhardt)”. The report is lacking in detailing what the specific goods and services are that would be required. Section 10 below in this Review Report provides a list of the project activities and it can be inferred from this list what goods and services can realistically be provided from the local area.
xi. <u>Staff accommodation</u> : Has accommodation (male and female) for construction and permanent staff been identified?	F	The SIA report recommends that: “accommodation be obtained from as large a selection of local service providers as possible to ensure distribution of project benefits”. There is no indication in the report whether this is even possible. The SIA should at least have gathered data on whether there is sufficient rooms/housing available for construction staff.
<b>4.3 Health impacts</b>		
i. <u>Spread of disease, addiction and antisocial behaviours</u> : Has the the spread of HIV and its impacts on vulnerable groups such as women and children been identified? What are the health vulnerabilities of the host community? What are the predicted spread of the disease by construction workers, truck drivers and sex workers?	F	The SIA report does not provide any information on the existing health status of the local community and neither is there any indication and assessment of the likely spread of disease from the migrant construction workforce. This is a deficiency in the report.
ii. <u>Gender (women and girls)</u> : Will the project have a negative effect on women and girls?	F	The SIA report gives no indication on the discrete and separate impacts of the project on women and girls. The gendered nature of impacts is totally ignored. The report needs to acknowledge that typically, construction work is mostly provided to males in the demographic group between 18-50 years old. The report does however highlight the need for the “Workforce Recruitment Policy” to provide opportunities for women.

	Professional Judgement (E/M/F/R)	Comments
iii. <u>Psychosocial disorder</u> : What impact will the project have on psychosocial disorders of local residents?	F	No indication is given of potential psychosocial disorders such as: stress, substance abuse, social disruption, unrest, violence and decreased tolerance.
<b>4.4 Quality of life and social well-being impacts</b>		
i. <u>Quality of Life</u> : Have impacts on the landscape character, natural setting and visual amenity been identified?	F	No indication is given on the impacts to “quality of life”.
ii. <u>Crime and safety</u> : Will the development impact on existing crime (petty crime and stock theft) and safety patterns?	F	No indication is given on the impacts to “crime and safety”.
iii. <u>Social well-being</u> : Will the development impact on the peaceful coexistence of communities? Will the development lead to conflict between sectors of the social environment? Will tensions form in communities where the economic benefits are not necessarily equally shared among the residents? Will the community identity be preserved?	F	Social well-being issues are not addressed in the report. There is no indication of issues related to: social cohesion and support structures, self-determination, human rights and equity.
<b>4.5 Cultural and heritage impacts</b>		
i. <u>Heritage</u> : Will the development impact on archaeological, historical or cultural resources?	M	Heritage issues appear to not be applicable for this site. However, there is no mention in the report that heritage issues are not relevant.
ii. <u>Culture</u> : Will the development impact on the customs, values, religious and spiritual beliefs?	F	No mention is made of the existing cultural patterns and whether it is an issue.
<b>4.6 Land and natural resource impacts</b>		
i. <u>Livelihoods</u> : Will the development impact on the landowners and local people’s (legal or illegal, formal or informal) access to natural resources that help to sustain their livelihoods?	M	The SIA report clearly indicates that the livelihoods of landowners will not be affected.

	Professional Judgement (E/M/F/R)	Comments
ii. <u>Land acquisition</u> : Will the development negatively impact the landowner/land users by having a large spatial footprint that limits existing land use (such as loss of grazing land)?	F	The SIA report does not mention land acquisition at all. It can be inferred that land acquisition (even through lease contracts) will not impact the landowner. However, an indication should be given that land acquisition is not an issue.
iii. <u>Land rezoning</u> : Will the existing land be required to be rezoned before the Project can commence?	M	It can be inferred from the report that rezoning will not be an issue.
<b>4.7 Economic Impacts</b>		
Have the social implications of economic impacts been assessed?: <ul style="list-style-type: none"> <li>• Change in modes of production</li> <li>• Changes in property values</li> </ul>	M	It can be inferred from the report that there are no negative economic impacts.
<b>4.8 Impact Identification</b>		
i. Have direct and indirect/ secondary effects of construction activities and, where relevant, operation and decommissioning of the project been clearly explained (including both positive and negative effects)?	F	The SIA report can be improved by clearly indicating what the individual project activities are (see Section 10 in this Review Report) and the consequential primary and secondary impacts (see Section 11 in this Review Report).
ii. Is there a clear understanding of impact causation processes, by first listing in detail the project activities per phase and the corresponding social effect? Have social processes clearly been differentiated from social impacts?	F	This is an area of deficiency in the SIA report and needs to be addressed. See Section 10 and 11 in this Review Report for suggestions on improvements to the report.
iii. Have impacts been identified in a non-judgemental manner?	M	The SIA report by and large uses non-judgemental language in the identification of impacts. My preference is not to use the term “socially deviant behaviour”, but rather “social disorders” or “psychosocial disorder”.
iv. Are there clear linkages (in impact identification) to health and ecosystem services issues?	F	There is no clear link with other specialist study areas and no link with health and ecosystem services issues.
v. Have cumulative impacts been assessed?	M	Adequately addressed in Section 4.6.

	Professional Judgement (E/M/F/R)	Comments
<b>4.9 Assessment of Impacts</b>		
i. Are impacts described in terms of the nature, magnitude and probability of the change occurring and the effect (location, number, value, sensitivity) on sensitive receptors?	M	Impacts are adequately described in a consistent manner. However, no mention is made of "sensitive receptors".
ii. Has the timescale over which the effects will occur been predicted such that it is clear whether impacts are short, medium or long term, temporary or permanent, reversible or irreversible?	M	Timescale are adequately described in a consistent manner.
iii. Have qualitative predictions of impacts been adequately expressed?	M	Qualitative predictions of impacts have been adequately expressed.
iv. Where quantitative predictions have been provided is the level of uncertainty attached to the results described?	M	No quantitative impact predictions have been made in the SIA report.
v. Have the impacts of the social environment on the construction and operation of the project been considered?	F	The impacts/implications of the dynamics of the existing social environment on the project is not adequately described.
<b>4.10 Impact Significance</b>		
i. Does the information include a clear indication of which impacts may be significant and which may not and to whom?	M	Significance is adequately dealt with in the report. However, the report can be improved by answering the question: "to whom is this impact significant"?
ii. Has the significance of effects been discussed taking account of appropriate national and international standards or norms, where these are available?	M	Significance is adequately dealt with in the report.
iii. Where there are no generally accepted standards or criteria for the evaluation of significance, is a clear distinction made between fact, assumption and professional judgement?	M	There is a clear distinction in the report between assumption and professional judgement.

	Professional Judgement (E/M/F/R)	Comments
iv. Have the magnitude, location and duration of the impacts been discussed in the context of value and sensitivity?	F	Issues of value and sensitivity are not addressed.
<b>5 MITIGATION AND ENHANCEMENT</b>		
i. Is there evidence of the application of the Mitigation Hierarchy? (in terms of the sequential application of the mitigation options from avoid ⇒ minimise ⇒ restore ⇒ compensate)	F	There is no evidence of the application of the Mitigation Hierarchy.
ii. Does the report clearly state the objectives and specific goals for the management of social impacts, socio-economic conditions and historical/cultural aspects?	M	There is a clear indication of performance objectives.
iii. Does the report describe the appropriate technical and management options to address each social impact, socio-economic condition and historical/cultural aspects for each phase of the project?	M	Appropriate management actions and mitigation measures have been proposed.
iv. Where appropriate, do mitigation methods considered include modification of project design, construction and operation, the replacement of facilities/ resources, and the creation of new resources?	M	Suitable mitigation measures have been proposed.

	Professional Judgement (E/M/F/R)	Comments
v. Is it clear to what extent the mitigation methods are likely to be effective?	F	<p>There is no indication of the likely effectiveness of the proposed mitigation measures.</p> <p>A “Workforce Recruitment Policy” is recommended. Employment in its totality cannot be reserved for local residents, as the report recommends. Neither can this requirement be contractually binding. In any case, who would be the two contracting parties to make this mitigation measure contractually binding? Local residents may not have the requisite skills to take advantage of the job opportunities. In addition, they may be untrainable for a variety of reasons and therefore not suited for the available jobs. In any event, it is the responsibility of the Contractor to recruit people for jobs and not the Proponent. All the Proponent can do is to define the overall project objectives (for unskilled, semi-skilled and skilled jobs and training). The objectives can then form part of the contractual obligations for the Main Contractor. How the objectives should be achieved should be left up to the Main Contractor.</p> <p>It is recommended that the Proponent develops a local skills database. The SIA report should clearly identify the performance objective for this mitigation measure. It should be recognised that the responsibility for developing the skills database can lie with the Proponent, but how it is used to achieve the objective of optimising local employment is dependent on the nature of the Contract for project implementation (e.g. whether a EPC contract is used). The Proponent would need to hand over the skills database for the Main Contractor to use.</p>
vi. Have negative social effects of mitigation measures been investigated and described?	F	The negative social effects of mitigation measures proposed have not been described.
<b>6. INFORMATION GAPS, UNCERTAINTY AND ASSUMPTIONS:</b>		
i. Has field work been undertaken and if not, has the implications been acknowledged?	M	Field work has been undertaken and the qualitative information from the interviews has added richness to the social baseline.
ii. Has issues of data sufficiency and reliability been addressed?	F	The SIA report needs to make a statement in this regard.
iii. Have information gaps been identified and its implications assessed?	F	The SIA report needs to clearly identify the information gaps.
iv. Have the SIA assumptions been disclosed?	M	Assumptions have been fully disclosed. The author states that the “The project boundary, in terms of socio-economics, is therefore arbitrarily constructed”. This is not the case. The project boundary for socio-economics has been logically deduced, based on available information and the locality of settlements in the area.
v. Has any scientific uncertainty inherent been acknowledged and communicated?	M	The SIA report does allude to areas of uncertainty.



	Professional Judgement (E/M/F/R)	Comments
<b>7. REFERENCES</b>		
i. Does the report contain a reference list?	M	All sources have been fully referenced.
ii. Are the reference sources credible and reliable?	M	Reference sources are scientifically credible.
<b>8 REPORT STRUCTURE</b>		
<b>8.1 Organisation</b>		
i. Does the report contain an Executive Summary which provides a concise presentation of the most significant issues contained in the body of the SIA?	M	Clear Executive Summary provided.
ii. Is the information logically arranged in sections?	M	Report is logically structured.
iii. Is the location of the information identified in an index or table of contents?	M	Table of Contents provided.
iv. Are the credentials of the report authors and specialists presented, with a clear indication of their respective contributions?	M	CV of report author included in report.
<b>8.2 Presentation</b>		
i. Has information and analysis been offered to support all conclusions drawn?	M	Information and analysis is adequate, but interpretation can be improved as suggested in sections in this Review Report.
ii. Has information and analysis been presented so as to be comprehensible to the non-specialist, using maps, tables and graphical material as appropriate?	M	Information is adequately presented in graphics, maps and tables where appropriate.
iii. Is the information balanced and unbiased?	M	Information is presented in a balanced manner.
iv. Is the layout, language and overall presentation of the information accessible to both the lay public and decision-makers?	E	The author writes well and the language is clear and unambiguous.

## 10. GENERIC EXAMPLE OF CONSTRUCTION ACTIVITIES FOR THE DEVELOPMENT OF A PV FACILITY

	PROJECT PHASE	SEQUENCE OF DETAILED ACTIVITIES
1	Mobilisation / Site Preparation	<ul style="list-style-type: none"> <li>• Installing perimeter fencing around the site</li> <li>• Locating temporary construction offices and construction equipment to site</li> <li>• Earthworks for construction of road access and construction parking areas, including vegetation clearing</li> <li>• Minor grading and trimming of areas for permanent site office and switchyard</li> <li>• Minor grading and trimming in array areas</li> <li>• Drum rolling and compaction of array areas</li> <li>• Installation of onsite erosion and sediment controls</li> </ul>
2	Construction	<ul style="list-style-type: none"> <li>• Install steel support posts for array tables</li> <li>• Trenching and wiring of underground cabling (DC and AC)</li> <li>• Attachment of tilt brackets and rails using prefabricated steel members</li> <li>• Connection of PV modules to the brackets</li> <li>• Installation of inverter and transformer skid</li> <li>• Commencement of site rehabilitation works within the development area</li> </ul>
3	Commissioning	<ul style="list-style-type: none"> <li>• Commissioning and testing of solar plant, noting that each array block would be commissioned as it is completed.</li> </ul>
4	Demobilisation	<ul style="list-style-type: none"> <li>• Removal of temporary construction facilities and completion of works within the development area and of temporary access tracks within the site.</li> </ul>
5	Operation and Maintenance	<p>Compared to other power generating technologies, solar PV power plants have low maintenance and servicing requirements. Activities include:</p> <ul style="list-style-type: none"> <li>• Inverter servicing</li> <li>• ground-keeping</li> <li>• security</li> <li>• Low technology module cleaning using brush trolley or dust broom</li> </ul>

## 11. GENERIC EXAMPLE OF THE DIFFERENTIATION BETWEEN SOCIAL PROCESSES AND SOCIAL IMPACTS

SELECTED LIST OF SOCIAL PROCESSES	SELECTED LIST OF SOCIAL IMPACTS AT THE INDIVIDUAL AND HOUSEHOLD LEVEL	SELECTED LIST OF SOCIAL IMPACTS AT THE COMMUNITY LEVEL
<p><i>Demographic processes</i></p> <ul style="list-style-type: none"> <li>▪ Increase in population size (in-migration)</li> <li>▪ Presence of newcomers (perceived or real cultural differences)</li> <li>▪ Presence of temporary construction workers</li> <li>▪ Presence of tourists</li> </ul> <p><i>Economic processes</i></p> <ul style="list-style-type: none"> <li>▪ Conversion of economic activities</li> <li>▪ Conversion of land use</li> <li>▪ Increase in economic activity</li> <li>▪ Decrease in economic activity</li> <li>▪ Job creation or job loss</li> </ul> <p><i>Social processes</i></p> <ul style="list-style-type: none"> <li>▪ Prostitution</li> <li>▪ Excessive alcohol, drug use and gambling</li> <li>▪ Opposition</li> <li>▪ Pollution (air, water and dust)</li> <li>▪ Litter</li> <li>▪ Traffic</li> <li>▪ Vandalism</li> </ul>	<ul style="list-style-type: none"> <li>▪ Debt bondage</li> <li>▪ Reduced level of health</li> <li>▪ Reduced mental health, increased stress, anxiety, alienation, apathy, depression</li> <li>▪ Uncertainty about impacts, development opportunities, about own life as a result of social change</li> <li>▪ Reduced actual personal safety</li> <li>▪ Reduction in perceived quality of life, subjective well being</li> <li>▪ Worsening of economic situation, level of income, property values</li> <li>▪ Change in status or type of employment or becoming unemployed</li> <li>▪ Decrease in occupational opportunities</li> <li>▪ Objection/opposition to project, NIMBY (not-in-my-back-yard) attitude</li> <li>▪ Dissatisfaction due to failure of a project to achieve heightened expectations</li> <li>▪ Annoyance because of dust, noise, strangers or more people</li> <li>▪ Increased density and crowding</li> <li>▪ Reduced aesthetic quality, outlook, visual impacts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduced adequacy of infrastructure (water supply, sewerage, services and utilities)</li> <li>▪ Reduced adequacy of community social infrastructure, health, welfare, education facilities</li> <li>▪ Reduced adequacy of housing</li> <li>▪ Increased workload on institutions</li> <li>▪ Increase inequity (economic, social, cultural)</li> <li>▪ Increased unemployment level</li> <li>▪ Loss of other options (opportunity cost)</li> <li>▪ Increased actual crime or violence</li> <li>▪ Increased social tensions, conflict or divisions within community</li> </ul>

# EIA REPORT



## CHAPTER 14:

# Traffic Impact Statement

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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April 2016

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## 14 TRAFFIC IMPACT STATEMENT

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### 14.1 INTRODUCTION

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As per the Plan of Study included in Scoping Report and subsequently approved by the DEA, it was indicated that a Traffic Impact Statement (TIS) will be produced by the CSIR to show the amount of traffic that can be expected during the construction and operational phases from the development of the proposed Kenhardt PV 1, Kenhardt PV 2, and Kenhardt PV 3 solar energy projects, as well as the proposed Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line, and Kenhardt PV 3 - Transmission Line projects near Kenhardt in the Northern Cape. In this regard, the study focuses on the regional setting in which these projects are proposed and the roads that will be utilised for these projects. The report has therefore been produced for all the projects due to the scale of the assessment and the fact that all the projects are going to use the same road infrastructure.

#### 14.1.1 Terms of Reference

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The key issues associated with the construction and operational phases of the project that will be assessed as part of the TIS are:

- Increase in traffic generation throughout the lifetime of the project;
- Decrease in air quality; and
- Increase in road maintenance required.

#### 14.1.2 Assumptions and Limitations

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The TIS has been based on the traffic information provided by Scatec. The traffic information was obtained from previous projects and estimates of similar projects currently proposed by Scatec.

### 14.2 APPROACH AND METHODOLOGY

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#### 14.2.1 Objectives

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- Determine the current traffic conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured;
- Identify potential impacts and cumulative impacts that may occur during the construction, operational and decommissioning phases of development;
- Provide recommendations with regards to potential monitoring programmes;
- Determine mitigation and/or management measures which could be implemented to as far as possible reduce the effect of negative impacts and enhance the effect of positive impacts; and
- Incorporate and address all issues and concerns raised by I&APs and the public (if applicable).



### 14.2.2 Methodology

The key steps followed in this assessment are:

- Review of available desktop information, including the South African National Roads Agency (SANRAL) National traffic count information, google earth images and similar projects; and
- Liaison with Transnet SOC Ltd regarding access roads to be used and requirements associated with it.

## 14.3 AFFECTED ENVIRONMENT

During all phases (construction, operation and decommissioning) of the project, traffic will be generated. The highest traffic volumes will be created during the construction phase. This includes activities associated with:

- Site preparation and transporting the construction materials, and associated infrastructure to the site; and
- Transportation of employees to and from the site on a daily basis.

The proposed project site can be accessed via an existing gravel road (an unnamed farm road) and the existing Transnet Service Road (private). Both access routes will be considered in the design of the facility and have been included in the proposed project. The R27 extends from Keimoes (in the north) to Vredendal in the south. The R27 is 6 m wide and falls within a 45 m road reserve. This National Road is designed for minimum daily traffic exceeding 1000 vehicle units. The Transnet Service Road can be accessed from the R27. The existing gravel road can be accessed from the R383 Regional Road also via the R27 National Road. The Transnet Service Road and unnamed farm road are both 7-8 m wide, however in certain sections, the unnamed farm road is believed to be about 2-3 m wide. A further access road will be constructed from either the Transnet Service Road or the unnamed farm road to the proposed Kenhardt PV 1, PV 2 and PV 3 facilities.

Should the Transnet Service Road be considered the preferred access road, it is proposed that an internal gravel road be constructed from the road to the proposed site. This internal gravel road is not expected to exceed 6 m in width. The length of the internal gravel road will be confirmed as the location, design and layout of the facility progresses; however a preliminary site layout plan has been included in Chapter 16 and Appendix J of this EIA Report. Discussions have been initiated and held with Transnet and the Project Applicant during the Scoping and EIA Process regarding the potential use of the Transnet Road and associated specific requirements. Transnet have informed the Project Applicant of their requirements that need to be met by the Project Applicant should the Transnet Service Road be used as to gain access to the site. These requirements will be considered in the design of the facility where required, and the details of the agreement will be finalised outside of this EIA Process.

A photo plate is included (Photo 14.1-14.4) to show the intersection of the Transnet Service Road with the R27 and the current condition of the roads.



Photo 14.1: R27 towards the south (taken towards Kenhardt). The board shows “Loop 14”, located to the left, which is accessed via the Transnet Service Road. (Image source: Google, 2010)



Photo 14.2: The intersection of the R27 and Transnet Service Road, going towards Kenhardt. As can be seen on this image, the R27 was being upgraded in 2010 (Image source: Google, 2010)



Photo 14.3: The intersection of the R27 and Transnet Service Road, going towards Keimoes (Image source: Google, 2010)



Photo 14.4: The access point to the Transnet Service Road (Image taken: July 2014)

The closest roads to the site for which traffic counts are available show that the R383 (road between Kenhardt and Marydale) and the R361 (between Van Wyksvlei and Kenhardt) have Average Daily Traffic (ADT) counts of 35 and 41, respectively (SANRAL, 2007). The ADTs show that the current traffic volumes are well below the maximum traffic limits for the roads discussed above. Even though traffic will be generated during the construction and operation of the solar energy facility, given the low ADTs of the surrounding roads, it is not expected that the traffic generated by the solar energy facility will exceed the maximum daily traffic limits for the abovementioned roads.

## 14.4 TRANSPORT INFORMATION

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The general current limitations on road freight transport are:

- Axle load limitation of 7,7t on front axle, 9,0t on single rear axles;
- Axle unit limitations are 18t for dual axle unit and 24t for 3 axle unit;
- Gross vehicle mass of 56t. This means a typical payload of about 30t;
- Maximum vehicle length of 22m for interlink, 18,5m for horse and trailer and 13,5 for a single unit;
- Width limit of 2,6m; and
- Height limit 4,3m.

Abnormal permits are required for vehicles exceeding these limits.

### 14.4.1 Solar Farm Freight

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Materials and equipment transported to the site comprise of:

- Building materials (concrete aggregates, cement and gravel);
- Construction equipment such as piling rigs and cranes;
- Solar panels (panels and frames); and
- Transformer and cables.

The following is anticipated:

- A. Building materials comprising of concrete materials for strip footings or piles will be transported using conventional trucks which would adhere to legal limits listed above.
- B. Solar Panels and frames will probably be transported in containers using conventional heavy vehicles within the legal limits. The number of loads will be a function of the capacity of the solar farm and the extent of the frames (the anticipated number of loads are discussed below).
- C. Transformers will be transported by abnormal vehicles.

### 14.4.2 Traffic Generation

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The traffic generation estimates detailed below have been determined based on a single solar energy facility and the associated electrical infrastructure (collector substation and transmission line).

▪ **Construction Phase**

Approximately 800 x 40ft containers resulting in more or less 450 double axel trucks will come to site during the construction phase (i.e. over a period of 9 to 24 months). In addition to this, more or less 20 light load trucks will come from and go to site on a daily basis during the construction phase. It is estimated that a total of 14 850 trips to the site, based on a 24 month construction phase.

In terms of water supply, the current proposal is to truck water to site via municipal water supply. It is estimated that 1 trip will be made by the water truck every 2 days. In total, this adds up to 365 trips by the water truck over a period of 24 months.

It is important to note that the construction period is likely to extend 14 months (as noted in Chapter 2 of this EIA Report), however the worst case scenario has been considered in this TIS.

▪ **Operational Phase**

More or less 4 light load trucks will come from and go to site on a daily basis and 1 small single axel truck to and from site on a weekly basis. The lifetime of the project is 20 years which means that the total amount of trips would be 30 240 over this period. For water supply, the current estimate is that 2 trips per month will be made by a water truck.

▪ **Decommissioning Phase**

As per the construction phase, approximately 800 x 40ft containers resulting in more or less 450 double axel trucks will come to site during the decommissioning phase. The decommissioning phase usually takes 12 months (i.e. over a period of 9 to 24 months). In addition to this, more or less 20 light load trucks to and from site will come and go to site on a daily basis.

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## 14.5 IDENTIFICATION OF IMPACTS

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The traffic impacts that will be generated by the proposed facility are detailed below. The impacts will largely occur during the construction phase of the project, since this is when the highest amount of traffic will be generated by the proposed facility (refer to Section 14.4.2).

The impacts identified and further assessed are:

1. Increase in traffic generation.
2. Accidents with pedestrians, animals and other drivers on the surrounding tarred/gravel roads.
3. Impact on air quality due to dust generation, noise and release of air pollutants from vehicles and construction equipment.
4. Decrease in quality of surface condition of the roads.
5. Cumulative impact of traffic generation of three projects and related projects.

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## 14.6 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MANAGEMENT ACTIONS

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This section assesses the significance of the impacts identified in Section 14.5. Appropriate mitigation and management measures to reduce the significance of the negative impacts and promote the positive impacts have been included in the EMPr.

### **14.6.1 Increase traffic generation**

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As discussed in Section 14.4 of this report, conventional trucks, conventional heavy vehicles and abnormal vehicles transporting loads will need to come to site to deliver the infrastructure required for the solar facility. The impact of this on the general traffic would be negligible as the additional peak hour traffic would be at most 2 trips.

#### ***Significance of impacts without mitigation***

Although the construction phase would have the greatest impact on traffic generated by the proposed project, the increase in traffic will only result in an addition of 2 trips during peak hour traffic (worst case scenario). Based on the traffic counts discussed in Section 14.3 of this Chapter, the ADT for this area is between 35 - 41 vehicles. The R27 is designed for 1000 units per day and therefore, the additional traffic generated during the construction phase will have a **low** negative impact.

The operational phase will have a lower traffic generation since only the personnel permanently employed on site would need to go to site every day. It is not expected that this would exceed 4 trips per day. This negative impact would therefore be **very low**.

Since it is unclear at this stage what the traffic numbers will be in the Kenhardt area in 20 years' time and the amount of trucks required for decommissioning, the impacts associated with this phase of the project were based on the construction phase details given that this is the worst case scenario in terms of traffic generation. Therefore, the significance of the impact would be **low** negative.

#### ***Proposed mitigation***

Even though the traffic generated would not be significant, the following requirements should still be met by the developer during the construction and decommissioning phases:

- Should abnormal loads have to be transported by road to the site, a permit needs to be obtained from the Provincial Government Northern Cape (PGNC) Department of Public Works, Roads and Transport;
- Provide a Transport Traffic Plan to SANRAL;
- Ensure that roadworthy and safety standards are implemented at all time for all construction vehicles; and
- Plan trips so that it occurs during the day but avoid construction vehicles movement on the regional road during peak time (06:00-10:00 and 16:00-20:00).

Requirements to be met during the operational phase:

- Adhere to requirements made within Transport Traffic Plan;
- Limit access to site to personnel; and
- Ensure that where possible, staff members carpool to site.

### **14.6.2 Accidents with pedestrians, animals and other drivers on the surrounding tarred/gravel roads**

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During all phases, vehicles will need to access the site via the R27 and the Transnet Service Road/alternative gravel access road. As shown in the photo plate in Section 14.3, the Transnet Service Road intersects with the R27 just outside of Kenhardt. There is the potential that should vehicles not indicate soon enough that they are turning off from the R27, an accident can occur. In addition, not adhering to the relevant speed limits may cause accidents with other drivers and collisions with animals.

#### ***Significance of impacts without mitigation***

The significance of causing an accident with pedestrians, animals and other drivers would have a **high** negative impact significance since the probability of the impact occurring would be likely and could be fatal and therefore would cause irreplaceable loss.

#### ***Proposed mitigation***

- Road kill monitoring programme (inclusive of wildlife collisions record keeping) should be established and fences installed, if needed to direct animals to safe road crossings;
- Adhere to speed limits applicable to all roads used; and
- Implement clear and visible signalisation indicating movement of vehicles and when turning off or onto the Transnet Service Road to ensure safe entry and exit.

#### ***Significance of impact with mitigation***

By implementing the abovementioned mitigation measures the probability of the impact occurring would be lowered significantly which would reduce the significance of the impact to **moderate** negative impact during all the phases of the project.

### ***14.6.3 Impact on air quality due to dust generation, noise and release of air pollutants from vehicles and construction equipment***

---

During all the phases of the projects, there will be a decrease in air quality due to the noise created by and pollutants released from vehicles coming to site during all phases of the projects, construction activities occurring on site and dust created from driving on the Transnet Service Road or gravel farm road. Since the site is located in a very rural setting, no sensitive receptors are present within close proximity of the proposed project. Therefore, the extent of the impact would remain local.

#### ***Significance of impacts without mitigation***

As discussed above, the decrease in air quality would be local in extent. The worst case scenario for impacts on air quality is that no dust suppression is implemented on the Transnet Service Road, gravel access road, on site or that construction activities occur throughout very windy conditions. This negative impact would be **moderate** for all phases of the project, without mitigation.

#### ***Proposed mitigation***

- Implement management strategies for dust generation e.g. apply dust suppressant on the Transnet Service Road, exposed areas and stockpiles;
- Postpone or reduce dust-generating activities during periods with strong wind;
- Limit noisy maintenance/operational activities to daytime only;
- Earthworks may need to be rescheduled or the frequency of application of dust control/suppressant increased;
- Ensure that all construction vehicles are roadworthy and respect the vehicle safety standards implemented by the Project Developer; and
- Avoid using old and noisy construction equipment and ensure equipment is well maintained.

#### ***Significance of impact with mitigation***

With the implementation of the mitigation measures detailed above, the probability of noise emissions and dust realised would be lowered and the impact would be of a **low** significance.

#### **14.6.4 Change in quality of surface condition of the roads**

The Transnet Service Road or gravel farm road is going to be used as the main access road to the site. As discussed in Section 14.3. The Transnet Service Road and farm road are gravel roads and would require additional maintenance to ensure that the traffic generated would not decrease the surface condition of the road.

##### **Significance of impacts without mitigation**

The Transnet Service Road is currently being maintained by Transnet and it is unclear whether any maintenance is currently being undertaken on the gravel farm road. Since the Developer is going to use these roads during all phases of the project, it is expected that, should no mitigation measures be implemented, the road's surface condition would decrease significantly. This would have a **low** negative impact on the road (due to the local spatial extent of the impact).

##### **Proposed mitigation**

- Construction activities will have a higher impact than the normal road activity and therefore the road should be inspected on a weekly basis for structural damage;
- Ensure that road network is maintained in a good state for the entire operational phase;
- Implement management strategies for dust generation e.g. apply dust suppressant on the Transnet Service Road, exposed areas and stockpiles; and
- A Road Maintenance Plan should be developed for the section of the Transnet Service Road that will address the following:
  - Grading requirements;
  - Dust suppressant requirements;
  - Drainage requirements;
  - Signage; and
  - Speed limits.

##### **Significance of impact with mitigation**

Provided that the above mitigation measures are implemented and agreed to by Transnet and the land owner whose farm road will be used, the impact would be a **low** positive impact since this section of the road would be well maintained.

#### **14.6.5 Cumulative impact of traffic generation**

The cumulative impact assessment assumes that all the projects outlined within the cumulative impact section occur at the same time. Even though there will most likely be overlap in the operational phases of these projects, it is unlikely that the construction phases for all these projects would occur at the same time. Since the construction phase will give rise to the most amount of trucks coming to site, this would be considered the worst case scenario in terms of traffic generation. The projects that are proposed within close proximity of each other are detailed within Table 14.1 below. The estimates detailed within the table below have been obtained from the Developers. Based on these current estimates, the total amount of additional trips that would occur on the R27 during the construction phase is 261.81, which is still well below the daily average limit of 1000 units. The impact on this road is therefore not anticipated to be significant but should the Transnet Service Road be used for all the projects, a maintenance plan, agreed upon all parties involved must be implemented to ensure that the road's quality and integrity is maintained.

##### **Significance of cumulative impacts**

It is assumed that the mitigation measures discussed in Section 14.6 of this TIS and included in Table 14.2 below are implemented, that the traffic generation impacts would be suitably managed to ensure that the traffic impacts are suitably managed. Based on this, the cumulative negative impact is **low**.



**Table 14.1: Cumulative daily traffic generation estimates for all PV projects proposed north-east of Kenhardt**

Project name		Daily traffic generation estimates		
		Construction Phase	Operational Phase	Decommission Phase
1	Proposed construction of Gembok PV1 75 MW Solar PV facility	20	10	20
2	Proposed construction of Gembok PV2 75 MW Solar PV facility	20	10	20
3	Proposed construction of Boven PV1 75 MW Solar PV facility	20	10	20
4	Proposed development of a 75 MW Solar PV Facility (Kenhardt PV 1) and proposed development of a 132 kV Transmission Line to connect to the proposed 75 MW Solar PV Facility (Kenhardt PV 1)	20.62	4.14	20.62
5	Proposed development of a 75 MW Solar PV Facility (Kenhardt PV 2) and proposed development of a 132 kV Transmission Line to connect to the proposed 75 MW Solar PV Facility (Kenhardt PV 2)	20.62	4.14	20.62
6	Proposed development of a 75 MW Solar PV Facility (Kenhardt PV 3) and proposed development of a 132 kV Transmission Line to connect to the proposed 75 MW Solar PV Facility (Kenhardt PV 3)	20.62	4.14	20.62
7	Proposed construction of the Mulilo Solar Development consisting of seven 75 MW PV or Concentrated PV Solar Energy Facilities and associated infrastructure	140	70	140
<b>Total</b>		<b>261.86</b>	<b>112.42</b>	<b>261.86</b>

Table 14.2: Traffic Impact Assessment Table

Aspect/ Impact Pathway	Nature of impact	Status	Spatial Extent	Dura- tion	Conse- quence	Proba- bility	Reversi- bility	Irreplac- eability	Mitigation Measures	Significance of Impact/Risk = Consequence x Probability		Ranking of Impact/ Risk	Confi- dence Level
										Without Mitigation	With Mitigation		
<b>CONSTRUCTION AND DECOMMISSIONING PHASES</b>													
Traffic gene- ration	Increase in traffic	Nega- tive	Regional	Short term	Moderate	Very likely	Yes	Replace- able	<ul style="list-style-type: none"> <li>Should abnormal loads have to be transported by road to the site, a permit needs to be obtained from the PGNC Department of Public Works, Roads and Transport.</li> <li>Provide a Transport Traffic Plan to SANRAL</li> <li>Ensure that roadworthy and safety standards are implemented at all time for all construction vehicles.</li> <li>Plan trips so that it occurs during the day but avoid construction vehicles movement on the regional road during peak time (06:00-10:00 and 16:00-20:00).</li> </ul>	Low	Low	4	Medium
	Accidents with pedestrians, animals and other drivers on the surrounding tarred/gravel roads	Nega- tive	Local	Long term	Extreme	Likely	No	High irreplac- eability	<ul style="list-style-type: none"> <li>Road kill monitoring programme (inclusive of wildlife collisions record keeping) should be established and fences (such as Animex fences) installed, if needed to direct animals to safe road crossings.</li> <li>Adhere to all speed limits applicable to all roads used.</li> <li>Implement clear and visible signalisation indicating movement of vehicles and when turning off or onto the Transnet Service Road to ensure safe entry and exit.</li> </ul>	High	Moderate	3	Medium
	Impact on air quality due to dust generation, noise and release of air pollutants from vehicles and construction equipment	Nega- tive	Local	Medium term	Moderate	Unlikely	Yes	Replace- able	<ul style="list-style-type: none"> <li>Implement management strategies for dust generation e.g. apply dust suppressant on the Transnet Service Road, exposed areas and stockpiles.</li> <li>Postpone or reduce dust-generating activities during periods with strong wind.</li> <li>Earthworks may need to be rescheduled or the frequency of application of dust control/suppressant increased.</li> <li>Ensure that all construction vehicles are roadworthy and respect the vehicle safety</li> </ul>	Moderate	Low	4	Medium

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Aspect/ Impact Pathway	Nature of impact	Status	Spatial Extent	Dura- tion	Conse- quence	Proba- bility	Reversi- bility	Irreplac- eability	Mitigation Measures	Significance of Impact/Risk = Consequence x Probability		Ranking of Impact/ Risk	Confi- dence Level
										Without Mitigation	With Mitigation		
									standards implemented by the Project Developer. <ul style="list-style-type: none"> <li>Avoid using old and noisy construction equipment and ensure equipment is well maintained.</li> </ul>				
	Change in quality of surface condition of the roads	Posi- tive	Local	Long term	Slight	Likely	Yes	Replace- able	<ul style="list-style-type: none"> <li>Construction activities will have a higher impact than the normal road activity and therefore the road should be inspected on a weekly basis for structural damage;</li> <li>Implement management strategies for dust generation e.g. apply dust suppressant on the Transnet Service Road, exposed areas and stockpiles; and</li> <li>A Road Maintenance Plan should be developed for the section of the Transnet Service Road that will be used to addresses the following: <ul style="list-style-type: none"> <li>Grading requirements;</li> <li>Dust suppressant requirements;</li> <li>Drainage requirements;</li> <li>Signage; and</li> <li>Speed limits.</li> </ul> </li> </ul>	Low	Low	4	Medium
<b>OPERATIONAL PHASE</b>													
	Increase in traffic	Nega- tive	Regional	Short term	Slight	Very likely	High	Replace- able	<ul style="list-style-type: none"> <li>Adhere to requirements made within Transport Traffic Plan;</li> <li>Limit access to the site to personnel; and</li> <li>Ensure that where possible, staff members carpool to site.</li> </ul>	Very low	Very low	5	Medium
Traffic gene- ration	Accidents with pedestrians, animals and other drivers on the surrounding tarred/gravel roads	Nega- tive	Local	Long term	Extreme	Likely	No	High irreplac- ability	<ul style="list-style-type: none"> <li>Road kill monitoring programme (inclusive of wildlife collisions record keeping) should be established and fences installed, if needed to direct animals to safe road crossings.</li> <li>Adhere to all speed limits applicable to all roads used.</li> <li>Implement clear and visible signalisation indicating movement of vehicles and when turning off or onto the Transnet Service Road to</li> </ul>	High	Moderate	3	Medium

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Aspect/ Impact Pathway	Nature of impact	Status	Spatial Extent	Dura- tion	Conse- quence	Proba- bility	Reversi- bility	Irreplac- eability	Mitigation Measures	Significance of Impact/Risk = Consequence x Probability		Ranking of Impact/ Risk	Confi- dence Level
										Without Mitigation	With Mitigation		
									ensure safe entry and exit.				
	Impact on air quality due to dust generation, noise and release of air pollutants from vehicles and construction equipment	Nega- tive	Local	Medium term	Moderate	Unlikely	Yes	Replace- able	<ul style="list-style-type: none"> <li>Implement management strategies for dust generation e.g. apply dust suppressant on the Transnet Service Road, exposed areas and stockpiles;</li> <li>Limit noisy maintenance/operational activities to daytime only.</li> </ul>	Moderate	Low	4	Medium
	Change in quality of surface condition of the roads	Posi- tive	Local	Long term	Slight	Likely	Yes	Replace- able	<ul style="list-style-type: none"> <li>Implement requirements of the Road Maintenance Plan.</li> </ul>	Low	Low	4	Medium
<b>CUMULATIVE IMPACTS</b>													
Traffic genera- tion	Increase in traffic	Nega- tive	Regional	Long term	Mode- rate	Very likely	High	Replace- able	n/a	Low	Low	4	Medium

## 14.7 TRAFFIC IMPACT STATEMENT

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Based on the assessment of the potential impacts that can be associated with the traffic to be generated during the construction, operation and decommissioning phases of these projects, the overall impact from traffic generation is deemed to be **low** when implementing suitable mitigation measures, discussed in Section 14.5 and 14.6 of this Statement. The highest traffic will be generated during the construction phase.

The measures included within the EMPr must be adhered to, with the main requirements outlined below:

- Should abnormal loads have to be transported by road to the site, a permit needs to be obtained from the PGNC Department of Public Works, Roads and Transport.
- Provide a Transport Traffic Plan to SANRAL.
- Ensure that roadworthy and safety standards are implemented at all time for all construction.
- Adhere to all speed limits applicable to all roads used.
- Implement clear and visible signalisation indicating movement of vehicles and when turning off or onto the Transnet Service Road to ensure safe entry and exit.
- Implement management strategies for dust generation e.g. apply dust suppressant on the Transnet Service Road, exposed areas and stockpiles.
- Construction activities will have a higher impact than the normal road activity and therefore the road should be inspected on a weekly basis for structural damage.
- A Road Maintenance Plan should be developed for the section of the Transnet Service Road.
- Ensure that road network is maintained in a good state for the entire operational phase.

# EIA REPORT



## CHAPTER 15:

### Summary of Electromagnetic Interference Technical Report (Cumulative Topographical Analysis of Proposed PV Projects in AGA Area)

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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April 2016

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## 15 CUMULATIVE TOPOGRAPHICAL ANALYSIS OF PROPOSED PV PROJECTS IN AGA AREA

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### 15.1 INTRODUCTION

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MESA Solutions (Pty) Ltd (MESA Solutions) was appointed by the Developer to undertake a topographical analysis of the terrain profiles between various photovoltaic (PV) project locations in the Astronomy Geographic Advantage (AGA) area and the closest and core-site SKA telescopes. A total of three Scatec Solar sites (Kenhardt PV 1 to PV 3), as well as ten Mulilo sites (Boven PV1 to PV4; Gemsbok PV1 to PV6) in close proximity (as described in Chapter 4 of this EIA Report), are considered in this cumulative assessment. For each of the additional Mulilo sites, a preferred and an alternative site location was considered in terms of the total path loss to the closest and core SKA telescopes, in order to identify the recommended site location based on minimum potential impact. The full report, dated 10 February 2016, is included in Appendix K of this EIA Report. This technical report aims to inform the potential impact that the proposed project will have on the SKA project and to determine suitable mitigation measures to manage the risk (if any) posed to the SKA project by the development of this project.

This chapter provides a summary of the technical study that was undertaken.

#### 15.1.1 Background to the AGA Area

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The Astronomy Geographic Advantage (Act 21 of 2007) aims is to provide for the preservation and protection of areas within the Republic that are uniquely suited for optical and radio astronomy; to provide for intergovernmental co-operation and public consultation on matters concerning nationally significant astronomy advantage areas; and to provide for matters connected therewith. The purpose of the AGA Act is to preserve the geographic advantage areas that attract investment in astronomy. The AGA Act also notes that declared astronomy advantage areas are to be protected and properly maintained in terms of RFI.

The Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects fall within the Karoo Central Astronomy Advantage areas, which are protected against unnecessary EMI under the AGA Act. The closest SKA station is located within 20 km of the project sites, and according to the SKA Project Office, based on distance to the nearest SKA station, the location of the station, and the information currently available on the design of the proposed PV installation, the proposed facility poses a medium to high risk of detrimental impact on the SKA.

The SKA recommended (as shown in Appendix G of this EIA Report) that any transmitters that are to be established at the site for the purposes of voice and data communication will be required to comply with the relevant AGA Act Regulations (currently out for public comment) concerning the restriction of use of the radio frequency spectrum that applies in the study area. Furthermore, the SKA Project Office recommended that further EMI and RFI studies be undertaken.

In general, the dominating EMI produced by PV facilities are mainly in the form of switching noise from power electronics in the inverters or conditioning units, as well as clock signals from microprocessor control boards.

## 15.2 APPROACH AND METHODOLOGY

### 15.2.1 Approach

EMI Characterisation of the Representative Plant was determined by undertaking the following:

- *Conducted Measurements*
  - TD conducted measurements on supply cables to the Tracking Units show large pulses when the plant is ON.
  - Majority of the pulse energy extends up to at least 500 MHz.
  - Equivalent FD measurements on the wireless antenna and pressure switch cables agree.
  - Comparison with radiated results show higher frequencies radiate into the environment more efficiently.
  - Better part of noise is likely to emanate from the inverter.
  - Tracking Unit emissions are somewhat aggravated by the wireless communication.
  - Switching noise associated with the tracking of the panels creates broadband interference.
  - Biggest part of switching interference is generated by the pump contactor and relays.
- *Radiated Measurements*
  - Radiated results for the plant ON and in STANDBY mode show similar emissions levels.
  - This confirms that interference producing systems are never completely OFF.
  - Emissions associated with the Inverter units are dominant and occupy frequencies between 300 MHz and 2 GHz
  - Peak levels identified range between 30 - 35 dB $\mu$ V/m as measured at 10 m below 1 GHz and at 3 m above 1 GHz for both polarisations.
  - For purposes of RFI mitigation, the fixed line communication would be the preferred implementation.
  - The String Cabinet shows mostly broadband interference between 300 MHz and 800 MHz for both polarisations.
  - Comparative measurements made with the doors to the Inverters and Tracking Units open show the limited levels of shielding provided by these enclosures.
  - It is possible to improve the shielding by incorporating conductive gasketing.

Propagation Analysis was undertaken by looking at the Scatec Solar Kenhardt PV 1, PV 2 and PV 3 sites, and a preferred and alternative site location for the ten Mulilo proposed developments in terms of the total path loss to the SKA receivers. This study attempted to define an E-field upper limit, as a function of frequency, at which the plants are allowed to radiate without exceeding emission limits (SARAS protection and receiver saturation limits) at the various SKA telescope locations. The conformance of the plant can be determined by comparing representative measured results, made at Scatec Solar's 75 MW Dreunberg Solar Plant, to the calculated levels provided.

### 15.2.2 Findings

From the results it is found that:

- Radiated emissions at levels below that of CISPR 11/22 Class B are required (especially in the case of the closest telescope).
- Negligible terrain loss exists between majority of sites and closest SKA telescope.
- Predictions for the maximum allowed E-field level, as measured according to CISPR 11/22 Class B, are given in Figs. (a) to (c) below. A comparison with measured emission levels for each plant is shown.
- Based on plant emission and maximum allowed levels, the required (red) mitigation or surplus (green) attenuation for the closest, second closest and core-site telescopes (refer to Tables 15.1 to 15.3 below).

The tables below show a comparison between measured plant RFI and maximum allowed emission levels and outlines the approximate required mitigation (red), or surplus attenuation (green) for each recommended plant in relation to the closest, second closest and core-SKA telescopes. Required mitigation or surplus attenuation varies based on plant location and frequency. However, mitigation measures will have to be applied based on the highest required level. The required 50 dB of shielding at Boven PV1 at 942 MHz, for example, would require significant attention to detail to achieve.

**Table 15.1: The required (red) mitigation or surplus (green) attenuation for the closest telescope.**

Site Location	387.38 MHz	399.19 MHz	409.52 MHz	871.57 MHz	942.42 MHz	1223.81 MHz	1441.27 MHz	1584.12 MHz	1728.57 MHz	1819.05 MHz
Kenhardt PV1	12.55	18.03	14.58	23.06	23.28	1.96	-5.57	-10.4	-12.54	-2.51
Kenhardt PV2	25.23	30.77	27.38	37.53	37.99	17.28	10.17	5.52	3.5	13.6
Kenhardt PV3	6.94	12.37	8.87	15.98	16.03	-5.57	-13.23	-18.11	-20.3	-10.3
Boven PV1	36.02	41.47	37.99	47.05	47.43	26.85	19.92	15.43	13.61	23.82
Boven PV2	23.16	28.66	25.23	34.35	34.79	13.48	5.88	0.97	-1.29	8.67
Boven PV3	32.07	37.73	34.44	47.17	47.95	27.69	20.76	16.27	14.45	24.66
Boven PV4	35.48	40.95	37.5	46.79	47.17	26.59	19.66	15.17	13.35	23.56
Gemsbok PV1	14.85	20.36	16.94	26.52	26.91	5.98	-1.29	-6.01	-8.08	1.99
Gemsbok PV2	18.72	24.26	20.87	31.2	31.68	11.01	3.92	-0.72	-2.73	7.38
Gemsbok PV3	14.75	20.25	16.81	25.63	25.9	4.6	-2.93	-7.77	-9.02	0.09
Gemsbok PV4	31.52	37.06	33.66	43.06	43.38	22.1	14.54	9.64	7.38	17.34
Gemsbok PV5	24.01	29.42	25.92	32.36	32.29	9.96	1.69	-3.63	-6.27	3.43
Gemsbok PV6	26.8	32.34	28.94	39.25	39.73	19.02	11.88	7.2	5.14	15.21

**Table 15.2: The required (red) mitigation or surplus (green) attenuation for the second closest telescope.**

Site Location	387.38 MHz	399.19 MHz	409.52 MHz	871.57 MHz	942.42 MHz	1223.81 MHz	1441.27 MHz	1584.12 MHz	1728.57 MHz	1819.05 MHz
Kenhardt PV1	-1.38	4.07	0.59	7.05	6.94	-15.35	-23.55	-28.78	-31.31	-21.52
Kenhardt PV2	12.74	18.24	14.81	23.39	23.6	2.36	-5.07	-9.89	-12.05	-2.03
Kenhardt PV3	3.57	9.07	5.63	13.31	13.36	-8.6	-16.59	-21.69	-24.06	-14.19
Boven PV1	14.73	20.23	16.8	25.52	25.77	4.64	-2.72	-7.48	-9.58	0.46
Boven PV2	3.73	9.21	5.76	13.68	13.81	-7.7	-15.32	-20.25	-22.51	-12.57
Boven PV3	3.73	9.21	5.76	13.68	13.81	-7.7	-15.32	-20.25	-22.51	-12.57
Boven PV4	6.95	12.43	8.98	17.08	17.24	-4.17	-11.73	-16.61	-18.82	-8.84
Gemsbok PV1	6.64	12.1	8.64	14.75	14.56	-7.66	-15.72	-20.84	-23.23	-13.37
Gemsbok PV2	6.39	11.91	8.49	15.91	15.87	-6.01	-13.88	-18.9	-21.21	-11.29
Gemsbok PV3	7.22	12.7	9.25	15.89	15.77	-6.42	-14.51	-19.67	-22.11	-12.27
Gemsbok PV4	10.1	15.65	12.27	21.01	21.18	-0.36	-8.05	-13.0	-15.27	-5.33
Gemsbok PV5	4.92	10.42	6.99	14.78	14.84	-7.04	-14.98	-20.04	-22.4	-12.51
Gemsbok PV6	12.72	18.28	14.91	24.24	24.5	3.19	-4.35	-9.23	-11.45	-1.48

**Table 15.3: The required (red) mitigation or surplus (green) attenuation for the core-site telescope.**

Site Location	387.38 MHz	399.19 MHz	409.52 MHz	871.57 MHz	942.42 MHz	1223.81 MHz	1441.27 MHz	1584.12 MHz	1728.57 MHz	1819.05 MHz
Kenhardt PV1	-21.33	-15.96	-19.51	-14.15	-14.35	-36.27	-44.03	-45.97	-51.19	-41.21
Kenhardt PV2	-18.46	-13.12	-16.7	-12.06	-12.35	-34.46	-42.33	-47.32	-49.57	-39.61
Kenhardt PV3	-24.93	-19.53	-23.04	-16.73	-16.81	-38.43	-46.01	-50.85	-52.99	-42.97
Boven PV1	-15.48	-10.18	-13.79	-9.87	-10.25	-32.51	-40.46	-45.49	-47.77	-37.84
Boven PV2	-19.45	-14.12	-17.69	-13.13	-13.44	-35.56	-43.45	-48.44	-50.7	-40.74
Boven PV3	-19.45	-14.12	-17.69	-13.13	-13.44	-35.56	-43.45	-48.44	-50.7	-40.74
Boven PV4	-15.58	-10.28	-13.89	-10.0	-10.38	-32.64	-40.59	-45.62	-47.89	-37.95
Gemsbok PV1	-26.86	-21.45	-24.96	-18.6	-18.67	-40.28	-47.85	-52.69	-54.83	-44.81
Gemsbok PV2	-25.18	-19.78	-23.3	-17.06	-17.15	-38.81	-46.41	-51.27	-53.42	-43.41
Gemsbok PV3	-22.2	-16.84	-20.39	-15.06	-15.27	-37.2	-44.97	-49.91	-52.13	-42.16
Gemsbok PV4	-16.1	-10.82	-14.44	-10.79	-11.19	-33.51	-41.49	-46.53	-48.82	-38.89
Gemsbok PV5	-22.7	-17.32	-20.87	-15.26	-15.43	-37.26	-44.97	-49.88	-52.07	-42.09
Gemsbok PV6	-16.36	-11.07	-14.68	-10.91	-11.31	-33.62	-41.61	-46.65	-48.94	-39.0

### 15.3 MITIGATION MEASURES

It is strongly recommended that the following mitigation practises be incorporated into the plants design:

- The inverter units, transformers, communication and control units for an array of panels all be housed in a single shielded environment.
- For shielding of such an environment ensure:
- RFI gasketting be placed on all seams and doors.
- RFI Honeycomb filtering be placed on all ventilation openings.
- Cables to be laid directly in soil or properly grounded cable trays (not plastic sleeves).
- The use of bare copper directly in soil for earthing is recommended.
- Assuming a tracking PV plant design, care will have to be taken to shield the noise associated with the relays, contactors and hydraulic pumps of the tracking units.
- All data communications to and from the plant to be via fibre optic.

### 15.4 SUMMARY OF THE MAIN FINDINGS OF THE TECHNICAL STUDY

The three proposed Kenhardt plants are shown in Table 15.1 to exceed the SARAS protection levels by up to **38 dB toward the closest SKA telescope**. This includes the cumulative effect of a total of 13 PV plants developed. However, Boven PV1, PV3 and PV4 exceed this limit by approximately 50 dB in this scenario (these projects are not proposed by the Developer). For the case where only the three Kenhardt plants are developed, the exceedance will be reduced to 31.6 dB with a cumulative effect for N = 3 plants considered.

It is MESA's expectations that, if the mitigation measures that are specified are implemented correctly, attenuation of between **20 dB and 40 dB can be achieved**. The required maximum mitigation 50 dB for some plants, especially towards the closest telescope, would require significant attention to detail. It is important to note that the success of the mitigation measures cannot be guaranteed or confirmed until measurements on the post-mitigated operating plants (or representative installations) are performed. Furthermore, the findings from this assessment are for

the client's own edification, and will be taken into account by SKA-SA during their own propagation analysis. This study is therefore not meant to supersede any investigation done by SKA-SA or relevant RFI working groups. It remains the responsibility of the developer to meet compliance to the SKA requirements, and MESA Solutions cannot accept responsibility for any assessments made in this report which could cause non-compliance.

# EIA REPORT



## CHAPTER 16:

# Conclusions and Recommendations

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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Figure 16.3: Preliminary Site Layout Plan	16-22



## 16 CONCLUSIONS AND RECOMMENDATIONS

This chapter contains the main conclusions and recommendations from the EIA Process, provides the key findings of the specialist studies (i.e. outlines the most significant impacts identified, together with the key management actions required to avoid or mitigate the negative impacts or enhance positive benefits), an integrated summary of impacts that will influence decision-making by the Competent Authority (i.e. the DEA) and the associated management actions. In addition, the chapter also includes the EAP's opinion on the environmental suitability of the project and whether the project should receive EA.

### 16.1 SUMMARY OF IMPACT SIGNIFICANCE: MAIN IMPACTS AND KEY RECOMMENDATIONS

The 2014 NEMA EIA Regulations define a significant impact as “*an impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence*”.

Based on the definition above, this section provides a summary of significant impacts identified and assessed by the specialists in Chapters 7 to 13 of this finalised EIA Report (as noted in Table 16.1 below). The significant impacts and corresponding impact significance ratings before and after mitigation and associated mitigation and management measures are summarised in this section.

**Table 16.1: Specialist Studies**

Name	Organisation	Specialist Study Undertaken	Chapter in this EIA Report
Simon Bundy	Sustainable Development Projects cc	Ecological Impact Assessment (including Terrestrial Ecology, Aquatic Ecology and Avifauna)	Chapter 7
Henry Holland	Private	Visual Impact Assessment	Chapter 8
Dr. Jayson Orton	ASHA Consulting (Pty) Ltd	Heritage Impact Assessment (Archaeology and Cultural Landscape)	Chapter 9
Dr. John Almond	Natura Viva cc	Desktop Palaeontological Impact Assessment	Chapter 10
Julian Conrad	GEOSS	Geohydrological Assessment	Chapter 11
Johann Lanz	Private	Soils and Agricultural Potential Assessment	Chapter 12
Rudolph du Toit	CSIR	Social Impact Assessment	Chapter 13
Surina Laurie	CSIR	Traffic Impact Statement <i>(Refer to the explanation provided below)</i>	Chapter 14
P. S. van der Merwe and A. J. Otto	MESA Solutions (PTY) Ltd	Electro Magnetic Interference and Radio Frequency Interference Surveys <i>(Refer to the explanation provided below)</i>	Chapter 15

It must be reiterated that the Social Impact Assessment specialist study (included in Chapter 13 of this finalised EIA Report) was subject to a peer review process by an external reviewer (Ms. Liza van der Merwe, a private consultant), as requested by the DEA. This external review report is included as an appendix to the Social Impact Assessment.

A Traffic Impact Statement was also compiled by the EAP and is included in Chapter 14 of this finalised EIA Report; however it serves as a general description of the existing and predicted traffic associated with the proposed project and does not classify as a specialist study in terms of Appendix 6 of the 2014 NEMA EIA Regulations. Furthermore, this statement considered the full development (i.e. the development of the three proposed Solar PV Facilities (i.e. Kenhardt PV 1, 2 and 3) and the associated electrical infrastructure (which are the subjects of separate BA Processes)).

In addition, an Electro Magnetic Interference (EMI) and Radio Frequency Interference (RFI) Survey Technical Study was commissioned by the Project Applicant to determine the impact of the proposed project on the SKA, as requested by the SKA Project Office. This report is not a standard specialist study in terms of Appendix 6 of the 2014 NEMA EIA Regulations, as it is a detailed, technical report which provides a cumulative topographical analysis of the proposed PV projects in the Astronomy Geographic Advantage Area and was undertaken to determine appropriate mitigation and management measures to reduce the risk of a detrimental impact on the SKA project.

It should be noted that all the mitigation and management measures proposed by the specialists, including those additional impacts and management measures identified by the EAP (such as impacts on traffic, air quality, stockpiling recommendations, waste management and the management of dangerous goods on site) have been included in the EMPr (Part B of this finalised EIA Report).

It is also important to reiterate that the EIA Report was released to I&APs and stakeholders for a 30-day comment period extending from 3 March 2016 to 5 April 2016. However, none of the comments received to date (i.e. at the time of compiling this finalised EIA Report) have resulted in the need to amend the findings or scope of the specialist studies that have been undertaken. Therefore, the specialist studies have not been significantly amended since the release of the EIA Report in March 2016 for comment.

### ***16.1.1 Ecological Impact Assessment***

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As noted above, an Ecological Impact Assessment (Chapter 7 of this finalised EIA Report) has been undertaken in order to provide supporting information (relating to ecological features and associated impacts) in terms of the proposed construction of the Kenhardt PV 1 Solar Facility and associated infrastructure. The assessment included desktop evaluations, as well as site evaluations.

Table 16.2 illustrates a summary of the total number of impacts identified in the Ecological Impact Assessment.

**Table 16.2: Summary of Ecological Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase - Direct Impacts	8	4	3	1	0	6	2	0	0
Construction Phase - Indirect Impacts	6	4	1	1	0	5	1	0	0
Construction Phase - Cumulative Impacts	7	2	2	3	0	3	4	0	0
Operational Phase - Direct Impacts	6	3	2	1	0	4	2	0	0
Operational Phase - Indirect Impacts	3	1	0	2	0	1	2	0	0
Operational Phase - Cumulative Impacts	5	1	2	1	1	2	2	1	0
Decommissioning Phase - Direct Impacts	4	0	3	1	0	0	4	0	0
<b>TOTAL IMPACTS</b>	<b>39</b>								

It is important to note that in most cases, where the impacts have been rated with a low or very low significance before the implementation of mitigation measures, mitigation in these cases has not been provided in the Ecological Impact Assessment.

The majority of the impacts in the Ecological Impact Assessment were rated with a negative status. No positive impacts have been identified in the assessment. Overall, as indicated in Table 16.2, the impacts identified in the Ecological Impact Assessment (Chapter 7 of this finalised EIA Report) are predicted to be of a moderate to very low significance without the implementation of mitigation measures.

Overall, as derived from Table 16.2 above, no impacts were assessed as being of high significance after the implementation of mitigation measures.

The Ecological Impact Assessment concludes that based on the consideration of the site and its present ecological state, as well as the nature of the proposed development, it is in the specialists opinion that the development cannot be precluded from the site on ecological grounds, provided that suitable measures, as noted in the study (Chapter 7 of this EIA Report) are implemented. The following main mitigation measures were identified in the Ecological Impact Assessment specialist study and noted in the EMPr (Part B of this finalised EIA Report):

### **Pre-Construction and Construction Phases:**

- Carry out a second assessment of the site in or around February to March (subsequent to the issuing of an EA and the completion of the detailed engineering) in order to identify any additional plant specimens of significance that may be evident on site. Such specimens may be relocated/removed (i.e. search and rescue) or avoided (with the relevant permits and approvals in place) prior to the commencement of construction.
- The detailed design of the laydown footprint of the arrays should take consideration of the minor drainage lines present on site and any additional significant plant species that may be identified prior to the commencement of construction. Other features of the site should be incorporated into the PV array design.
- Major drainage lines must be excluded from the development footprint.
- An initial pre-construction clearance of all exotic vegetation on site should be undertaken to reduce the possibility of further exotic weed invasion. Continued exotic weed control measures should be implemented during the construction phase and may be incorporated into an exotic weed control plan for the site.

### Operational Phase:

- Provision of critter paths within the fencing should be considered in the design.
- Promote and support faunal presence and activities within the proposed PV facility, where applicable.
- Adopt “dry” cleaning methods, such as dusting and sweeping the site before washing down.
- Conduct regular (daily) inspections of the fence line to address any animals that may be affected by the electric fence (i.e. tortoise).

### Decommissioning Phase:

- Conduct monitoring of the land conditions and redress of exotic weeds found present on site.
- Implement the stabilisation of disturbed lands immediately after the clearance of the land (for the arrays and related infrastructure).

## 16.1.2 Visual Impact Assessment

As noted above, a Visual Impact Assessment specialist study was conducted (included in Chapter 8 of this finalised EIA Report) for the proposed construction of the Kenhardt PV 1 Solar PV facility. The assessment concluded that the landscape surrounding the proposed site has a rural agricultural character which has been transformed by extensive stock farming and large scale infrastructure in the form of the Sishen-Saldanha ore railway line and Eskom Nieuwehoop Substation (currently being constructed).

Table 16.3 illustrates a summary of the total number of impacts identified in the Visual Impact Assessment.

**Table 16.3: Summary of Visual Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase: Direct Impacts	1	0	0	1	0	0	1	0	0
Operational Phase: Direct Impacts	3	2	0	1	0	2	1	0	0
Decommissioning Phase: Direct Impacts	1	0	1	1	0	0	1	0	0
Cumulative Impacts	2	1	1	0	0	1	1	0	0
<b>TOTAL IMPACTS</b>	<b>7</b>								

It is important to note that in some cases, where the impacts have been rated with a low or very low significance before the implementation of mitigation measures, mitigation has not been provided in the Visual Impact Assessment. No indirect or positive impacts were identified in the Visual Impact Assessment. The majority of the impacts identified in the Visual Impact Assessment were rated with a negative status.

Overall, as indicated in Table 16.3, the impacts identified in the Visual Impact Assessment (Chapter 8 of this EIA Report) are predicted to be of a **moderate to very low** significance without the implementation of mitigation measures.

The following main mitigation measures were identified in the Visual Impact Assessment specialist study:

### **Construction Phase:**

- Preparation of the solar field area (i.e. clearance of vegetation, grading, contouring and compacting) and solar field construction should be phased in a way that makes practical sense in order to minimise the area of soil exposed and duration of exposure.

### **Operational Phase:**

- The project developer should maintain re-vegetated surfaces until a self-sustaining stand of vegetation is established and visually adapted to the undisturbed surrounding vegetation. No new disturbance should be created during operations without approval by the Environmental Officer;
- Restoration of disturbed land should commence as soon after disturbance as possible; and
- A lighting plan that documents the design, layout and technology used for lighting purposes should be prepared, indicating how nightscape impacts will be minimised.

### **Decommissioning Phase:**

- Disturbed and transformed areas should be contoured to approximate naturally occurring slopes to avoid lines and forms that will contrast with the existing landscapes.

## **16.1.3 Heritage Impact Assessment (Archaeology and Cultural Landscape)**

A Heritage Impact Assessment (HIA) was undertaken as part of the EIA Process (included in Chapter 9 of this finalised EIA Report).

Table 16.4 illustrates a summary of the total number of impacts identified in the HIA.

**Table 16.4: Summary of Heritage Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase: Direct Impacts	3	1	1	0	1	2	1	0	0
Operational Phase: Direct Impacts	1	0	1	0	0	0	1	0	0
Decommissioning Phase: Direct Impacts	1	0	1	0	0	0	1	0	0
Cumulative Impacts	3	1	2	0	0	2	1	0	0
<b>TOTAL IMPACTS</b>	<b>8</b>								

All the above impacts were rated with a negative status. Overall, the above impacts are predicted to be of a **low significance** without the implementation of mitigation measures. No impacts were assessed as being of high significance with the implementation of mitigation.

The HIA concluded that because the potential impacts are few and entirely manageable, it is recommended that the proposed project be allowed to continue, however subject to the following conditions:

- The construction team should be informed of the possibility of encountering graves and should be encouraged to report any suspicious-looking stone features prior to disturbance;
- The potential grave should be avoided with a buffer of at least 5 m or else tested and, if necessary, exhumed prior to construction;

- The built elements of the facility should be painted in an earthy colour to minimise visual contrast in the landscape; and
- If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.

An additional management measure includes ensuring that all works occur inside the approved development footprint.

### 16.1.4 Desktop Palaeontological Impact Assessment

A desktop Palaeontological Impact Assessment was undertaken as part of the EIA Process (included in Chapter 10 of this finalised EIA Report) to provide an assessment of potential impacts on local palaeontological (i.e. fossil) heritage within the proposed Kenhardt PV 1 facility area.

Table 16.5 illustrates a summary of the total number of impacts identified in the Palaeontological Impact Assessment.

**Table 16.5: Summary of Palaeontological Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase: Direct Impacts	1	1	0	0	0	1	0	0	0
Cumulative Impacts	1	1	0	0	0	1	0	0	0
<b>TOTAL IMPACTS</b>	<b>2</b>								

No significant impacts on palaeontological heritage are anticipated during the operational and decommissioning phases of the proposed development. The above impacts were rated with a negative status. It is clear from Table 16.5 above that the impacts were assessed as being of **very low** significance without and with the implementation of mitigation.

The following main mitigation measures were identified in the Palaeontological Impact Assessment:

#### Construction Phase:

- All substantial bedrock excavations (into sedimentary rocks) should be monitored for fossil material by the responsible ECO. Should significant fossil remains - such as vertebrate bones and teeth, plant-rich fossil lenses, petrified wood or dense fossil burrow assemblages - be exposed during construction, the responsible ECO should safeguard these, preferably *in situ*. The SAHRA should be alerted as soon as possible, so that appropriate action can be taken by a professional palaeontologist.
- Appoint a professional palaeontologist to record and sample any chance fossil finds. Mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data (e.g. stratigraphy, sedimentology, taphonomy) by a professional palaeontologist. The palaeontologist concerned with mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection).

The Palaeontological Impact Assessment concludes that there are no fatal flaws in the proposed development, nor are there objections to its authorisation as far as fossil heritage conservation is concerned, since significant impacts on scientifically valuable fossils or fossil sites are not anticipated.

### 16.1.5 Geohydrological Assessment

A Geohydrological Assessment (Chapter 11 of this finalised EIA Report) was conducted as part of the EIA Process in order to identify and assess impacts associated with the construction and operation of the proposed project on the groundwater and geohydrological resources.

Table 16.6 illustrates a summary of the total number of impacts identified in the Geohydrological Assessment.

**Table 16.6: Summary of Geohydrological Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase: Direct Impacts	3	3	0	0	0	3	0	0	0
Construction Phase: Indirect Impacts	3	3	0	0	0	3	0	0	0
Operational Phase: Direct Impacts	2	2	0	0	0	2	0	0	0
Operational Phase: Indirect Impacts	2	2	0	0	0	2	0	0	0
Decommissioning Phase: Direct Impacts	1	1	0	0	0	1	0	0	0
Decommissioning Phase: Indirect Impacts	1	1	0	0	0	1	0	0	0
<b>TOTAL IMPACTS</b>	<b>12</b>								

As derived from Table 16.6 above, it is clear that all impacts were identified with a **very low significance** without and with the implementation of mitigation measures. The impacts identified above are all rated with a neutral status.

The following main mitigation measures were identified in the Geohydrological Assessment:

#### **Construction, Operational and Decommissioning Phases:**

- All reasonable measures must be taken to prevent soil, storm water outflows and groundwater contamination.
- Emergency measures and plans must be put in place and rehearsed in order to prepare for accidental spillage.
- Vehicle and washing areas must also be on paved surfaces and the by-products correctly managed.
- If spillages occur, they should be contained and removed as rapidly as possible, with correct disposal procedures of the spilled material. Proof of disposal (waste disposal slips or waybills) should be obtained and retained on file for auditing purposes.

The Geohydrological Assessment concludes that from a groundwater perspective the proposed activity can be authorised and no specific measures are applicable other than all reasonable measures to prevent soil and groundwater contamination, especially by hydrocarbons, must be in place.

### 16.1.6 Soils and Agricultural Potential Assessment

A Soils and Agricultural Potential Assessment (Chapter 12 of this finalised EIA Report) was conducted as part of the EIA Process in order to identify and assess all potential impacts of the proposed development on agricultural resources including soils and agricultural production potential, and to provide recommended mitigation measures, monitoring requirements, and rehabilitation guidelines for all identified impacts.

Table 16.7 illustrates a summary of the total number of impacts identified in the Soils and Agricultural Potential Assessment.

**Table 16.7: Summary of Soils and Agricultural Potential Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase: Direct Impacts	5	4	1	0	0	5	0	0	0
Operational Phase: Direct Impacts	3	2	1	0	0	3	0	0	0
Decommissioning Phase: Direct Impacts	5	4	1	0	0	5	0	0	0
Cumulative Impacts	1	0	0	1	0	0	0	1	0
<b>TOTAL IMPACTS</b>	<b>14</b>								

It is important to note that in some cases, where the impacts have been rated with a low or very low significance before the implementation of mitigation measures, mitigation has not been suggested in the Soils and Agricultural Potential Assessment. No indirect impacts were identified. All of the above impacts were rated with a negative status, except for the impact relating to the generation of additional land use income through the rental of the land for the proposed solar energy facility, which was rated with a positive status.

All impacts apart from the cumulative impact were assessed as having a **very low or low significance**, and the overall agricultural impact for all phases of the development was assessed as being of a **low significance**.

The following main mitigation measures were identified in the Soils and Agricultural Potential Assessment:

**Construction, Operational and Decommissioning Phases:**

- Implement an effective system of stormwater run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.

The study concludes that because of the low agricultural potential of the site, the development should, from an agricultural impact perspective, be authorised.

***16.1.7 Social Impact Assessment***

A Social Impact Assessment (included in Chapter 13 of this finalised EIA Report) was undertaken as part of the EIA Process to investigate the potential social disruptors and associated social impacts likely to result from the proposed project.

Table 16.8 below illustrates a summary of the total number of impacts identified in the Social Impact Assessment.



**Table 16.8: Summary of Social Impacts**

	Total Impacts	Significance Before Mitigation				Significance After Mitigation			
		Very Low	Low	Moderate	High	Very Low	Low	Moderate	High
Construction Phase: Direct Impacts	6	0	2	4	0	1	3	2	0
Operational Phase: Direct Impacts	6	0	2	4	0	1	3	2	0
Decommissioning Phase: Direct Impacts	1	0	0	1	0	0	1	0	0
Cumulative Impacts	1	0	0	0	0	0	1	0	0
<b>TOTAL IMPACTS</b>	<b>14</b>								

No indirect impacts have been identified in the specialist study. It is clear from Table 16.8 that no impacts were assessed as being of high significance with or without the implementation of mitigation. The overall significance rating of the negative socio-economic impacts associated with the proposed project is low to moderate; whereas the overall significance rating of the positive socio-economic impacts associated with the proposed development is moderate.

The following main mitigation measures were identified in the Social Impact Assessment:

#### **Construction and Operational Phases:**

- Develop and implement a Workforce Recruitment Plan;
- Clearly define and agree upon the Project Affected People (PAP);
- Develop a database of PAP and their relevant skills and experience, or use an existing legitimate database of skills and expertise;
- Develop and implement a Stakeholder Engagement Plan;
- Delivery on the Economic Development Plan must be contractually binding on the proponent;
- Procure goods and services, where practical, within the study area;
- The proponent should engage with local NGOs, CBOs and local government structures in the Kenhardt community to identify and agree upon relevant skills and competencies required;
- Such skills and competencies should then be included in the Economic Development Plan; and
- Where possible, align the Economic Development Plan with Local Municipality's IDP.

#### **Decommissioning Phase:**

- Scatec should also consider appropriate succession training of locally employed staff earmarked for retrenchment during decommissioning; and
- All project infrastructures should be decommissioned appropriately and thoroughly to avoid misuse.

### **16.1.8 Traffic Impact Statement**

As noted above and included in Chapter 14 of this finalised EIA Report, the Traffic Impact Statement (TIS) was produced by the CSIR to show the amount of traffic that can be expected during the construction and operational phases of the development of the proposed Kenhardt PV 1, Kenhardt PV 2, and Kenhardt PV 3 solar energy projects (i.e. separate EIA Processes), as well as the proposed Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line, and Kenhardt PV 3 - Transmission Line projects (assessed as part of separate BA Processes). The TIS focuses on the regional setting in which these projects are proposed and the roads that will be utilised for these projects.

Overall, the above impacts identified as part of the TIS are predicted to be of a **moderate to low significance** without and with the implementation of mitigation measures. No impacts were assessed as being of high significance after the implementation of mitigation.

The following main mitigation measures were identified in the TIS:

### **Construction, Operational and Decommissioning Phases:**

- Should abnormal loads have to be transported by road to the site, a permit needs to be obtained from the Provincial Government Northern Cape (PGNC) Department of Public Works, Roads and Transport.
- A Road Maintenance Plan should be developed for the section of the Transnet Service Road.

#### ***16.1.9 Cumulative Topographical Analysis of the proposed PV projects in the Astronomy Geographic Advantage Area***

As noted above, MESA Solutions (Pty) Ltd (MESA Solutions) was appointed by the Scatec Solar to undertake a topographical analysis of the terrain profiles between various proposed PV project locations (assessed separately as part of EIA Processes) in the Astronomy Geographic Advantage (AGA) area and the closest and core-site SKA telescopes.

The study considered the worst case scenario in terms of risk to the SKA project, whereby it was assumed that all 13 solar facilities (i.e. Kenhardt PV 1, 2 and 3 proposed by Scatec Solar; and Boven PV1 to PV4 and Gembok PV1 to PV6 proposed by Mulilo) currently planned in the area are constructed. It should however be noted that depending on how many solar facilities are constructed on site, the cumulative impact will differ. For example, if all 13 proposed facilities are constructed, then the exceedance of emissions from the three Scatec Solar Kenhardt facilities (i.e. the facilities under consideration) above the required protection level, taking into account their locations, will be 38 dB towards the closest SKA Telescope. However, if only the three Kenhardt facilities are constructed, the cumulative effect reduces, and so the exceedance above the required protection level reduces to 31.6 dB towards the closest SKA Telescope.

The study concluded that it is strongly recommended that the following mitigation practises be incorporated into the plants design:

- The inverter units, transformers, communication and control units for an array of panels all be housed in a single shielded environment.
- For shielding of such an environment ensure RFI gasketing be placed on all seams and doors and RFI Honeycomb filtering be placed on all ventilation openings.
- Cables to be laid directly in soil or properly grounded cable trays (not plastic sleeves).
- The use of bare copper directly in soil for earthing is recommended.
- Assuming a tracking PV plant design, care will have to be taken to shield the noise associated with the relays, contactors and hydraulic pumps of the tracking units.
- All data communications to and from the plant to be via fibre optic.

As noted in Chapter 4 and Chapter 6 of this finalised EIA Report, the SKA Project Office has reviewed the technical report compiled by MESA Solutions. As part of their review, the SKA Project Office recommended (in a letter dated 23 March 2016 and included in Appendix G of this finalised EIA Report) that an appropriate Electromagnetic Control (EMC) Plan should be developed to identify specific mitigation measures that will be implemented for Kenhardt PV 1, PV 2 and PV 3. The SKA Project Office further recommended that in particular, the measures implemented for **Kenhardt PV 2 (separate EIA Process followed and EIA Report produced)** should be tested and proven within a laboratory environment prior to the commencement of construction.

The mitigation measures provided as part of the MESA study will assist in ensuring adherence to the South African Radio Astronomy Services (SARAS) protection level threshold.

Scatec Solar have allocated project budget and have committed to adhere to the provisions stipulated within the correspondence from the SKA dated 23 March 2016. The EMC Plan will be provided to the SKA for comment and authorisation during the pre-construction design phase. Refer to Appendix E of this finalised EIA Report for a letter from the Project Applicant to the DEA stating its commitment to the implementation of the mitigation measures and recommendations of the SKA Project Office.

In order to ensure further commitment from the Project Developer, it is recommended that the abovementioned recommendations from the SKA Project Office (i.e. to compile an EMC Plan and obtain approval from the SKA on the plan prior to construction) be included as conditions to the EA (should such an authorisation be granted).

## 16.2 SUMMARY: COMPARATIVE ASSESSMENT OF POSITIVE AND NEGATIVE DIRECT AND INDIRECT IMPACTS

Section 16.1 provides a summary of the findings of the specialist studies (or inputs) that were sourced as part of this EIA Process. Table 16.9 summarises the overall significance of these impacts following the implementation of the recommended mitigation and management measures. From this table it can be seen that no negative impacts of high significance are predicted to occur as a result of this project provided the stipulated management actions are implemented effectively. The positive impacts generated by the project are associated with the economic benefits from employment opportunities, and the additional source of income from the rental of the land for the construction and operation of the proposed PV facility. Considering that all the negative impacts would be appropriately managed and the positive impacts enhanced through respective mitigation measures and management actions via the EMPr (Part B of this finalised EIA Report), the potential negative impacts associated with the proposed project are not anticipated to be significant.

**Table 16.9: Comparative Assessment of Positive and Negative Direct and Indirect Impacts**

Specialist Study	Overall Impact Significance Before Mitigation or Enhancement	Overall Impact Significance After Mitigation or Enhancement
Ecological Impact Assessment (including Terrestrial Ecology, Aquatic Ecology and Avifauna)	Negative: Moderate-Very Low	Negative: Very Low-Low
Visual Impact Assessment	Neutral: Moderate-Very Low	Neutral: Low-Very Low
Heritage Impact Assessment (Archaeology and Cultural Landscape)	Negative: High-Very Low	Negative: Low-Very Low
Desktop Palaeontological Impact Assessment	Negative: Very Low	Negative: Very Low
Geohydrological Assessment	Neutral: Very Low	Neutral: Very Low
Soils and Agricultural Potential Assessment	Negative: Very Low-Low	Negative: Very Low
	Positive: Very Low	Positive: Very Low
Social Impact Assessment	Negative: Moderate-Low	Negative: Low-Very Low
	Positive: Moderate-Low	Positive: Moderate-Low
Traffic Impact Statement	Negative: High-Low	Negative: Moderate-Low

### 16.3 SUMMARY OF CUMULATIVE IMPACTS

Table 16.10 below provides a summary of the cumulative impacts that the proposed Kenhardt PV 1 project (in conjunction with other proposed projects noted in Chapter 4, including those proposed by Scatec Solar) will have on the receiving environment. The mitigation and management measures to be implemented for the cumulative impacts are detailed in the relevant specialist chapters.

**Table 16.10: Comparative Assessment of Cumulative Impacts**

Specialist Study	Impact Description	Cumulative Impact Significance
Ecological Impact Assessment (including Terrestrial Ecology, Aquatic Ecology and Avifauna)	<ul style="list-style-type: none"> <li>▪ Extensive alteration of habitat structure and composition over an extensive and wide area;</li> <li>▪ Changes in fauna through exclusion of certain species and beneficiation of others over an extensive and wide area;</li> <li>▪ Increased change in the geomorphological state of drainage lines on account of long term and extensive change in the nature of the catchment;</li> <li>▪ The continued and cumulative loss of habitat at a landscape to regional level, with a particular impact on avifaunal behaviour;</li> <li>▪ Changes in water resources and surface water in terms of water quality (i.e. impact on water chemistry) on account of extensive changes in the catchment; and</li> <li>▪ Exotic weed invasion as a consequence of regular and continued disturbance across an extensive area of site.</li> </ul>	<p>Before Mitigation: High to Very Low                      After Mitigation: Very Low to Moderate</p>
Visual Impact Assessment	<ul style="list-style-type: none"> <li>▪ Cumulative impact of solar energy generation projects and large scale electrical infrastructure on the existing rural-agricultural landscape.</li> </ul>	<p>Before Mitigation: Very Low                      After Mitigation: No mitigation applicable</p>
	<ul style="list-style-type: none"> <li>▪ Cumulative visual impact of solar energy generation projects and large scale electrical infrastructure on existing views of sensitive visual receptors in the surrounding landscape.</li> </ul>	<p>Before Mitigation: Low                      After Mitigation: No mitigation applicable</p>
Heritage Impact Assessment (Archaeology and Cultural Landscape)	<ul style="list-style-type: none"> <li>▪ Damage to or destruction of archaeological resources.</li> </ul>	<p>Before Mitigation: Very Low                      After Mitigation: No mitigation applicable</p>
	<ul style="list-style-type: none"> <li>▪ Damage to or destruction of graves</li> </ul>	<p>Before Mitigation: Low                      After Mitigation: Very Low</p>
	<ul style="list-style-type: none"> <li>▪ Impacts to the cultural and natural landscape</li> </ul>	<p>Before Mitigation: Low                      After Mitigation: Low</p>
Desktop Palaeontological Impact Assessment	<ul style="list-style-type: none"> <li>▪ Potential cumulative loss of palaeontological heritage resources through disturbance, damage or destruction of fossils and fossil sites (including associated geological contextual data) through surface clearance and excavation activities during the construction phase of several alternative energy facilities within the broader Kenhardt region and other key electrical infrastructure developments within a 20 km radius of the proposed project site.</li> </ul>	<p>Before Mitigation: Very Low                      After Mitigation: Very Low</p>

Specialist Study	Impact Description	Cumulative Impact Significance
Geohydrological Assessment	<ul style="list-style-type: none"> <li>As it is not recommended (based on the findings of the Geohydrological Assessment) to make use of the groundwater, the proposed development will have no cumulative impacts on groundwater.</li> </ul>	Not Applicable
Soils and Agricultural Potential Assessment	<ul style="list-style-type: none"> <li>Occupation of the land by the infrastructure of multiple projects</li> </ul>	Before Mitigation: Moderate After Mitigation: No mitigation applicable
Social Impact Assessment	<ul style="list-style-type: none"> <li>Exacerbated in-migration</li> </ul>	Before Mitigation: Moderate After Mitigation: No mitigation applicable
Traffic Impact Statement	<ul style="list-style-type: none"> <li>Increased traffic generation</li> </ul>	Before Mitigation: Low After Mitigation: No mitigation applicable

## 16.4 CONSIDERATION OF ALTERNATIVES

The alternatives that were considered as part of the EIA Phase for the Kenhardt PV 1 facility are included in Chapter 5 of this finalised EIA Report.

### 16.4.1 No-go Alternative

The no-go alternative assumes that the proposed project will not go ahead i.e. it is the option of not constructing the proposed Kenhardt PV 1 project. This alternative would result in no environmental impacts on the site or surrounding local area. The following implications will occur if the “no-go” alternative is implemented:

- No benefits will be derived from the implementation of an additional land-use;
- No additional power will be generated or supplied through means of renewable energy resources by this project at this location. The proposed 75 MW facility is predicted to generate approximately 200 GW/h per year which could power 20 000 households;
- The “no go” alternative will not contribute to and assist the government in achieving its proposed renewable energy target of 17 800 MW by 2030;
- Additional power to the local grid will need to be provided via the Eskom grid, with approximately 90% coal-based power generation with associated high levels of CO<sub>2</sub> emissions and water consumption;
- Electricity generation will remain constant (i.e. no additional renewable energy generation will occur on the proposed site) and the local economy will not be diversified;
- Local communities will continue their dependence on agriculture production and government subsidies. The local municipality’s vulnerability to economic downturns will increase because of limited access to capital;
- There will be no opportunity for additional employment in an area where job creation is identified as a key priority. Between 90 and 150 skilled and 400 and 460 unskilled employment opportunities are expected to be created during the construction phase. Approximately 20 skilled and 40 unskilled employment opportunities will be created over the 20 year lifespan of the proposed facility;
- There will be lost opportunity for skills transfer and education/training of local communities;
- The positive socio-economic impacts likely to result from the project such as increased local spending, the proposed implementation of an Economic Development Plan and the creation of local employment opportunities will not be realised; and

- The local economic benefits associated with the REIPPPP will not be realised, and socio-economic contribution payments into the local community trust will not be realised.

Converse to the above, the following benefits could occur if the “no-go” alternative is implemented:

- There will be no development of solar energy facilities at the proposed location;
- Only the agricultural land use will remain;
- No threatened vegetation will be removed or disturbed during the development of these facilities;
- No change to the current landscape will occur i.e. the existing landscape will remain as is, without the visual impact of the proposed PV facility, but noting that the existing landscape would still change as Eskom plan to construct the Nieuwehoop substation and high voltage transmission lines for which an EA has been issued;
- No additional transmission lines and additional electrical infrastructure will be constructed, as a result of the proposed project (and associated transmission line which has been assessed as part of a separate BA Process), which may cause bird collisions or fences/infrastructure that may restrict animal movement and create habitat fragmentation, but noting that Eskom will construct high voltage lines within the region;
- No additional water use during the construction phase and the cleaning of panels during the operational phase;
- No additional traffic would be generated from this project in this area; and
- No increase in social deviance and influx of job seekers into the Kenhardt area.

It is important to take into account that the country is facing serious power and water shortages due to its heavy dependency on fossil fuels such as coal. There is therefore a need for additional electricity generation options to be developed throughout the country. As discussed in Chapter 1 of this finalised EIA Report, the purpose of the proposed Kenhardt PV 1 project is to feed electricity generated by a renewable energy resource into the national electricity grid. Many other socio-economic and environmental benefits will result from the development of this project such as development of renewable energy resources in the country and contribution to the increase of energy security, employment creation and local economic development (as noted above).

In addition, the Soils and Agricultural Potential Assessment (Chapter 12 of this finalised EIA Report) notes that the land on which the proposed project will be constructed is of low agricultural potential and is not suitable for cultivation. Therefore, the current land-use (i.e. agricultural use) is not deemed as the preferred alternative and can still continue around the site for the lifetime of the project.

Hence, while the “no-go” alternative will not result in any negative environmental impacts; it will also not result in any positive community development or socio-economic benefits, nor will it generate an alternative land-use income from the solar energy facility. It will also not assist government in addressing climate change, reaching its set targets for renewable energy, nor will it assist in supplying the increasing electricity demand within the country. Hence the “no-go” alternative is not a preferred alternative.

#### **16.4.2 Land-Use Alternative**

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As discussed above, the sole use of the land for agriculture is not a preferred alternative.

Where the “activity” is the generation of electricity, possible reasonable and feasible land-use alternatives for the proposed properties include Biomass, Hydro Energy and Wind Energy. However, based on the preliminary investigations undertaken by the Project Applicant, no other renewable energy technologies are deemed to be appropriate or suitable for the site. Furthermore, from an impact and risk assessment perspective, the implementation of a solar PV project on the remaining extent of Onder Rugzeer Farm 168 will result in fewer risks and lower significance impacts in comparison to the implementation of wind energy, hydro power and biomass.

As previously noted, the proposed solar facility currently falls within the REDZ 7. The proposed project is therefore in line with the criteria of the SEA and located in an area of strategic importance for Solar PV development. It should be noted that even if a project falls within a REDZ, the proposed development still requires site specific assessments as per the site protocol (still in development and not yet promulgated) in order to determine the potential impacts of a project at a local and site specific level.

Therefore, the implementation of a solar energy facility at the proposed project site is more favourable and feasible than other alternative energy facilities (i.e. for generating 20 MW or more from a renewable resource). Therefore in terms of project and location compatibility, the proposed solar facility is considered to be the most feasible renewable energy land use alternative. Furthermore, it is important to note that solar energy development (i.e. not wind energy, hydro power and biomass) is the Project Applicant's core business area and focus. The experience that the Project Applicant has within the solar energy development industry will positively benefit the proposed project.

### *16.4.3 Site and Location Alternatives*

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As discussed in Chapter 5 of this finalised EIA Report, an alternative site was considered during the Scoping Phase, however only the preferred site for the Kenhardt PV 1 facility has been assessed in this EIA. From an impact and risk assessment perspective, the implementation of a solar PV project on the remaining extent of Onder Rugzeer Farm 168 will result in fewer risks in comparison to its implementation at the alternate sites (that were considered during the Scoping Phase) within the Northern Cape (i.e. regions with similar irradiation levels). The following risks and impacts will be likely in this case:

- There is no guarantee that suitable land will be available for development of a solar PV facility. Site geotechnical conditions, topography, fire potential and ready access to a site might not be suitable, thus resulting in negative environmental implications and reduced financial viability.
- There is no guarantee that the current land use of alternative sites (that were considered during the Scoping Phase) will be flexible in terms of development potential, for example the agricultural potential for alternative sites might be higher and of greater significance.
- There is no guarantee of the willingness of other landowners to allow the implementation of a solar facility on their land and if the landowners strongly object, then the project will not be feasible.
- There is no guarantee that other sites within the Northern Cape will be located close to existing or proposed electrical infrastructure to enable connection to the national grid. The further away a project is from the grid, the higher the potential for significant environmental and economic impacts.

As previously noted, the proposed Kenhardt PV 1 facility is one part of a bigger project by Scatec Solar to develop three Solar PV Facilities in total. The main determining points for Scatec Solar was to find suitable, developable land in one contiguous block to optimise design, minimise costs, and minimise sprawling development and impact footprints. In addition, the proximity to the Eskom Nieuwehoop Substation was a major determinant for identifying suitable sites for the proposed development.

Given the site selection requirements associated with solar energy facilities and the suitability of the land available on the remaining extent of Onder Rugzeer Farm 168, no other site alternatives were considered in the EIA Phase.

### *16.4.4 Layout Alternatives*

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Refer to Section 16.5 of this chapter which describes the Development Envelope approach which was used to select the location for the proposed PV facility.

### 16.4.5 Technology Alternatives

As discussed in Chapter 2 and Chapter 5 of this finalised EIA Report, only the PV solar panel technology type has been considered in the EIA Phase.

In addition, four main mounting systems have been included in the proposed project description namely: single axis tracking systems; fixed axis tracking systems; dual axis tracking systems; and fixed tilt mounting structures. The type of mounting system will be confirmed during the detailed engineering phase and whichever mounting system is selected would have no impact on any aspect assessed within the EIA.

## 16.5 DEVELOPMENT ENVELOPE AND LAYOUT OF THE PROPOSED KENHARDT PV 1 FACILITY

As noted in Chapter 5 of this finalised EIA Report, the Rochdale Envelope Approach<sup>1</sup> was applied to determine the preferred Development Envelope for the proposed PV facility. This entailed assessing a larger 450 ha area as part of the EIA. This 450 ha is shown in green in Figure 16.1 below.

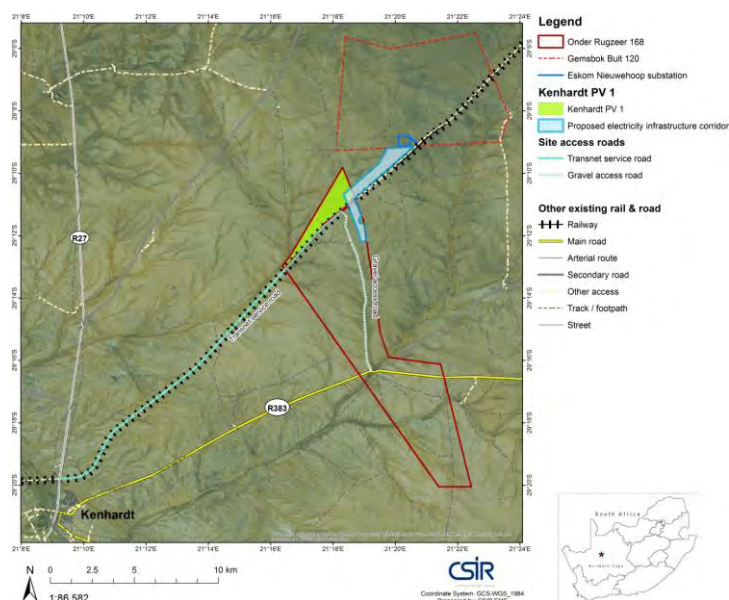


Figure 16.1: Map indicating the 450 ha site assessed for the Kenhardt PV 1 facility (and the Electrical Infrastructure Corridor (which is assessed as part of separate BA Processes))

The Development Envelope was determined based on the environmental sensitivities present on the site, as identified by the specialists. The following sensitive areas were identified by the specialists for consideration in the Development Envelope and site layout:

#### Ecological Sensitivities:

- In terms of aquatic ecology and drainage features, the Wolfkopseloop drainage feature lies to the north of the Kenhardt PV 1 site and forms the most significant surface feature within the region. The zones that should be subject to exclusion from any proposed development within the study area include the major drainage features that are associated with and proximal to the Wolfkopseloop drainage system (as shown in blue in Figure 16.2 below). A 32 m “buffer” or “setback” around the major drainage lines has been established and recommended by the specialist (as shown in Figure 16.2

<sup>1</sup> Infrastructure Planning Commission (IPC), Using the ‘Rochdale Envelope’. February 2011



below). As noted in the Ecological Impact Assessment, this buffer is understood to be the indicative norm recommended by the various authorities and is considered acceptable in light of the fact that hydrogeomorphic features are the primary dictate in the identification and delineation of the major drainage lines, rather than other functional features such as geohydromorphic soil conditions or botanical species diversity and compositional variation. No additional sites of ecological significance that should be excluded from the development footprint have been identified. The “minor” drainage features (shown in black in Figure 16.2 below) are not considered to require exclusion (as explained in the Ecological Impact Assessment included in Chapter 7 of this finalised EIA Report).

As noted in this finalised EIA Report, either the Transnet Service Road or the unnamed farm road will be used to gain access to the site. If the Transnet Service Road is not selected for access, then the unnamed farm gravel road will be used. In order to make use of the unnamed farm road and to ensure easy access to and mobility of large trucks, the unnamed farm road will need to be upgraded and widened by more than 6 m (where required). It is expected that the upgrading and widening of the unnamed farm road will result in crossings of major and minor drainages lines on site. As noted above, the Ecological Impact Assessment (Chapter 7 of this finalised EIA Report) has recommended a 32 m buffer around the major drainage lines within the study area. The existing unnamed farm road traverses the Rugseers River, which is considered a major drainage line (within the Kenhardt PV 3 study area). Therefore potential upgrade and widening of the existing farm road will be undertaken within 32 m of a water course. However, it is important to note that the 2014 EIA Regulations allow for development within watercourses or within 32 m of water courses in terms of listed activities. The applicable and triggered listed activities (including those activities that will result in activities and construction work within or within 32 m of water courses) are included in Chapter 4 of this finalised EIA Report. Therefore, it is understood that the widening and upgrading of the unnamed farm road is permitted to take place in terms of the EIA Regulations (should the project receive EA). Furthermore, the expansion or widening of the access road is generally acceptable as the widest extents of the major drainage feature are generally ephemeral in nature in this area (vary on account of rainfall and the nature of surface soils at the time of high precipitation).

▪ **Heritage Sensitivities:**

- A likely grave was found to be located within the Kenhardt PV 1 study area at waypoint 742, as explained in Chapter 9 of this EIA Report, at co-ordinates S 29°12 26.8 and E 21°16 47.4. The likely grave should be avoided with a buffer of at least 5 m (which has been included in Figure 16.2 below). If the grave cannot be avoided then a test excavation must be conducted to verify the presence of human remains. If it is determined to be a grave, then a decision needs to be made to avoid or exhume in line with required process. As noted in the HIA, the likely grave is rock slab planted on end deeply into the ground. The slab is perfectly vertical, while exposed bedrock is generally dipping. It is in a sandy area with no other rocks present in the vicinity. It faces southwest/northeast.

As noted in Chapters 8, 10, 11, 12 and 13 of this EIA Report, no other sensitive areas or sensitive receptors, that require exclusion, were highlighted in the Visual Impact Assessment, Palaeontological Impact Assessment, Geohydrological Assessment, Soils and Agricultural Potential Assessment and Social Impact Assessment.

Based on the findings of the Ecological and Heritage Impact Assessments, an environmental sensitivity map has been produced, which is shown in Figure 16.2 below (and included Appendix J of this EIA Report). This map shows the sensitivities on site (terrestrial, aquatic, and sensitive heritage features) within the larger 450 ha buildable area that was assessed.

Based on the boundaries of the Development Envelope and the constraints of the environmental sensitivities, a site layout has also been preliminary determined which is shown in Figure 16.3 (and

Appendix J of this EIA Report). It is important to note that should the layout change subsequent to the issuing of an EA (should such authorisation be granted), any alternative layout or revisions to the layout occurring within the boundaries of the Development Envelope would not be regarded as a change to the scope of work or the findings of the impact assessments undertaken during the EIA Phase. This is based on the understanding that the specialists have assessed the larger area and have identified sensitivities, which have been avoided in the siting of the proposed infrastructure. The Development Envelope is considered to be a “box” in which the project components can be constructed at whichever location without requiring an additional assessment or change in impact significance. Any changes to the layout within the boundaries of the Development Envelope following the issuing of the EA (should it be granted) will therefore be considered to be non-substantive.

In terms of the heritage features found within the Kenhardt PV 1 area, the SAHRA recommended as part of their review of the EIA Report (as indicated in Chapter 6 of this EIA Report), that a 30 m buffer must be maintained around the possible grave found within the PV 1 area until it can be tested. SAHRA also recommended that testing should take the form of Ground Penetrating Radar and that a report detailing the testing must be submitted to SAHRA, following which the appropriate permits can be applied if necessary. However, notwithstanding the findings of the Heritage Impact Assessment, it is important to note that the likely grave found within the Kenhardt PV 1 study area at waypoint 742 falls outside of the actual development footprint and layout as shown in Figure 16.3 below. Nevertheless, the buffer as requested by SAHRA will be respected as the finalised layout and development footprint avoids the likely grave at waypoint 742, which will effectively be a no-go area.

Therefore, the findings of the specialist studies have been used to inform the layout of the proposed facility within the preferred site, Kenhardt PV 1.

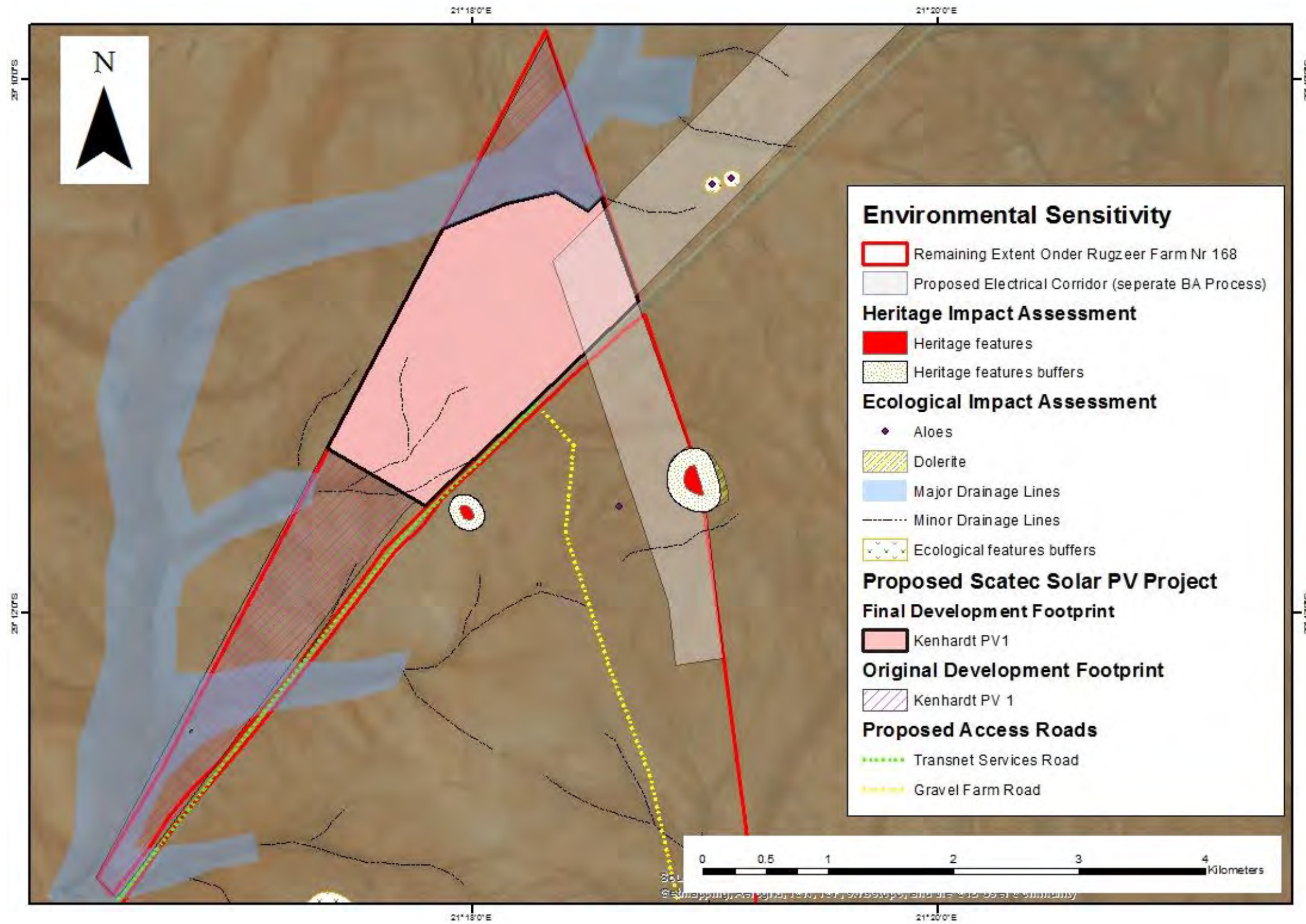


Figure 16.2: Environmental Sensitivity Map for the Proposed Kenhardt PV 1 Facility

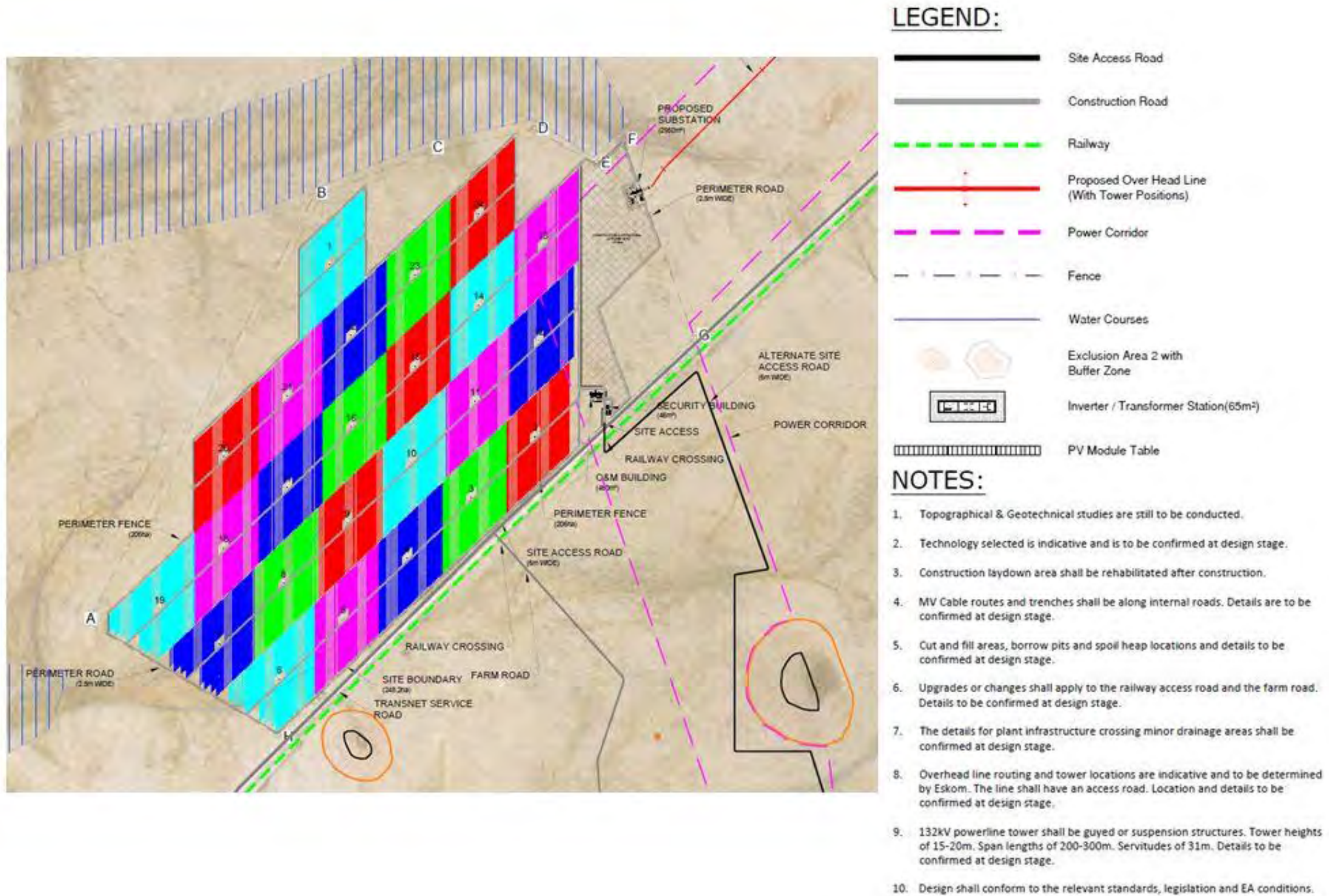


Figure 16.3: Preliminary Site Layout Plan

## 16.6 PERMITS AND LICENSES REQUIRED

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### 16.6.1 NEMA and 2014 NEMA EIA Regulations

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Before clearing of the proposed site is initiated, an EA must be granted by the DEA in terms of the NEMA and associated 2014 NEMA EIA Regulations. This report has been compiled to provide the DEA with the information required in order to make an informed decision on whether to grant or reject EA.

### 16.6.2 Permit in terms of the National Water Act (Act 36 of 1998)

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The National Water Act (Act 36 of 1998) controls activities in and around water resources, as well as the general management of water resources, including abstraction of groundwater and disposal of water. As noted in Chapter 4 of this EIA Report, Section 21 of the Act lists the following water uses that need to be licensed:

- a) taking water from a water resource;
- b) storing water;
- c) impeding or diverting the flow of water in a watercourse;
- d) engaging in a stream flow reduction activity contemplated in section 36;
- e) engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);
- f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- g) disposing of waste in a manner which may detrimentally impact on a water resource;
- h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
- i) altering the bed, banks, course or characteristics of a watercourse;
- j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- k) using water for recreational purposes.

The Ecological Impact Assessment states that authorisation for changes in land use up to 500 m from a defined water resource/wetland system will require an application for a Water Use Licence from the DWS. A Water Use Licence will be required in respect of the proposed development under Section 21 (c) and (i) of the Act, however such licence should not preclude this development. The DWS was consulted with during the EIA Process to confirm the need for a WUL, as well as to seek comment on the proposed project.

### 16.6.3 Permit in terms of the National Forest Act (Act 84 of 1998)

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The Ecological Impact Assessment notes that the National Forest Act (Act 84 of 1998) governs the removal, disturbance, cutting or damage and destruction of identified “protected trees”. Listed species that may be encountered with the site include *Boscia* spp and possibly *Acacia erioloba*. The assessment also notes that it is unlikely that an application for the “clearing of a natural forest”, as defined within the Act, will be required on the site.

The absence or presence of these species will be confirmed as part of the plant rescue and protection plan and should any species be present and determined that they will be impacted on, permits will be obtained from DAFF.

#### ***16.6.4 Permit in terms of the Northern Cape Nature Conservation Act (Act 9 of 2009)***

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The Ecological Impact Assessment notes that the Northern Cape Conservation Act (Act 9 of 2009) under its pertinent regulation governs the disturbance of species, or possibly other species not yet identified on site. A permit from the Provincial Department of Environment and Nature Conservation (DENC) will be required in order to disturb or translocate such species. The absence or presence of these species will be confirmed as part of the plant rescue and protection plan and should any species be present and determined that they will be impacted on, permits will be obtained from DENC.

#### ***16.6.5 Permit in terms of the National Heritage Resources Act (Act 25 of 1999) (NHRA)***

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Neither the Heritage Impact Assessment nor the Palaeontological Impact Assessment indicated that permits would be required at this stage.

As noted in the Heritage Impact Assessment (Chapter 9 of this finalised EIA Report), the NHRA does not require the developer to obtain permits prior to construction. However, any archaeological mitigation work (i.e. test excavations, sampling etc.) that may be required (in the event of archaeological resources or graves of significance being found within the development footprint during construction) would need to be conducted under a permit issued to, and in the name of, the appointed archaeologist. The permit application process allows the heritage authorities to ensure that a suitably qualified and experienced archaeologist undertakes the work and that the proposed excavation/sampling methodology is acceptable. It should be noted that at this stage, a permit is not required as the grave identified within the larger 450 ha surveyed area is excluded from the development footprint and proposed layout.

In terms of palaeontology (as noted in the Palaeontological Impact Assessment (Chapter 10 of this finalised EIA Report)), where palaeontological mitigation is required in the event of any fossil material found on site during construction, the palaeontologist concerned with mitigation work would need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection). All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies recently developed by SAHRA (2013).

#### ***16.6.6 Astronomy Geographic Advantage (Act 21 of 2007)***

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As mentioned previously EMI and RFI studies were undertaken and commissioned by the Project Applicant to determine appropriate mitigation and management measures to reduce the risk of a detrimental impact on the SKA project. This technical report, compiled by MESA Solutions, is included in Appendix K of this EIA Report, with a summary provided in Chapter 15. The SKA Project Office reviewed this report during the 30 day review period (allocated for the EIA Report in March 2016) and provided comments and recommendations, which are included in Chapter 6 and Appendix G of this EIA Report. The mitigation of all risk associated with RFI on the SKA must be confirmed by measurement following construction to the satisfaction of the SKA Office. Should the risk of radio interference still exist, based on measurements, further mitigation methods must be implemented to remove outstanding risk of radio frequency interference. Scatec has confirmed that this will be undertaken, should this project receive preferred bidder status. Refer to Section 16.1.9 of this chapter for additional information regarding the findings of the technical study, recommendations from the SKA Project Office, and commitment of implementation of the SKA recommendations by the Project Applicant.

## 16.7 OVERALL EVALUATION OF IMPACTS BY THE EAP

Based on the findings of the specialist studies, which all recommend that the proposed project can proceed and should be authorised by the DEA, the proposed project is considered to have an overall low negative environmental impact and an overall moderate positive socio-economic impact (with the implementation of respective mitigation and enhancement measures).

The proposed project will take place within the Development Envelope, as discussed in Section 16.5 of this chapter. The location of the 250 ha PV facility within the assessed Development Envelope, as shown in Figure 16.3, will avoid the sensitive ecological and heritage features identified by the respective specialists.

In accordance with the Guideline on Need and Desirability (GN 891 of 2014), this EIA considered the nature, scale and location of the development as well as the wise use of land (i.e. is this the right time and place for the development of this proposed project). When considering the timing of this project, the IRP2010 proposes to secure 17 800 MW of renewable energy capacity by 2030. As noted in the preceding chapters of this finalised EIA Report, in August 2011, the DOE launched the REIPPPP and invited potential IPPs to submit proposals for the financing, construction, operation and maintenance of the first 3 725 MW of various renewable energy project (including solar and wind) and it is the Project Applicant's intention to bid this project (along with Kenhardt PV 2 and PV 3) in the Round 5 bidding process.

On a provincial level, the Northern Cape Province is currently facing considerable constraints in the availability and stability of electricity supply. This is a consequence of South Africa's electricity generation and supply system being overstretched, and the reliance of the Northern Cape, as many other South African provinces, on the import of power to service its energy needs. The development of solar energy is important for South Africa to reduce its overall environmental footprint from power generation (including externality costs), and thereby to steer the country on a pathway towards sustainability. On a municipal planning level, the proposed project does not go against any of the objectives set within the !Kheis Municipality draft IDP 2012-2017. The proposed project will be in line with and will be supportive of the IDP's objective of creating more job opportunities. The proposed solar energy facility will assist in local job creation during the construction and operation phases of the project (if approved by the DEA). It should however be noted that employment during the construction phase will be temporary. During the operational phase of the project (estimated to be more 20 years), long-term employment opportunities will be created.

The locality of the proposed project will fall within an area that has already been transformed due to the presence of the Sishen-Saldanha ore line, the Eskom Nieuwehoop Substation and Eskom transmission lines that will be constructed within this area. The locality of this project would not have a significant ("high") impact on any sensitive viewers (as determined in the Visual Impact Assessment included in Chapter 8 of this EIA Report), will not significantly negatively impact on any environmental features (as discussed above), and will have a very low significance negative impact on the current agricultural land use of the site.

Section 24 of the Constitutional Act states that "everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures, that prevents pollution and ecological degradation; promotes conservation; and secures ecologically sustainable development and use of natural resources while promoting justifiable economic and social development". Based on this, this EIA was undertaken to ensure that these principles are met through the inclusion of appropriate management and mitigation measures and monitoring requirements. These measures will be undertaken to promote conservation by avoiding the sensitive environmental features present on site (as shown in Figures 16.2 and 16.3) and through appropriate monitoring and management plans included in the EMPr (Part B of this finalised EIA Report).

The outcomes of this project therefore succeeds in meeting the environmental management objectives of protecting the ecologically sensitive areas and supporting sustainable development and the use of natural resources, whilst promoting justifiable socio-economic development in the towns nearest to the project site. The findings of this EIA show that all natural resources will be used in a sustainable manner (i.e. this project is a renewable energy project and the majority of the negative site specific and cumulative environmental impacts are considered to be of low significance with mitigation measures implemented), while the benefits from the project will promote justifiable economic and social development.

In order to ensure the effective implementation of the mitigation and management actions, an EMPr has been compiled and is included in Part B of this EIA Report. The mitigation measures necessary to ensure that the project is planned, constructed, operated and decommissioned in an environmentally responsible manner are listed in this EMPr. The EMPr is a dynamic document that should be updated regularly and provide clear and implementable measures for the establishment and operation of the proposed Solar PV facility.

Taking into consideration the findings of the EIA Process and given the national and provincial strategic requirements for infrastructure development, it is the opinion of the EAP that the project benefits outweigh the costs and that the project will make a positive contribution to steering South Africa on a pathway towards sustainable infrastructure development. Provided that the specified mitigation measures are applied effectively, it is recommended that the project receive EA in terms of the 2014 EIA Regulations promulgated under the NEMA.



# EIA REPORT



## CHAPTER 17: References

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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# EIA REPORT



## APPENDICES

Appendix A	Curriculum Vitae of the Environmental Assessment Practitioner and Specialists
Appendix B	Declarations of Interest and Independence of the Environmental Assessment Practitioner and Specialists
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**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

# EIA REPORT

## APPENDIX A:

### Curriculum Vitae of the Environmental Assessment Practitioner and Specialists

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



<b>Curriculum Vitae</b>	
1. EAP	Surina Laurie
2. Project Manager	Rohaida Abed
3. Ecology Specialist	Simon Bundy
4. Ecology Specialist	Andrew Blackmore
5. Visual Specialist	Henry Holland
6. Heritage Specialist	Dr. Jayson Orton
7. Palaeontological Specialist	Dr. John Almond
8. Geohydrological Specialist	Julian Conrad
9. Geohydrological Specialist	Charles Peek
10. Soils Specialist	Johann Lanz
11. Social Specialist	Rudolph du Toit

## Curriculum Vitae of Surina Laurie - Project Leader

<b>Name of firm</b>	CSIR
<b>Name of staff</b>	Surina Laurie
<b>Profession</b>	Environmental Assessment Practitioner
<b>Position in firm</b>	Project Manager
<b>Years' experience</b>	5 years
<b>Nationality</b>	South African

### Biographical sketch

Surina has more than 5 years' experience as an Environmental Assessment Practitioner (EAP). She completed both her BSc in Conservation Ecology and MPhil in Environmental Management (part-time) at the University of Stellenbosch. With her honours project, she worked closely with the Endangered Wildlife Trust Riverine Rabbit Working Group and was responsible for determining the conservation opportunity for the Riverine Rabbit in the Karoo. With this project, she gained valuable experience in how to interact and manage stakeholders in such a way that a project's objectives and conservation goals are met without the stakeholders not being included in the decision-making process. The management of stakeholders and the ability to incorporate their needs into the objectives of a project is seen as an essential component of an Environmental Impact Assessment (EIA) process.

With her Masters' thesis she researched and addressed why there is a need to undertake a Cost Benefit Analysis (CBA) as part of any EIA. The need for a CBA stems from the fact that losing environmental services will have an economic impact on a regional/national level in the long term but this is usually not considered during an EIA process. A CBA will look at both the economic benefits (profit) from a project and the economic losses because of loss of ecosystem services or rehabilitation costs. By including a CBA in an EIA, both the economic and environmental financial implications (not just the environmental significance of an impact) of a project will be considered by the decision making authority prior to the issuing of Environmental Authorisations or permits.

She has experience in undertaking Basic Assessments and Scoping and Environmental Impact Assessments for various sectors, including renewable energy, industry and tourism. She also has experience in undertaking environmental audits, due diligence assessments and the compilation of Environmental Management Programmes.

Registered Professional Natural Scientist (Pr. Sci. Nat.) in Environmental Science (Reg. No: 40033/15) with the South African Council of Natural Scientific Professions.

### Education

2015 (current)	Certificate in Environmental Economics, University of London (SOAS)
2013	Project Management Course, University of Cape Town Graduate School of Business
2011-2012 (Part-time)	MPhil Environmental Management, University of Stellenbosch
2007-2010	BSc Conservation Ecology, University of Stellenbosch

### Employment Record

Feb 2014 to present	CSIR, Project Manager, EAP
Sept 2011 to Jan 2014	WSP Environmental (Pty) Ltd, Environmental Consultant
Nov 2010 to Aug 2011	EnviroAfrica, Junior Environmental Consultant

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Experience record**      *Abridged experience in Environmental Impact and Basic Assessment processes:*

Date	Project Description	Role	Client
2014 - present	Integrated Scoping and EIA process for the construction of three Photovoltaic (PV) or Concentrated Photovoltaic (CPV) Solar Facilities with a generating capacity of 75 MW each on the farms remaining extent of Portion 3 of the Farm Gemsbok Bult 120 and Boven Rugzeer remaining extent of 169, located 30 km north-east of Kenhardt. Two of the projects will be located on the farm remaining extent of Portion 3 of the Farm Gemsbok Bult 120 and one on Boven Rugzeer remaining extent 169.	Project Manager	Mulilo Renewable Project Development (Pty) Ltd
2014 - present	Integrated Scoping and EIA process for the development of twelve (12) Photovoltaic (PV) or Concentrated Photovoltaic (CPV) Solar Facilities with a generating capacity of 75 MW/100MW each, near Dealesville, Free State.	Project Manager	South Africa Mainstream Renewable Power Developments (Pty) Ltd
2013-2014	Basic Assessment for the construction of three additional petroleum storage tanks at the Cape Town Harbour.	Environmental Consultant	FFS Refiners (Pty) Ltd
2013-2014	Scoping and EIA for the construction of a Sewage Package Plant on Robben Island.	Environmental Consultant	Department of Public Works
2013	Development of an EMPr for the undertaking of maintenance work on the Stilbaai Fishing Harbour's Slipway located in Stilbaai, Western Cape, South Africa. In order to be compliant to the requirements of the National Environmental Management Act (Act 107 of 1998) and Environmental Impact Assessment (EIA) Regulations, a Maintenance Management Plan (MMP) needed to be developed to manage the environmental impacts associated with maintenance work that is scheduled to be undertaken on the Stilbaai Fishing Harbour's Slipway as well as any future on-going maintenance requirements.	Environmental Consultant	Department of Public Works
2012-2014	Waste Management License for the proposed storage of Ferrous HMS 1+2, Shredded Ferrous and Bales located at the K/L Berth at Duncan Road, Port of Cape Town	Environmental Consultant	The New Reclamation Group (Pty) Ltd
2012-2014	Scoping and EIA for the construction a biodiesel refinery in the Coega Industrial Development Zone (IDZ). The proposed project entails the import of used vegetable oil from the USA and converting it through various processes to biodiesel which will be exported to Europe. The proposed project requires an Air Emissions License, a Waste Management License and Environmental Authorisation.	Environmental Consultant	FIS Biofuels (Ltd)
2013-2013	Basic Assessment for the proposed redevelopment of Berths B, C and D in Duncan Dock at the Port of Cape Town.	Assistant Environmental Consultant	FPT (Pty) Ltd
2011- 2012	Development of an EMPr for the Eerstelingsfontein Opencast Project (EOP).	Assistant Environmental Consultant	Exxaro Resources Limited
2011-2014	Basic Assessment for the proposed reinstatement of the Blue Stone Quarry located on Robben Island.	Assistant Environmental Consultant	Department of Public Works
2011	Scoping and EIA for the proposed upgrade to the Struisbaai WWTW.	Assistant Environmental Consultant	Cape Agulhas Municipality
2011	Basic Assessment for the construction of a cellular mast.	Environmental Consultant	MTN (Pty) Ltd
2010-2011	Basic Assessment for the construction of a Heritage Centre.	Environmental Consultant	Waenhuiskrans Arniston Community Development Trust
2010-2011	Scoping and EIA for the rezoning of the area from open space to residential, the construction of six residential units and the upgrading of the existing Waste Water Treatment Plant.	Environmental Consultant	Private developer

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

*Abridged experience in undertaking the role of an Environmental Control Officer and compliance auditing:*

Date	Project Description	Role	Client
2013- 2014	The proposed extension project involved the installation of five new above ground storage tanks. The two largest tanks have a tank capacity of 2,500m <sup>3</sup> each and a height of 18m. The three smaller tanks have a tank capacity of 2,300m <sup>3</sup> , 1,350m <sup>3</sup> and 212m <sup>3</sup> and heights of 18m, 10.8m and 10.8m respectively, giving an additional 8862m <sup>3</sup> storage capacity to the current FFS operation	ECO	FFS Refiners (Pty) Ltd
2012- 2014	Compliance auditing of drum re-conditioners for the used oil industry in the Western Cape.	Assistant Environmental Consultant	The Rose Foundation
2012	Environmental legal compliance auditing of various Much Asphalt sites. The audit entailed review of national, provincial legislation and municipal by-laws and a site visit in order to determine whether the sites were compliant to the relevant environmental legislation.	Environmental Consultant	Much Asphalt
2011- 2013	Construction of a new De-Ashing Plant for FFS Vissershok Construction of a De-Ashing Plant. This project involved the monthly independent audits and reports of all the environmental and social aspects of the construction phase the new De-Ashing Plant at Vissershok.	ECO	FFS Refiners (Pty) Ltd
2011- 2012	Construction of the new 1200m <sup>3</sup> Tank at FFS Cape Town Harbour Site. This project involved two site audits per month to ensure compliance to the Environmental Authorisation and Environmental Management Plan for the proposed project.	ECO	FFS Refiners (Pty) Ltd

Language capabilities	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
	Afrikaans	Excellent	Excellent
English	Excellent	Excellent	Excellent

## Curriculum Vitae of Rohaida Abed - Project Manager

<b>Name of firm</b>	CSIR
<b>Name of staff</b>	Rohaida Abed
<b>Profession</b>	Environmental Assessment Practitioner
<b>Position in firm</b>	Junior Environmental Assessment Practitioner
<b>Years' experience</b>	5 years
<b>Nationality</b>	South African

**Biographical Sketch** Rohaida is a Junior Environmental Assessment Practitioner in the CSIR Environmental Management Services team based in Durban. She has five years of experience in the Environmental Management field, and has been involved in various transport infrastructure related projects as an Environmental Control Officer, which included monitoring compliance with Environmental Authorizations and Environmental Management Plans. She has also been conducting Scoping and Environmental Impact Assessments for projects within the Coega Industrial Development Zone.

Registered Professional Natural Scientist (Pr. Sci. Nat.) in Environmental Science (Reg. No: 400247/14) with the South African Council of Natural Scientific Professions.

<b>Education</b>	2005	Bachelor of Science (Environmental Science)
	2006	Bachelor of Science Honours (Environmental Science)
	2010	Master of Science (Environmental Science)
<b>Employment Record</b>	2006 - 2008	University of KwaZulu-Natal (Academic Demonstrator)
	March 2010 - April 2010	EnAq Consulting (Environmental Officer)
	May 2010 - September 2011	Henwood & Nxumalo Consulting Engineers (Environmental Scientist)
	October 2011 - to present	CSIR (Junior Environmental Assessment Practitioner)
<b>Short Courses</b>	May 2009	Management of Estuaries in South Africa (Marine and Estuarine Research, FET Water, and Water Research Commission)
	October 2010	Environmental Impact Assessment: A Practical Approach (North West University (Potchefstroom Campus), Centre for Environmental Management)

### Experience record

Date	Project Description	Role	Client
2010 - 2011	The Repair and Rehabilitation of the Umzinto River Bridge Number 823 on the South Coast of KwaZulu-Natal	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010 - 2011	The Construction of the Kwahlongwa Bridge Number 3257 over the Kwa-Malukaka River on D297 near Umzumbe, South Coast of KwaZulu-Natal	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010 - 2011	The Construction of a bridge and approach roads across the Indaka River at Eludimbi, within the Msinga Local Municipality, KwaZulu-Natal	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010 - 2011	The Extension of the Lion Park Pipeline along the P566 and D2173 in the Manyavu area, KwaZulu-Natal	Environmental Control Officer	Umgeni Water
2010 - 2011	The Construction of a bridge and approach roads across the Tugela River at Thulwane, within the Nkandla Local Municipality, KwaZulu-Natal	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010 - 2011	The Construction of a bridge and approach roads	Environmental Control	KwaZulu-Natal

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Date	Project Description	Role	Client
	across the Mona River at Nqolotshe, within the Hlabisa and Nongoma Local Municipalities, KwaZulu-Natal	Officer	Department of Transport
2010 - 2011	The Construction of the Mdloti River Bridge (Northbound) on the R102, within the eThekweni Municipality, KwaZulu-Natal.	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010 - 2011	The Upgrade of the R102 from the Duffs Road Interchange to King Shaka International Airport, within the eThekweni Municipality, KwaZulu-Natal.	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010 - 2011	The Construction of the P701 Provincial Road from Ulundi to Empangeni, KwaZulu-Natal	Environmental Control Officer	KwaZulu-Natal Department of Transport
2010	Environmental Impact Assessment for the construction of a bridge and approach roads across the Mona River at Nqolotshe, within the Hlabisa and Nongoma Local Municipalities, KwaZulu-Natal	Project Assistant	KwaZulu-Natal Department of Transport
2011 - 2014	Environmental Impact Assessment for the proposed Bulk Liquid Storage and Handling Facility in Zone 8 of the Coega IDZ, Port of Ngqura	Project Consultant	Oiltanking Grindrod Calulo (PTY) Ltd
2012 - 2014	Environmental Impact Assessment for the proposed Manganese Export Terminal in Zones 8, 9 and 11 of the Coega IDZ, including the Port of Ngqura, and surrounding area	Project Assistant	Hatch Africa (PTY) Ltd c/o Transnet
2012 - 2014	Basic Assessment for the Provision of Landside Structures and Infrastructure to the Bulk Liquid Storage and Handling Facility in the Port of Ngqura	Project Manager	Eastern Cape Infrastructure Joint Venture c/o Transnet Capital Projects
2013 - 2014	Environmental Impact Assessment for the Provision of Marine Infrastructure, including a General Cargo Berth and Liquid Bulk Berths at the Port of Ngqura	Project Manager	Transnet Capital Projects
2013 ongoing	- Basic Assessment for the decommissioning of unused infrastructure at the Port of Ngqura	Project Manager	Transnet Capital Projects
2014 ongoing	- Basic Assessment for the Proposed Decommissioning and Upgrade of a Bulk Liquid Storage and Handling Facility at Maydon Wharf, Port of Durban, KwaZulu-Natal	Project Manager	Oiltanking Grindrod Calulo Terminals (PTY) Ltd
2015 ongoing	- Environmental Management Plan for the Proposed Construction of a Bulk Liquid Storage and Handling Facility in the Port of Cape Town, Western Cape	Project Manager	Oiltanking Grindrod Calulo Terminals (PTY) Ltd

**Language capabilities**

	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
English	Excellent	Excellent	Excellent

## **Curriculum Vitae of Simon Bundy - Ecological Specialist**

**NAME** Simon Colin Bundy

**PROFESSION** Ecologist

**DATE OF BIRTH** 7 September 1966

**PLACE OF BIRTH** Glasgow, Scotland

**NATIONALITY** South African / British

**MEMBERSHIP OF PROFESSIONAL BODIES:** South African Council of Natural Scientific Professionals No. 400093/06 - Professional Ecologist

### **KEY QUALIFICATIONS**

Simon Bundy has been involved in environmental and development projects and programmes since 1991 at provincial, national and international level, with employment in the municipal, NGO and private sectors, providing a broad overview and understanding of the function of these sectors. Bundy has a core competency in coastal management and botanical issues and has worked on coastal projects in the Seychelles and Tanzania providing ecological and general environmental advice and support. Bundy has been involved in a number of renewable energy projects including the Kalkbult, Dreunberg and Lindes Solar Parks in the Northern and Eastern Cape, as well as wind energy and solar projects in the Western Cape and Rwanda. In such projects Bundy has provided both technical ecological support, as well as the undertaking of environmental impact assessments.

Allied to the above, Bundy has provided technical assistance to the "Save the Wild Coast" initiative through a technical report outlining the concerns relating to dune mining in and around the Xolobeni prospecting region while also evaluating critically, a number of environmental impact assessments and technical reports for various clients. Such evaluations have included "sea defence structures at Buffalo Bay, Western Cape", through the Nelson Mandela University. Bundy has also assisted iSimangaliso Wetland Park in its initiatives against unlawful developments in the Bangha Nek area. Bundy has also acted as expert witness on ecological issues on a number of legal cases.

From a technical specialist perspective, Bundy is competent in a large number of ecological methodologies and analytical methods including statistical methods; multivariate analysis and ordination. Bundy is competent in wetland delineation and has formulated ecological coastal set back methodologies for EKZN Wildlife and the Oceanographic Research Institute. Bundy acts as botanical specialist for Eskom Eastern Region, with specific interest in coastal habitat forms.

### **EDUCATION**

BSc Biological Science MSc University of Natal, Diploma Project Management (1997) Executive Education, PhD candidate Dept of Engineering UKZN

1998 : "Sustainable development initiatives" in Europe. Training Programme in Berlin, Germany

2000 : Training course : "Environmental Economics and Development".

University of Colorado (Boulder) USA.

### **SELECTED RELEVANT PROJECT EXPERIENCE**

**Task Team Chair and Project Ecologist: Task Team for Coastal Disaster Management, KwaDukuza 2007 - 2011**

Management of coastal clean up programme immediately following March storm event of 2007. Activities included introduction of geofabric bag protection options, coastal retreat implementation and development of policy on coastal management following destruction of coastline.

**Ecological Review of Lake Mzingazi for Umhlatuze Water : University of KwaZulu-Natal - (2010)**

Review of habitat structure and integrity of Mzingazi Lake System at Richards Bay required to interpret transformation of aquatic system over time and evaluate forecast for future reference.

**Ecological Review and Agricultural Assessment - Dreunberg Solar Park, Eastern Cape: Scatec Solar - (2012)**

Ecological review of proposed solar park near Burgersdorp, with additional evaluation of veld carrying capacity.

**Ecological Review and Rehabilitation Planning : Sodwana Bay: iSimangaliso Wetland Park Authority - (2013 - 2014)**

Analysis and review of state of dune cordon in and around Sodwana Bay with consideration of the impacts of removing exotic trees from route to rejuvenate dune and beach dynamics

**Ecological Review of Kalkbult Solar Park (2009)**

Ecological review and delineation of ecologically significant areas within the proposed Kalkbult Solar Park, near Potsfontein, Northern Cape.

**Ecological and Dune retreat investigation of the Kosi Bay Illegal Development Isimangaliso Wetland Park Authority (2011)**

Specialist investigation into the impact upon the dune cordon of structures placed in and close to dune cordon near Kosi Bay mouth.

**PUBLICATIONS**

**Bundy S C and Forbes N T 2015.** *“Coastal dune mobility and their use in establishing a set back line”* 9<sup>th</sup> West Indian Ocean Marine Science Conference 2015

**Bundy S C and Smith A M 2009** *“ Analysis of the Recovery of Two Separate Coastal Dune Systems Following the 2006 - 2007 Marine Erosion Event and Assessment of the Artificial Dune System in Coastal Management”* KZN Marine and Coastal Management Symposium, Durban South Africa.

**Bundy S C , Smith AM, Mather AA 2010**“ Dune retreat and stability on the Northern Amanzimtoti Dune Cordon” EKZN Wildlife Conservation Symposium 2010

**Smith, A Mather AM Bundy SC, Cooper AS Guastella L, Ramsay PJ and Theron A ; 2010** *“Contrasting styles of swell-driven coastal erosion: examples from KwaZulu-Natal, South Africa”* Geology Journal”, Cambridge University Press

**Smith, AM, L Guastella , SC Bundy and AA Mather 2007**“*Coastal Storm Damage in the March 2007 Storm SA Journal of Science 2007 “A Synopsis of Recent Storm Events”*

**Guastella L, Smith A Mather A and Bundy S 2008** *“As Memories Fade - A Review of the Post 2007 Coastal Erosion Events”* African Wildlife 32 / 2008

**Smith A, Mather A, Theron A, Bundy S and Guastella L 2008** *“The 2006-2007 KwaZulu - Natal Coastal Erosion Event in Perspective”* 2009 Contribution to the The South African Environmental Observation Network publication “ Climate Change in Southern Africa”

**Smith A and Bundy S 2009** *“Coastal erosion: reparative work on the Ballito coastline, KwaZulu-Natal, South Africa, was it enough?”* 2009 International Multi Purpose Reef and Coastal Conference, Jeffrey’s Bay South Africa.

**Smith AM, SC Bundy 2012** “Review of Coastal Defence Systems in Southern Africa” Article for Springer Scientific Publications through Ulster University, Pilkey and Cooper

**Bundy SC AM Smith, L Guastella 2012** *“A Review of Select Dune Rehabilitation Initiatives and a Proposed Methodology towards Ensuring a Prudent Approach towards the “Greening of Dunes”* VI International Sandy Beaches Symposium Emphakweni Port Alfred

Various popular articles including documentaries on coastal and climate change issues



## Curriculum Vitae of Andrew Craig Blackmore - Ecological Specialist

**Full name** Andrew Craig Blackmore  
**Postal address** 96 Uplands Road, Blackridge, Pietermaritzburg, 3201 Kwa-Zulu-Natal South Africa  
**Language** English (Excellent spoken & written)  
**Nationality** South African

### TERTIARY EDUCATION

**Diploma - Multilateral Agreements** University of Finland (2011)  
**Master of Laws (Environmental Law) *cum laude*** University of KwaZulu-Natal, Pietermaritzburg (2005)  
**Master of Science - Ecology** University of the Witwatersrand (1992)  
**Bachelor of Science (Honours)** University of the Witwatersrand (1987)  
**Bachelor of Science** University of the Witwatersrand (1986)  
**Candidate PhD** - University of Tilburg Holland

### PROFESSIONAL EXPERIENCE

- Research Officer. University of Witwatersrand. 1987 - 1990
- Nature Conservation Scientist. Natal Parks Board. 1990 - 1997
- Regional Ecologist. KZN Conservation Service. 1997 - 1999
- Head Integrated Environmental Management. Ezemvelo KZN Wildlife. 1999 - 2012
- Manager Protected Area Planning & Integrated Environmental Management. Ezemvelo KZN Wildlife 2012 - Present
- External Examiner Environmental Law, University of KZN - Howard Collage 2007 - Present
- Council Member of the Botanical Society of South Africa 2013 - Present
- Executive Member of the Botanical Society of South Africa 2013 - Present

### PROFESSIONAL MEMBERSHIP

- Environmental Law Association
- Botanical Society of Society
- Elephant Specialist Advisory Group (Trustee)

### References

Mr Trevor Sandwith Director, Global Protected Areas Policy Deputy Chair: World Commission on Protected Areas [tsandwith@tnc.org](mailto:tsandwith@tnc.org) Tel Washington (703) 841-2644

Mr R Porter Previous Head Biodiversity Planning. Ezemvelo KZN Wildlife [roger.n.poter@gmail.com](mailto:roger.n.poter@gmail.com)  
+27 (0) 82908488

## Curriculum Vitae of Henry Holland - Visual Specialist

**Profession:** GIS Consultant  
**Date of Birth:** 26 December 1968

### BIOGRAPHICAL SKETCH

Henry has been doing GIS related work since 1992 when he started his M.Sc. in Geology. Since finishing his Masters he worked in Angola establishing a GIS department for a diamond exploration company, after which he worked on a freelance basis for eight years doing GIS related work and computer programming. In 2005 he established the Mapthis Trust which provides geospatial services for a range of environmental and geological companies and projects. Henry has been involved in Visual Impact Assessments (VIAs) since 1997.

### TERTIARY EDUCATION

**1996** M. Sc. Geology/GIS Rhodes University  
**1986** B.Sc. Hons UOFS

### KEY EXPERIENCE

The table below presents an abridged list of Henry's project experience relevant to this proposal:

Completion Date	Project Description	Role	Client
2015	Umgeni Water Lovu and Tongaat Desalination Plants EIAs, KwaZulu-Natal	Author	CSIR
2015	Inyanda-Roodeplaat WEF, Uitenhage, EC	Author	SRK
2015	OTGC Oil Storage Terminal BA - Visual Impact, Durban, KZN	Author	CSIR
2014	Mainstream Dealesville Solar Plants VIA, Freestate Province	Author	CSIR
2014	Mulilo Solar Plants VIA, Northern Cape	Author	CSIR
2014	Frontier SRMOP EIA, Saldanha, WC	Author	CSIR
2013	Ishwati Emoyeni Wind Energy Facility VIA, Western Cape	Author	CSIR
2013	Venter Fert Composting and Fertiliser Plant	Author	Public Process Consultants
2013	Kipeto Power Line, Kenya	Author	Kipeto Energy Ltd.
2012	Ngqura Manganese Export Facility VIA, Coega, Eastern Cape	Author	CSIR
2012	Toliara Sands Mining Project VIA, Toliara, Madagascar	Author	CES
2012	Mkuze Biofuel Power Plant VIA, Mkuze, KwaZulu-Natal	Author	CSIR
2012	Vleesbaai WEF VIA, Western Cape	Author	CSIR
2012	Saldanha Desalination Plant VIA, Saldanha Bay, Western Cape	Author	CSIR
2012	Mossel Bay WEF, Western Cape	Author	CES
2012	Keimoes Solar Energy Facility, NC	Author	CSIR
2012	Douglas Solar Energy Facility, NC	Author	CSIR
2012	Richards Bay WEF VIA, KZN	Author	CES

Completion Date	Project Description	Role	Client
2012	Hluhluwe WEF VIA, KZN	Author	CES
2012	Plan8 Grahamstown Wind Farm VIA, Eastern Cape	Author	CES
2012	Kipeto Wind Farm VIA, Kenya	Author	Galetech Energy Developments Ltd.
2011	Coega IDZ Zone 12 Wind Farm	Author	CSIR
2011	Haverfontein Wind Farm, Mpumalanga	Author	CES
2011	Middleton Wind Farm, Cookhouse	Author	CES
2011	Broadlands PV Plant, Humansdorp	Author	CSIR
2011	Ubuntu Wind Farm, Jeffrey's Bay	Author	CSIR
2011	Lushington Park Wind Farm, East London	Author	CES
2011	Chaba Wind Farm, Komga	Author	CES
2010	Thomas River Wind Farm and PV Park VIA, Stutterheim	Author	CES
2010	Eskom Power Line VIA, Kouga	Author	CES
2010	Laguna Bay Resort VIA	Author	CES
2010	Kouga Wind Farm VIA	Author	Arcus GIBB
2010	Electrawinds Coega Wind Farm VIA	Author	CSIR
2010	Innowind Coega Wind Farm VIA	Author	CES
2010	Jeffrey's Bay Wind Farm VIA, Jeffrey's Bay	Author	CSIR
2010	Cookhouse Wind Farm VIA, Cookhouse	Author	CES
2009	Waainek Wind Farm VIA, Grahamstown	Author	CES
2009	Coega Wind Turbine BA (Visual Input)	Author	CSIR
2009	Sierra Leone Ethanol Plant VIA	Author	CSIR
2009	NamWater Desalination Plant VIA, Swakopmund, Namibia	Author	CSIR
2009	Nooitgedagt/Coega Water Supply VIA, Motherwell	Author	SRK
2009	CDM Brewery VIA, Nampula, Mozambique	Author	CES
2009	TankaTara Preliminary Visibility Analysis, Addo	Author	CES
2008	Kouga Wind Energy Project VIA, Jeffreys Bay	Author	CSIR
2008	Aston Bay VIA	Author	CES
2008	NPA Boundary Wall VIA, Port Elizabeth	Author	CSIR
2008	Elitheni Coal Mining VIA, Indwe	Author	Savannah Environmental (PTY) Ltd.
2008	Coegakamma Chicken Broiler Housing VIA	Author	Public Consultants Process
2008	Amanzi Country Lifestyle Estate VIA, Uitenhage	Author	Public Consultants Process

## Curriculum Vitae of Dr. Jayson Orton - Heritage Specialist

### Contact Details and personal information:

**Address:** 6A Scarborough Road, Muizenberg, 7945  
**Telephone:** (021) 788 8425  
**Cell Phone:** 083 272 3225  
**Email:** jayson@asha-consulting.co.za

**Birth date and place:** 22 June 1976, Cape Town, South Africa  
**Citizenship:** South African  
**ID no:** 760622 522 4085  
**Driver's License:** Code 08  
**Marital Status:** Married to Carol Orton  
**Languages spoken:** English and Afrikaans

### Education:

SA College High School	Matric	1994
University of Cape Town	B.A. (Archaeology, Environmental & Geographical Science)	1997
University of Cape Town	B.A. (Honours) (Archaeology)*	1998
University of Cape Town	M.A. (Archaeology)	2004
University of Oxford	D.Phil. (Archaeology)	2013

\*Frank Schweitzer memorial book prize for an outstanding student and the degree in the First Class.

### Employment History:

Spatial Archaeology Research Unit, UCT	Research assistant	Jan 1996 - Dec 1998
Department of Archaeology, UCT	Field archaeologist	Jan 1998 - Dec 1998
UCT Archaeology Contracts Office	Field archaeologist	Jan 1999 - May 2004
UCT Archaeology Contracts Office	Heritage & archaeological consultant	Jun 2004 - May 2012
School of Archaeology, University of Oxford	Undergraduate Tutor	Oct 2008 - Dec 2008
ACO Associates cc	Associate, Heritage & archaeological consultant	Jan 2011 - Dec 2013
ASHA Consulting (Pty) Ltd	Director, Heritage & archaeological consultant	Jan 2014 -

### Memberships and affiliations:

South African Archaeological Society Council member	2004 -
Assoc. Southern African Professional Archaeologists (ASAPA) member	2006 -
ASAPA Cultural Resources Management Section member	2007 -
UCT Department of Archaeology Research Associate	2013 -
Heritage Western Cape APM Committee member	2013 -
UNISA Department of Archaeology and Anthropology Research Fellow	2014 -
Fish Hoek Valley Historical Association	2014 -

### Professional Accreditation:

ASAPA membership number: 233, CRM Section member  
**Principal Investigator:** Coastal shell middens (awarded 2007)  
 Stone Age archaeology (awarded 2007)  
 Grave relocation (awarded 2014)  
**Field Director:** Rock art (awarded 2007)  
 Colonial period archaeology (awarded 2007)

#### Fieldwork and project experience:

Extensive fieldwork as both Field Director and Principle Investigator throughout the Western and Northern Cape, and also in the western parts of the Free State and Eastern Cape as follows:

##### Phase 1 surveys and impact assessments:

- Project types
  - Notification of Intent to Develop applications (for Heritage Western Cape)
  - Heritage Impact Assessments (largely in the Environmental Impact Assessment or Basic Assessment context under NEMA and Section 38(8) of the NHRA, but also self-standing assessments under Section 38(1) of the NHRA)
  - Archaeological specialist studies
  - Phase 1 test excavations in historical and prehistoric sites
  - Archaeological research projects
- Development types
  - Mining and borrow pits
  - Roads (new and upgrades)
  - Residential, commercial and industrial development
  - Dams and pipe lines
  - Power lines and substations
  - Renewable energy facilities (wind energy, solar energy and hydro-electric facilities)

##### Phase 2 mitigation and research excavations:

- ESA open sites
  - Duinefontein, Gouda
- MSA rock shelters
  - Fish Hoek, Yzerfontein, Cederberg, Namaqualand
- MSA open sites
  - Swartland, Bushmanland, Namaqualand
- LSA rock shelters
  - Cederberg, Namaqualand, Bushmanland
- LSA open sites (inland)
  - Swartland, Franschhoek, Namaqualand, Bushmanland
- LSA coastal shell middens
  - Melkbosstrand, Yzerfontein, Saldanha Bay, Paternoster, Dwarskersbos, Infanta, Knysna, Namaqualand
- LSA burials
  - Melkbosstrand, Saldanha Bay, Namaqualand, Knysna
- Historical sites
  - Franschhoek (farmstead and well), Waterfront (fort, dump and well), Noordhoek (cottage), variety of small excavations in central Cape Town and surrounding suburbs
- Historic burial grounds
  - Green Point (Prestwich Street), V&A Waterfront (Marina Residential), Paarl

## Curriculum Vitae of Dr. John Almond - Palaeontological Specialist

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JOHN E. ALMOND Ph.D. (Cantab)

*Natura Viva* cc, PO Box 12410 Mill Street, Cape Town 8010, RSA  
tel: (021) 462 3622 e-mail: naturaviva@universe.co.za

- Honours Degree in Natural Sciences (Zoology), University of Cambridge, UK (1980).
- PhD in Earth Sciences (Palaeontology), University of Cambridge, UK (1986).
- Post-doctoral Research Fellowships at University of Cambridge, UK and Tübingen University, Germany (Humboldt Research Fellow).
- Visiting Scientist at various research institutions in Europe, North America, South Africa and fieldwork experience in all these areas, as well as in North Africa.
- Scientific Officer, Council for Geoscience, RSA (1990-1998) - palaeontological research and fieldwork - especially in western RSA and Namibia.
- Managing Member, *Natura Viva* cc - a Cape Town-based company specialising in broad-based natural history education, tourism and research - especially in the Arid West of Southern Africa (2000 onwards). *Natura Viva* cc produces technical reports on palaeontology, geology, botany and other aspects of natural history for public and private nature reserves.
- Current palaeontological research focuses on fossil record of the Precambrian / Cambrian boundary (especially trace fossils), and the Cape Supergroup of South Africa.
- Registered Field Guide for South Africa and Namibia
- Member of the A-team, Botanical Society of SA (Kirstenbosch Branch) - involved in teaching and training leaders for botanical excursions. Invited leader of annual Botanical Society excursions (Kirstenbosch Branch) to Little Karoo, Cederberg, Namaqualand and other areas since 2005.
- Professional training of Western and Eastern Cape Field Guides (FGASA Level 1 & 2, in conjunction with *The Gloriosa Nature Company*) and of Tourist Guides in various aspects of natural history.
- Involved in extra-mural teaching in natural history since the early 1980s. Extensive experience in public lecturing, running intensive courses and leading field excursions for professional academics as well as enthusiastic amateurs (e.g. Geological Society / Archaeological Society / Friends of the SA Museum / Cape Natural History Club / Mineral Club / Botanical Society of South Africa / SA Museum Summer & Winter School Programmes / UCT Summer School)
- Development of palaeontological teaching materials (textbooks, teachers guides, palaeontological displays) and teacher training for the new school science curriculum (GET, FET).
- Former long-standing member of Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC). Advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA (including APM Permit Committee at HWC). Compilation of technical reports on provincial palaeontological heritage of Western, Northern and Eastern Cape for SAHRA and HWC.

Accredited member of PSSA and APHP (Association of Professional Heritage Practitioners, Western Cape).

- **Palaeontological impact assessments for developments in the Western Cape, Eastern Cape, Northern Cape, Free State, Northwest Province, Mpumalanga, Gauteng.**
- Several hundred **palaeontological heritage desktop studies and field assessments** completed over the past few years. Examples of recent larger projects include:
  - (1) Several major alternative energy projects (wind / solar) in the Prieska, De Aar and Cookhouse / Middleton areas (N. Cape, E. Cape)
  - (2) Palaeontological heritage survey of the Coega IDZ (E. Cape)
  - (3) On-going survey of borrow pits in the Western Cape
  - (4) Palaeontological heritage assessments for the Transnet 16 mtpa railway development, Hotazel to Coega IDZ (N. Cape, E. Cape)
  - (5) Eskom transmission line developments such as Gamma-Omega and Gamma Perseus projects (N. Cape, W. Cape, Free State)
  - (6) Mining exploration studies on the Great Karoo
  - (7) National Wind and Solar PV Strategic Environmental Assessment Specialist Report - Heritage (palaeontological component)
- **Reviews of fossil heritage** related to new 1: 250 000 geological maps published by the Council for Geoscience (Geological Survey of SA) - e.g. Clanwilliam, Loeriesfontein, Alexander Bay sheets.

## Curriculum Vitae of Julian Conrad - Geohydrological Specialist

### GENERAL

Nationality: South African  
Profession: Geohydrologist  
Specialization: Groundwater exploration, development, management and monitoring and the application of spatial technologies for geohydrological assessment and management purposes  
Position in firm: Director: GEOSS -Geohydrological and Spatial Solutions International (Pty) Ltd  
Language skills: English (mother tongue), Afrikaans (average).

### Key skills

- Project leadership and management for the delivery of contract projects on brief, budget and time.
- Groundwater Resource Directed Measures (RDM) projects, including Reserve determinations; Classification; and Resource Quality Objectives. Groundwater Catchment Management Strategies as well as groundwater Validation and Verification. Legal compliance of groundwater use.
- Groundwater management and monitoring - database design, development and analysis of groundwater level and quality data.
- Groundwater development - borehole drilling and test pumping supervision and analysis.
- Groundwater exploration - (aerial photo interpretation, resistivity, magnetic and EM34 geophysical surveys for borehole siting purposes)
- Specialization in Geographical Information Systems (GIS) for geohydrological application.

### Educational and professional status

#### Qualifications

1995: M.Sc. (Hydrogeology and GIS) University of Rhode Island, United States of America.  
1985: B.Sc. (Hon) (Engineering geology) University of Natal, Durban, South Africa.  
1984: B.Sc. (Geology) University of Natal, Durban, South Africa.

#### Courses

2010 Introduction to QGIS (GISSA) / Skills Presentation (Elsabé Daneel Productions cc)  
2006 South African Groundwater Decision Tool (SAGDT)  
2004 Fractured Rock Aquifer Assessment / 2001 Isotope Techniques in Catchment Management  
2000 Groundwater Recharge  
1999 Remote Sensing and Geohydrology / Applied 3D Groundwater Modelling (MODFLOW)  
1997 Avenue Programming / 1995 ArcView (GIMS)  
1991 Advanced training on Arc/Info (DWA&F) / 1990 Pump test analysis (IGS-UOFS).

#### Memberships

- International Association of Hydrogeologists (IAH)
- Geological Society of South Africa (GSSA) / Groundwater Division of the Geological Society of South Africa
- Water Institute of South Africa (WISA)
- Geo-Information Society of South Africa (GISSA)
- South African Council for Natural Scientific Professions (SACNASP)

### EMPLOYMENT RECORD

1 March 2001 - present: Founded GEOSS - a company specializing in geohydrology  
1 May 1990 - 28 Feb. 2001 Hydrogeologist with Environmentek, Groundwater Group, CSIR  
Jan. 1986 - Dec. 1988 Geotechnical geologist with Rössing Uranium Limited, Namibia



## **RELEVANT EXPERIENCE**

- 25 years' experience in geohydrology, including the development of the GRDM and Water Resources Classification methodologies. This includes work in Validation and Verification projects and the development of the groundwater component of Catchment Management Strategies.
- Numerous groundwater exploration; development; monitoring and management projects have been completed.
- Numerous Environmental Impact Assessment (EIA) projects have been completed, that have triggered groundwater studies, both at the Scoping and EIA phases.
- Project management of numerous groundwater projects and large projects that have included many sub-consultants and specialists, especially RDM studies.

## **PUBLICATIONS (DETAILS ON REQUEST)**

## Curriculum Vitae of Charles Peek - Geohydrological Specialist

### GENERAL

Nationality: South African  
Profession: Geohydrologist  
Specialization: Groundwater exploration, development, monitoring and management including GIS and Remote Sensing expertise.  
Position in firm: Geohydrologist at GEOSS - Geohydrological and Spatial Solutions International (Pty) Ltd  
Date commenced: 4th February 2013  
Language skills: English (good - speaking, reading and writing)  
Afrikaans (fair - speaking, reading and writing).

### Key skills

- Groundwater exploration, development, monitoring and management.
- Arc GIS software (ESRI products)
- Proficient in working with and analysis of SPOT and Landsat imagery, using ERDAS, PCI Geoinformatica, eCognition, and ENVI

### RELEVANT EXPERIENCE

- Numerous groundwater exploration, development, monitoring and management projects.
- Extensive satellite image data processing (including geo-referencing) for the Validation and Verification projects within the Breede-Overberg Catchment Management Agency.

### EDUCATIONAL AND PROFESSIONAL STATUS

#### Qualifications

2012 BSc Hon - Geoinformatics University of the Stellenbosch, South Africa  
2011 BSc - Earth Science Degree: University of the Stellenbosch, South Africa

#### Memberships

- South African Council for National Scientific Professions (SACNASP) Mem. No. 500030/13

### EMPLOYMENT RECORD

February 2013 to present: GEOSS - Geohydrological and Spatial Solutions International (Pty) Ltd, Stellenbosch  
April 2011 to November 2011: Central Analytical Facilities, Geography and Geo-environmental Science, University of Stellenbosch.

## Curriculum Vitae of Johann Lanz - Soils Specialist

### Education

- |  |                            |                  |
|--|----------------------------|------------------|
| • M.Sc. (Environmental Geochemistry)                 | University of Cape Town    | 1996 - June 1997 |
| • B.Sc. Agriculture (Soil Science, Chemistry)        | University of Stellenbosch | 1992 - 1995      |
| • BA (English, Environmental & Geographical Science) | University of Cape Town    | 1989 - 1991      |
| • Matric Exemption                                   | Wynberg Boy's High School  | 1983             |

### Professional work experience

I am registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science, registration number 400268/12.

- **Soil Science Consultant**                      **Self employed**                      **2002 - present**

I run a soil science consulting business, servicing clients in both the environmental and agricultural industries. Typical consulting projects involve:

- Soil specialist study inputs to EIA's, SEA's and EMPR's. These have focused on impact assessments and rehabilitation on agricultural land, rehabilitation and re-vegetation of mining and industrially disturbed and contaminated soils, as well as more general aspects of soil resource management. Recent clients include: CSIR; SiVEST; Savannah Environmental; Aurecon; Subsolar; Red Cap Investments; MBB Consulting Engineers; Enviroworks; Sharples Environmental Services; Mainstream Renewable Power; Haw & Inglis; BioTherm Energy; WKN Windcurrent; Corobrik; Western Cape Provincial Department of Environmental Affairs and Development Planning; Alcan aluminium smelter (Coega); Namaqualand Restoration Initiative; AECl; Afrimat; Tiptrans.
- Soil resource evaluations and mapping for agricultural land use planning and management. Recent clients include: Zewenwacht Wine Estate, Lourensford Fruit Company; Thelema Mountain Vineyards; Delaire Wine estate; Newton-Johnson Wines; Spier Estate; Colors Fruit; Kaarsten Boerdery; Amanzi Country Estate (Port Elizabeth); Rudera Wines; Flagstone Wines; Cob Creek Estate (Jeffreys Bay); Solms Delta Wines; Dornier Wines.
- I have conducted several recent research projects focused on conservation farming, soil health and carbon sequestration.
- I have project managed the development of soil nutrition software for Farmsecure Agri Science.

- **Soil Science Consultant**                      **Agricultural Consultors**                      **1998 - end 2001**  
**International (Tinie du Preez)**

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

- **Contracting Soil Scientist**                      **De Beers Namaqualand Mines**                      **July 1997 - Jan 1998**

Completed a contract to make recommendations on soil rehabilitation and re-vegetation of mined areas.

### Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. South African Fruit Journal, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. South African Fruit Journal, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine*.

I am a reviewing scientist for the *South African Journal of Plant and Soil*.

## Curriculum Vitae of Rudolph du Toit - Social Specialist

### Personal information

**Name:** Rudolph du Toit  
**Firm:** Council for Scientific and Industrial Research (CSIR)  
**Position in Firm:** Senior Environmental Planner  
**Profession:** Environmental Planning, Assessment & Management  
**Date of Birth:** 23 May 1978  
**Languages:** English and Afrikaans  
**Marital status:** Married  
**Email:** rdutoit@csir.co.za  
**Telephone number:** 021 888 2538 / 076 902 6479

### Tertiary Education

#### Undergraduate

Bachelor of Arts (BA) Environmental and Development Studies  
Department of Geography and Environmental Studies  
University of Stellenbosch (US), 2003-2005

Bachelor of Law (LLB) (in progress)  
College of Law  
University of South Africa (UNISA), 2015

#### Honours

Bachelor of Philosophy (B.Phil.) Sustainable Development Planning and Management  
School for Public Leadership  
University of Stellenbosch (US), 2006

#### Masters

Master of Philosophy (M.Phil.) Development Planning  
School of Public Leadership  
University of Stellenbosch (US), 2007-2009

### Employment Experience

- 1. Organisation:** Independent contractor for the CapeNature Working for Water Project  
**Position:** Team leader: Natural resource management (Alien clearing)  
**Period:** 1998 to 2001
- 2. Organisation:** Magnetic South  
**Position:** Outdoor pursuit management  
**Period:** 2003 to 2007 (part-time during studies)
- 3. Organisation:** Strategic Environmental Focus (SEF) (Pty) Ltd.  
**Position:** Sustainability coordinator: Environmental planning & reporting  
**Period:** 2008 to 2010
- 4. Organisation:** Council for Scientific and Industrial Research (CSIR)  
**Position:** Environmental Planner  
**Period:** 2010 to present
- 5. Organisation:** University of Stellenbosch  
**Position:** Guest lecturer: Development Planning and Environmental Analysis module (part-time)

Period: 2013 to present

6. Organisation: University of Stellenbosch  
Position: External moderator: Development Planning (School for Public Leadership) (part-time)  
Period: 2015

### Professional Affiliations

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Registered member of the South African Institute for Impact Assessment (Registration Number 2779)

### Research Publications

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- Du Toit, R. (2009). *Developing a Scorecard for Sustainable Transport: A Cape Town Application*. Stellenbosch University Press
- Michelle Audouin, Mike Burns, Alex Weaver, David le Maitre, Patrick O'Farrell, Rudolph du Toit, Jeanne Nel. (2015). *An Introduction to Sustainability Science and its Links to Sustainability Assessment*. In Morrison-Saunders, A. and Pope, J., Eds. *Handbook of Sustainability Assessment*. Edward Elgar Publishing, 321 -349. ISBN 978-1-78347-136-2

### Conference Presentations & Papers

- Du Toit, R. (2012). *Wind Energy and Public Participation: A one-sided debate?* Proceedings of the 17th Annual Conference of the International Association for Impact Assessment South Africa: "Urban Evolution", 27 - 29 August, 2012.
- Du Toit, R. & Van der Westhuizen, C. (2013). *Strategic Environmental Assessment (SEA) as a means of building the Green Economy in South Africa: The development of a national wind and solar energy roll-out plan*. Proceedings of the OECD DAC SEA Task Team Workshop on SEA & Green Economy, Lusaka (Zambia), 17- 18 January 2013.
- Contributing author to: Dalal-Clayton, B. (2013) *The Role of Strategic Environmental Assessment in Promoting a Green Economy: Background document for the OECD DAC SEA task Team workshop on SEA & Green Economy, Lusaka, 17- 18 January 2013*. IIED, London
- Burns, M., Du Toit, R. & Schreiner, G. (2013). *Graphical Causal Loop modelling of socio-ecological systems to identify & evaluate key impact "strings"*. Proceedings of the 18th Annual Conference of the International Association for Impact Assessment South Africa: 16 - 18 September, 2013.

### Key courses

- Advanced Facilitation & Experiential Learning: Team Building Institute (Pty) Ltd (2001)
- Clean Development Mechanism (CDM) Project Development Training: Danish Energy Management (Pty) Ltd (2008)
- Project Management Principles & Practice: University of Pretoria (2011)
- Integrating Sustainability with Environmental Assessment in South Africa (Presented by A. Morrison -Saunders & J. Pope): North-West University (2012)
- Sharpening the Tool: New techniques and methods in Environmental Impact Assessment: Sustainable Environmental Solutions (Pty) Ltd (2015)
- Effective Skills for Challenging Meetings & Engagements: Conflict Dynamics (2015)

## Projects and Environmental Assessment Reports

The following table presents an abridged list of projects that I have been involved in, indicating my role in each project:

Environmental Impact Assessment (EIA) Experience		
Project	Role	Date
1. Basic Assessment: Bottelary Road Upgrade: Van der Merwe Venter Twenty Group and Silmore Trust	Environmental Control Officer	July 2009
2. MTN Remote Hub: Umbutho Civil & Electrical	Environmental Control Officer	July 2009
3. Basic Assessment: Hermanus (Overberg Municipality) substation upgrade & underground cable	Junior Environmental Manager and co-author	August 2009
4. Basic Assessment for the InnoWind Swellendam wind energy project: Single test turbine construction	Project Manager and Lead Author	January 2010
5. Basic Assessment for the InnoWind Heidelberg wind energy project: Single test turbine construction	Project Manager and Lead Author	January 2010
6. Basic Assessment for the InnoWind Albertinia wind energy project: Single test turbine construction	Project Manager and Lead Author	January 2010
7. Basic Assessment for the InnoWind Mossel Bay wind energy project: Single test turbine construction	Project Manager and Lead Author	January 2010
8. EIA for InnoWind Swellendam wind energy project, Western Cape	Project Manager and Lead Author	July 2010
9. EIA for InnoWind Heidelberg wind energy project, Western Cape	Project Manager and Lead Author	July 2010
10. EIA for InnoWind Albertinia wind energy project, Western Cape	Project Manager and Lead Author	July 2010
11. EIA for InnoWind Mossel Bay wind energy project, Western Cape	Project Manager and Lead Author	July 2010
12. EIA for the Electrawinds (NL) Coega IDZ Wind Energy Project: Proposed construction of 75 MW installed capacity	Project Manager	January 2010
13. EIA for Glencore Exploration (UK): On-shore and off-shore exploration drilling operation; Matanda Block, Cameroon	Project Manager	November 2010
14. EIA for Noble Energy (Cameroon): Off-shore exploration drilling, Yoyo Concession and Tilapia Exploration Block, Cameroon	Management, integration and drafting of water quality section of the EIA report.	April 2011
15. EIA for the Vleesbaai Independent Power Producer (VIPP) Wind Energy Facility near Vleesbaai	Project Manager and Lead Author	August 2012 (on-going)
16. Windlab Developments South Africa (Pty) Ltd Ishwati Emoyeni 140 MW Wind Energy EIA near Murraysburg in the Western Cape	Project Manager	September 2014 (on-going)
17. EIA for the City of Cape Town 1500 MW Gas-to-power facility, Atlantis, Western Cape	Project Leader	July 2015 (on-going)

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Strategic Environmental Assessment (SEA) Experience		
Project	Role	Date
18. Strategic Environmental Assessment (SEA) for the Port of Saldanha: Transnet National Ports Authority (TNPA)	Project Manager and Lead Author	July 2012
19. City of Cape Town Far South Strategic Environmental Assessment (SEA)	Project Manager and Lead Author	June 2014

Specialist Study Experience		
Project	Role	Date
20. Mulilo Renewable Project Developments (Pty) Ltd Gemsbok Solar PV1 75MW Solar Photovoltaic EIA in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of EIA specialist studies	September 2014
21. Mulilo Renewable Project Developments (Pty) Ltd Gemsbok Solar PV2 75MW Solar Photovoltaic EIA in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of EIA specialist studies	September 2014
22. Mulilo Renewable Project Developments (Pty) Ltd Boven Solar PV1 75MW Solar Photovoltaic EIA in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of EIA specialist studies	September 2014
23. Scatec Solar 330 (Pty) Ltd Kenhardt PV 1 75MW Solar Photovoltaic EIA in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of EIA specialist studies	August 2015
24. Scatec Solar 350 (Pty) Ltd Kenhardt PV 2 75MW Solar Photovoltaic EIA in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of EIA specialist studies	August 2015
25. Scatec Solar 370 (Pty) Ltd Kenhardt PV 3 75MW Solar Photovoltaic EIA in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of EIA specialist studies	August 2015
26. Scatec Solar 163 (Pty) Ltd Kenhardt PV 1 - Transmission Line Basic Assessment to service the proposed Kenhardt PV 1 75MW Solar Facility in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of BA specialist studies	August 2015
27. Scatec Solar 163 (Pty) Ltd Kenhardt PV 1 - Transmission Line Basic Assessment to service the proposed Kenhardt PV 1 75MW Solar Facility in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of BA specialist studies	August 2015
28. Scatec Solar 163 (Pty) Ltd Kenhardt PV 1 - Transmission Line Basic Assessment to service the proposed Kenhardt PV 1 75MW Solar Facility in the Northern Cape	Conducting the Social Impact Assessment (SIA) as part of the suite of BA specialist studies	August 2015

Environmental Management & Sustainability Planning Experience		
Project	Role	Date
29. Working for Water (CapeNature) alien clearing project: Uniondale Poort	Team Leader: natural resource management	January 1998
30. Working for Water (CapeNature) alien clearing project: Avontuur area	Team Leader: natural resource management	March 1999
31. Working for Water (CapeNature) alien clearing project: Prince Alfred Pass area	Team Leader: natural resource management	January 2000
32. Working for Water (CapeNature) alien clearing project: Langkloof farms	Team Leader: natural resource management	February 2001
33. Qualitative Environmental Impact Analysis related to Major Incident: PetroSA Mossel	Project Manager and Lead Author	October 2010

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Environmental Management & Sustainability Planning Experience		
Project	Role	Date
Bay GTL refinery		
34. Maseve Platinum Sustainability Assessment, Rustenburg	Project Manager	August 2011
35. Notice of Impacts Associated with Exploration Drilling in BHP Billiton Gabon's Licensed Areas of Okondja, Akieni & Lastoursville (Gabon)	Project Manager	June 2011
36. PetroSA LNG Importation Pipeline Screening Study (Saldanha Bay to Mosselbay)	Responsible investigating and assessing planning impacts	March 2014
37. Department of Environmental Affairs (DEA) National Sustainable Development Strategy and Action Plan (NSSD) 1: Monitoring & Evaluation Report	Project manager and lead author	November 2013 (on-going)
38. Apollo Brick (Pty) Ltd energy efficiency and fuel switching CDM project	Investigation of possible conversation of the energy efficiency project to an accredited CDM project	January 2008
39. Mxit Lifestyle (Pty) Ltd carbon footprint audit	Carbon audit of Mxit Lifestyle (Pty) Ltd	January 2009
40. EIA for Addax Petroleum: Off-shore exploration/appraisal drilling; Ngosso Permit, Cameroon	Research team: collection of benthic macrofauna samples and bio-indicators for water quality analysis	August 2010
41. EIA for Glencore Exploration (UK): Off-shore exploration drilling, Bolongo Block, Cameroon	Research team: collection of benthic macrofauna samples and bio-indicators for water quality analysis	February 2011
42. Integrated State of the Environment Report For Namibia (Phase 1)	Project Leader	June 2015 (on-going)
43. Guest lecturer: Stellenbosch University's Sustainability Institute (School of Public Leadership)	Guest lecturer: Theory & Practice of Sustainability Assessment	July 2013 (on-going)



# EIA REPORT

## APPENDIX B:

### Declarations of Interest and Independence of the Environmental Assessment Practitioner and Specialists

**Scoping and Environmental Impact  
Assessment** for the Proposed  
Development of a 75 MW Solar  
Photovoltaic Facility (KENHARDT PV 1)  
on the remaining extent of Onder Rugzeer  
Farm 168, north-east of Kenhardt,  
Northern Cape Province

<b>Declarations of Interest</b>	
1. EAP	Surina Laurie
2. Ecology Specialist	Simon Bundy
3. Visual Specialist	Henry Holland
4. Heritage Specialist	Dr. Jayson Orton
5. Palaeontological Specialist	Dr. John Almond
6. Geohydrological Specialist	Julian Conrad
7. Soils Specialist	Johann Lanz
8. Social Specialist	Rudolph du Toit

## Declaration of Interest: EAP

I, Surina Laurie, declare that:

- I act as the independent environmental practitioner in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the Regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;
- I will provide the competent authority any information that is provided by the EAP to interested and affected parties and any responses; by the EAP to comments or inputs made by interested or affected parties;
- I affirm that the information provided in this report includes input and recommendations from specialist reports where relevant;
- the information provided in this report has been sourced from relevant literature, legislation, previous studies and specialist input and is therefore believed to be correct;
- I will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signed at Stellenbosch on the 29<sup>th</sup> of February  
2016



Environmental Assessment Practitioner

## Declaration of Interest: Simon Bundy

I, Simon C Bundy, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist: \_\_\_\_\_



Name of Specialist: Simon C Bundy

Date: 8 February 2016

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

File Reference Number:	(For official use only) 12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

**PROJECT TITLE**

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist:	SDP Ecological and Environmental Services		
Contact person:	Simon C Bundy		
Postal address:	P O Box 1016, Ballito		
Postal code:	4420	Cell:	082 446 4847
Telephone:	032-9460685	Fax:	032-9460784
E-mail:	simon@ecocoast.co.za		
Professional affiliation(s) (if any)	SACNASP 400093/06		

Project Consultant:	Council for Scientific and Industrial Research (CSIR)		
Contact person:	Surina Laurie		
Postal address:	PO Box 320, Stellenbosch		
Postal code:	7599	Cell:	082 468 0962
Telephone:	021 888 2490 or 021 888 2661	Fax:	021 888 2693
E-mail:	SLaurie@csir.co.za		

4.2 The specialist appointed in terms of the Regulations\_

I, Simon C Bundy, declare that -

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:

SDP Ecological and Environmental Services

Name of company (if applicable):

9 February 2016


Date:

## Declaration of Interest: Henry Holland

I, Henry Holland, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:



Name of Specialist: Henry Holland

Date: 15 February 2016

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

File Reference Number:	(For official use only) 12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

**PROJECT TITLE**

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist:	Visual Specialist		
Contact person:	Henry Holland		
Postal address:	8 Cathcart Street		
Postal code:	6139	Cell:	082 2266689
Telephone:	046 6228735	Fax:	
E-mail:	hholland@gmail.com		
Professional affiliation(s) (if any)			

Project Consultant:	Council for Scientific and Industrial Research (CSIR)		
Contact person:	Surina Laurie		
Postal address:	PO Box 320, Stellenbosch		
Postal code:	7599	Cell:	082 468 0962
Telephone:	021 888 2490 or 021 888 2661	Fax:	021 888 2693
E-mail:	SLaurie@csir.co.za		

4.2 The specialist appointed in terms of the Regulations\_

I, Henry Holland, declare that—

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority, and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Henry Holland  
Signature of the specialist:

Name of company (if applicable):

08 February 2018  
Date:

## Declaration of Interest: Dr. Jayson Orton

I, Jayson Orton, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist: \_\_\_\_\_

Name of Specialist: JAYSON ORTON

Date: 01 FEBRUARY 2016



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

File Reference Number:	(For official use only) 12/12/201 or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

**PROJECT TITLE**

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist:	ASHA Consulting (Pty) Ltd		
Contact person:	Dr Jayson Orton		
Postal address:	6A Scarborough Road, Muizenberg		
Postal code:	7945	Cell:	083 272 3225
Telephone:	021 788 8425	Fax:	n/a
E-mail:	jayson@asha-consulting.co.za		
Professional affiliation(s) (if any):	ASAPA CRM Section member #233 APHP accredited professional heritage practitioner		

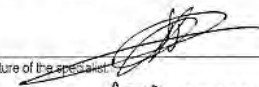
Project Consultant:	Council for Scientific and Industrial Research (CSIR)		
Contact person:	Sunima Laurie		
Postal address:	PO Box 320, Stellenbosch		
Postal code:	7509	Cell:	082 468 0962
Telephone:	021 888 2490 or 021 888 2681	Fax:	021 888 2693
E-mail:	SLaurie@csir.co.za		

4.2 The specialist appointed in terms of the Regulations

I, JAYSON ORTON, declare that -

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 4B and is punishable in terms of section 24F of the Act.

Signature of the specialist:   
Name of company (if applicable): ASHA CONSULTING (PTY) LTD  
Date: 27-01-2016

## Declaration of Interest: Dr. John Almond

I, Dr John Edward Almond, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realize that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

Name of Specialist: Dr John Edward Almond

Date: 29 January 2016

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

File Reference Number:	(For official use only) 12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

**PROJECT TITLE**

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist:	Dr John E. Almond
Contact person:	As above
Postal address:	PO Box 12410 Mill Street, CAPE TOWN, RSA
Postal code:	8010
Telephone:	0211 462 3622
E-mail:	almond@universe.co.za
Professional affiliation(s) (if any)	Palaeontological Society of Southern Africa, Association of Professional Heritage Practitioners (WCape)
Project Consultant:	Council for Scientific and Industrial Research (CSIR)
Contact person:	Surina Laurie
Postal address:	PO Box 320, Stellenbosch
Postal code:	7599
Telephone:	021 888 2490 or 021 888 2661
E-mail:	SLaurie@csir.co.za

4.2 The specialist appointed in terms of the Regulations\_

I, Dr. John Edward Almond, declare that -- General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:

*John E. Almond*

Name of company (if applicable):

NATURA VIVA CC

Date:

8 February 2016

## Declaration of Interest: Julian Conrad

I, **Julian Conrad**, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the specialist

Name of company: GEOSS - Geohydrological & Spatial Solutions International (Pty) Ltd.

Professional Registration (including number): SACNASP - 400159/05

Date: 21 February 2016.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

File Reference Number:	(For official use only) 12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

**PROJECT TITLE**

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist:	Geohydrological and Spatial Solutions International (Pty) Ltd	
Contact person:	Julian Conrad	
Postal address:	P O Box 12412, Die Boord, Stellenbosch	
Postal code:	7613	Cell: 082 871 5772
Telephone:	021 880 1079	Fax: 021 880 1164
E-mail:	jconrad@geoss.co.za	
Professional affiliation(s) (if any)		

Project Consultant:	Council for Scientific and Industrial Research (CSIR)	
Contact person:	Surina Laurie	
Postal address:	PO Box 320, Stellenbosch	
Postal code:	7599	Cell: 082 468 0962
Telephone:	021 888 2490 or 021 888 2661	Fax: 021 888 2693
E-mail:	SLaurie@csir.co.za	

4.2 The specialist appointed in terms of the Regulations\_

**Julian Conrad**

I, \_\_\_\_\_, declare that --

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:

Geohydrological and Spatial Solutions International (Pty) Ltd

Name of company (if applicable):

4 February 2016

Date:

## Declaration of Interest: Johann Lanz

I, Johann Lanz, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:



Name of specialist:

Johann Lanz

Professional Registration (including number):

SACNASP Registration Number: 400268/12

Date:

05 February 2016



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEAT/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-  
 (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and  
 (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and  
 Government Notice 921, 2013

**PROJECT TITLE**

**Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

Specialist:	Private Soil Science Consultant	
Contact person:	Johann Lanz	
Postal address:	P.O. Box 6209, UNIEDAL	
Postal code:	7612	Cell: 082 927 9018
Telephone:	021 886 1518	Fax:
E-mail	johann@johannlanz.co.za	
Professional affiliation(s) (if any)	South African Council for Natural Scientific Professions; Soil Science Society of SA	

Project Consultant:	Council for Scientific and Industrial Research (CSIR)	
Contact person:	Surina Laurie	
Postal address:	PO Box 320, Stellenbosch	
Postal code:	7599	Cell: 082 468 0962
Telephone:	021 888 2490	Fax: 021 888 2693
E-mail	Slaurie@csir.co.za	

4.2 The specialist appointed in terms of the Regulations

I, **Johann Lanz**, declare that

General declaration:

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of the specialist:

**Johann Lanz – Soil Scientist (sole proprietor)**

Name of company (if applicable):

**09 February 2016**

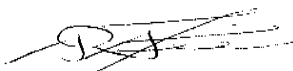
Date:

## Declaration of Interest: Rudolph du Toit

I, **Rudolph du Toit**, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:



Name of Specialist: **Rudolph**

Date: **28 January 2016**



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

File Reference Number:	(For official use only) 12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

**PROJECT TITLE**

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist:	Rudolph du Toit
Contact person:	Rudolph du Toit
Postal address:	PO Box 320, Stellenbosch
Postal code:	7599
Telephone:	021 888 2538
E-mail:	rdutoit@csir.co.za
Professional affiliation(s) (if any):	n/a

Project Consultant:	Council for Scientific and Industrial Research (CSIR)
Contact person:	Surina Laurie
Postal address:	PO Box 320, Stellenbosch
Postal code:	7599
Telephone:	021 888 2490 or 021 888 2661
E-mail:	SLaurie@csir.co.za

4.2 The specialist appointed in terms of the Regulations\_

I, Rudolph du Toit, declare that --

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct, and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

[Signature]  
Signature of the specialist:

CSIR  
Name of company (if applicable):

20 January 2016  
Date:

# EIA REPORT

## APPENDIX C:

### Database of Interested and Affected Parties

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Number	First Name	Surname	Company/ Organisation	Deregister interest	Let 1: BID	Request to Register	Comment BID	Let 2: Notice of Release of Consultation Scoping Reports	Comment on Consultation Scoping Reports	Email: Notice of Submission of Scoping Reports to DEA	Let 3: Notice of Release of Consultation EIA Reports and BA Reports	Comment on Consultation EIA Reports and BA Reports	Email: Notice of Submission of EIA Reports and BA Reports to DEA	Let 4: Notice of EA for BAs and EIAs	Let 5: Outcome of Appeal Process
<b>Organs of State</b>															
1.	Mmatlala	Rabothatha	National DEA: Integrated Environmental Authorisations		X			X		X	X				
2.	Muhammad	Essop	National DEA: Integrated Environmental Authorisations		X			X		X	X				
3.	Director-General		National DEA: Biodiversity and Conservation					X			X				
4.	Herman	Alberts	National DEA: Integrated Environmental Authorisations							X	X				
5.	A	Yaphi	Provincial Department of Environment and Nature Conservation (DENC): Northern Cape		X			X		X	X				
6.	M	Mathews	Provincial DENC: Northern Cape		X			X		X	X				
7.	Samantha	De la Fontaine	Provincial DENC: Northern Cape		X	X	X	X	X	X	X				
8.	Elsabe	Swart	Provincial DENC: Northern Cape						X	X	X				
9.	Sibonelo	Mbanjwa	Provincial DENC: Northern Cape		X			X		X	X				
10.	Luzane	Tools-Bernado	Provincial DENC: Northern Cape						X	X	X				
11.	Eric	Ngxanga	ZF Mgcawu District Municipality - Municipal Manager		X			X		X	X				
12.	Frikkie	Ruping	ZF Mgcawu District Municipality - Environmental Manager		X			X		X	X				
13.	H.T	Scheepers	!Kheis Municipality - Municipal Manager		X			X		X	X				
14.	Gloria	Matlakala	!Kheis Municipality						X	X	X				
15.	JG	Lategan	Kai ! Garib Municipality - Municipal Manager		X			X		X	X				

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Number	First Name	Surname	Company/ Organisation	Deregister interest	Let 1: BID	Request to Register	Comment BID	Let 2: Notice of Release of Consultation Scoping Reports	Comment on Consultation Scoping Reports	Email: Notice of Submission of Scoping Reports to DEA	Let 3: Notice of Release of Consultation EIA Reports and BA Reports	Comment on Consultation EIA Reports and BA Reports	Email: Notice of Submission of EIA Reports and BA Reports to DEA	Let 4: Notice of EA for BAs and EIAs	Let 5: Outcome of Appeal Process
16.	M.	Clarke	Kai ! Garib Municipality - Manager: Electromechanical Services							X	X				
17.	Mashudu	Randwedzi	Department of Water and Sanitation		X			X			X				
18.	Melinda	Mei	Department of Water and Sanitation		X		X	X	X	X	X				
19.	Shaun	Cloete	Department of Water and Sanitation					X		X	X				
20.	Chantèl	Schwartz	Department of Water and Sanitation						X	X	X	X			
21.	Mandla	Ndzilili	Ministry of Environment and Nature Conservation		X			X		X	X				
22.	Mashudu	Marubini	National Department of Agriculture, Forestry and Fisheries (DAFF)		X			X		X	X				
23.	Thoko	Buthelezi	National DAFF - AgriLand Liaison office		X			X		X	X				
24.	D	Nhlakad	National DAFF - AgriLand Liaison office		X			X		X	X				
25.	Anneliza	Collett	National DAFF - AgriLand Liaison office		X			X		X	X				
26.	H. J.	Buys	National DAFF (Land Use and Soil Management)						X	X	X				
27.	Jacoline	Mans	Provincial DAFF		X			X	X	X	X	X	X		
28.	Khuthala	D.	DAFF										X		
29.	Ali	Diteme	Provincial Department of Agriculture, Land Reform & Rural Development		X			X		X	X				
30.	Pieter	Buys	National Energy Regulator of South Africa		X			X		X	X				
31.	IA	Bulane	Department of Public Works, Roads and Transport		X			X			X				

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Number	First Name	Surname	Company/ Organisation	Deregister interest	Let 1: BID	Request to Register	Comment BID	Let 2: Notice of Release of Consultation Scoping Reports	Comment on Consultation Scoping Reports	Email: Notice of Submission of Scoping Reports to DEA	Let 3: Notice of Release of Consultation EIA Reports and BA Reports	Comment on Consultation EIA Reports and BA Reports	Email: Notice of Submission of EIA Reports and BA Reports to DEA	Let 4: Notice of EA for BAs and EIAs	Let 5: Outcome of Appeal Process
32.	Denver	Van Heerden	Department of Public Works, Roads and Transport		X			X		X	X				
33.	Rene	de kock	South African Roads Agency Limited - Northern Cape (Western Region)		X		X	X		X	X				
34.	Nicole	Abrahams	South African Roads Agency Limited (Western Region)						X	X	X				
35.	M	Lepheane	Department of Labour		X			X		X	X				
36.	A	Botes	Department of Social Development		X			X		X	X				
37.	Riaan	Warie	Northern Cape Economic Development Agency		X			X		X	X				
38.	Andrew	Timothy	Directorate Heritage, Department - Sports, Arts and Culture		X			X		X	X				
39.	Lizell	Stroh	South African Civilian Aviation Authority		X			X		X	X				
40.	John	Geeringh	ESKOM		X			X	X	X	X				
41.	Kevin	Leask	ESKOM		X			X		X	X				
42.	Justine	Wyngaardt	ESKOM (Western Operating Unit, Distribution)		X			X		X	X				
43.	Lindi	Haarhoff	ESKOM (Nieuwehoop Substation)					X		X	X				
44.	Sharon	Steyn	Northern Cape Chamber of Commerce and Industry		X			X		X	X				
45.	P.J.J	van Rensburg	Agri Northern Cape		X					X	X				
46.	H.	Myburgh	Agri Northern Cape <sup>1</sup>					X		X	X				

<sup>1</sup> Note that during the Project Initiation Phase, correspondence was sent to Mr. P. J. J. van Rensburg of Agri Northern Cape. However, the CSIR was requested (via telephone), to replace Mr. P. J. J. van Rensburg with Mr. H. Myburgh on the database. Mr. P. J. J. van Rensburg has therefore been removed from the project database going forward. For record purposes, Mr. P. J. J. van Rensburg will still be reflected on the database in the EIA Reporting to show interaction during the Project Initiation Phase only.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Number	First Name	Surname	Company/ Organisation	Deregister interest	Let 1: BID	Request to Register	Comment BID	Let 2: Notice of Release of Consultation Scoping Reports	Comment on Consultation Scoping Reports	Email: Notice of Submission of Scoping Reports to DEA	Let 3: Notice of Release of Consultation EIA Reports and BA Reports	Comment on Consultation EIA Reports and BA Reports	Email: Notice of Submission of EIA Reports and BA Reports to DEA	Let 4: Notice of EA for BAs and EIAs	Let 5: Outcome of Appeal Process
47.	Adrian	Tiplady	SKA SA		X		X	X	X	X	X	X			
48.	Marina	Lourens	Transnet Freight Rail					X	X	X	X				
49.	Gilbert	Nortier	Transnet Freight Rail		X		X	X		X	X				
50.	Mayvyn	Bhana	Transnet		X			X		X	X				
51.	Clive	Stephenson	Transnet		X			X		X	X				
52.	Director		Department of Energy Northern Cape		X			X			X				
53.	Ragna	Redelstorff	South African Heritage Resources Agency <sup>2</sup>		X		X	X		X	X				
54.	Natasha	Higgitt	South African Heritage Resources Agency									X			
55.	Kgauta	Mokoena	Department of Mineral Resources								X				
56.	Elliot	Sibeko	Department of Telecommunication & Postal Services								X				
57.	Director		Department of Communications								X				
58.	Chris	Coetzee	Southern African Large Telescope (SALT) Sutherland								X				
59.	Raoul	Van den Berg	Southern African Large Telescope (SALT) Sutherland								X				
<b>Stakeholders (NGOs and Conservation Organisations)</b>															
60.	Simon	Gear	Birdlife South Africa		X			X		X	X				

<sup>2</sup> Note that submissions to the South African Heritage Resources Agency (SAHRA) have been made via the online SAHRIS. The details provided are those of the designated case officer assigned to the application.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Number	First Name	Surname	Company/ Organisation	Deregister interest	Let 1: BID	Request to Register	Comment BID	Let 2: Notice of Release of Consultation Scoping Reports	Comment on Consultation Scoping Reports	Email: Notice of Submission of Scoping Reports to DEA	Let 3: Notice of Release of Consultation EIA Reports and BA Reports	Comment on Consultation EIA Reports and BA Reports	Email: Notice of Submission of EIA Reports and BA Reports to DEA	Let 4: Notice of EA for BAs and EIAs	Let 5: Outcome of Appeal Process
61.	Janine	Goosen	Birdlife South Africa									X			
62.	Lubabalo	Ntsolo	C.A.P.E. Co-ordination Unit: Northern Cape		X			X		X	X				
63.	Freyne	du Toit	Grasslands Society of Southern Africa		X			X		X	X				
64.			Endangered Wildlife Trust, Wildlife and Energy Programme		X			X		X	X				
65.	Dr. Howard	Hendricks	South African National Parks - Snr GM: Policy & Governance Conservation Services Division		X			X		X	X				
66.	Dr. Joh R	Henschel	SAEON Arid Lands Node								X				
67.	Praneel	Ruplal	Independent Communications Authority of South Africa (ICASA)								X				
<b>Landowner</b>															
68.	Andre	Van Niekerk	Van Niekerk Gesins Trust					X		X	X				
<b>Adjacent Property Owners</b>															
69.	Andre	Van Niekerk	Kamkuip Boerdery (Pty) Ltd		X			X		X	X				
70.	D.J/Sarel	Strauss	Kamkuip Boerdery (Pty) Ltd		X			X		X	X				
71.	Rudolph	Grobler	Farm Name: Brussel and Gerhards Puts		X			X		X	X				
72.	Hendrik	Van Wyk	Wilcaris Pty Ltd		X			X		X	X				
73.	Ernest	Connan	Ernest Connan Trust		X			X		X	X				
74.	Johan	Steenkamp	JHJ Steenkamp Trust		X			X		X	X				

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Number	First Name	Surname	Company/ Organisation	Deregister interest	Let 1: BID	Request to Register	Comment BID	Let 2: Notice of Release of Consultation Scoping Reports	Comment on Consultation Scoping Reports	Email: Notice of Submission of Scoping Reports to DEA	Let 3: Notice of Release of Consultation EIA Reports and BA Reports	Comment on Consultation EIA Reports and BA Reports	Email: Notice of Submission of EIA Reports and BA Reports to DEA	Let 4: Notice of EA for BAs and EIAs	Let 5: Outcome of Appeal Process
75.	Handre	van Wyk	Farm Name: Narougas (Straus Heim)		X										
76.	Plankiesd	Van der Walt	Farm Name: Varsputs		X										
<b>Additional I&amp;APs</b>															
77.	Mitchell	Hodgson	Scatec Solar		X			X		X	X				
78.	Claude	Bosman	Veroniva (PTY) Ltd - Renewable Energy		X			X		X	X				
79.	Naveenraj	Challa	Marcyrox NPC		X			X		X	X				
80.	Karen	Low	Mulilo Renewable Energy Developments		X		X	X		X	X	X			
81.	Melanie	Miles	Leads 2 Business		X	X	X	X		X	X	X			
82.	Morgan	Townsend			X	X		X		X	X				
83.	John	de Bruin	Henrohn Security			X	X	X		X	X	X			



# EIA REPORT

## APPENDIX D:

### Copy of Newspaper Advertisement

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Project Initiation Phase (Release of BID for 30-day comment period): Newspaper Advertisement – The Gemsbok**

**NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESSES**

**THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar) (i.e. the Project Applicant), is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation on the remaining extent of Portion 3 of Gemsbok Bult Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. A separate Basic Assessment Process is also required and will be undertaken for the development of the proposed transmission lines. The CSIR has been appointed by Scatec Solar to undertake the requisite Basic Assessment and Scoping and EIA Processes for the proposed projects. The proposed project potentially triggers the following listed activities:

- Basic Assessment Process: GN R983: Activity 11 (i);
- Scoping and EIA Process: GN R983: Activity 9 (i) and (ii); Activity 12 (x) and (xii); Activity 19 (i); Activity 24 (ii) and Activity 28 (ii); and GN R984: Activity 1 and Activity 15.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation (EA) will be lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed 75 MW Solar PV facility and transmission line, which will be referred to as Kenhardt PV 1, Kenhardt PV 2, Kenhardt PV 3, Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line, and Kenhardt PV 3 – Transmission Line. As such, separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project.

To ensure that you are included on the project register, as well as to raise any issues and concerns for inclusion in the Basic Assessment and Scoping Reports, you are kindly requested to register your interest in the projects and submit any comments you may have to the CSIR (at the details indicated below) within **30 days** of this notification (i.e. by no later than **31 August 2015**). Kindly note that available project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>. For more information and/or to register as an Interested and Affected Party, please contact: Rohaida Abed; CSIR; P. O. Box 17001, Congella, Durban, 4013; Phone: 031 242 2300; Fax: 031 261 2509; Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

BLADSY 4

DIE GEMSBOK

31 JULIE 2015

**GEMSBOK-POFADDER:** Die skoolhoof van die Laerskool Francois Visser op Pofadder wie daarvan beskuldig word dat hy skoolklasse in wooneenhede vir buitelanders wat as sonplaaaswerkers werk omskep het, is ondanks die Khai Ma Gemeenskap Monitorings Forum se protes optog onlangs, weer terug in die tuig.

Volgens Erick Strauss, van die GMF, het die gemeenskap net betyds ingetree en het geen

## Skoolhoof wou klasse aan buitelanders verhuur

buitelanders nog in die eenhede ingetrek nie, maar al die TV's, beddegoed ens wat reeds aangekoop is, staan tans nog netso by die skool.

Nadat die GMF glo die klagtes by verskeie departementshoofde by die Departement van Onderwys in die Namakwastreek aangehang gemaak het, het hulle besluit om gemeenskapslede en ouers van die skool in protes optog na die skool laat opruk om 'n versoekskrif te oorhandig.

Onder die klagtes word daar glo ook beweer dat die verkiesing van die skool se SBL nie heeltemal "grondwetlik" hanteer is nie.

Die GMF het in hul versoekskrif, wat aan Mnr Ruiters (adjunkhoof van onderwys in die Namakwastreek) en mnr Engelbrecht (kring bestuurder van onderwys in die Namakwastreek) oorhandig is, daarop aangedring dat die skoolhoof, mnr Fadil Faro, binne 48 uur uit sy pos verwyder moes word.

Volgens Strauss het die departement 'n dringende vergadering belê om agter die kap van die byl te kom en die gemeenskap het van die geleentheid gebruik gemaak om hulle ontvredenheid met die manier waarop die skoolhoof die skool bestuur, uit te spreek.

Na die 48 uur tydperk wat tydens die optog aan die dept onderwys gegee is om van Faro ontslae te maak, het die gemeenskap weer na die skool opgeruk, waarna Faro van die perseel verwyder moes word.

Blykbaar is die SBL ook ontbind. In gesprek met mnr Ruiters het die Gembok vasgestel dat Faro weer terug is in sy pos.

Blykbaar is Faro die enigste een wat aan die Gr 7 leerders kan onderrig gee en daarom is hy weer, ondanks die klagtes teen hom, terug in die tuig.

Mnr Sam Ruiters het die volgende op die aantygings van die GMF te sê gehad: "Eintlik reageer die Departement nie op sulke leë niksseggende aantygings

Nadat die ondersoek afgehandel is het die distrikbestuur op 20 Julie vergadering met die ouergemeenskap gehou, waartydens die aankondiging van die terugplasing van die skoolhoof gedoen is. Die ouergemeenskap het dit met luide applous verwelkom. Die rede vir die terugplasing soos aangevoer is dus heeltemal verkeerd."



Die Pofadder gemeenskap in oproer. Volgens die GMF dring hulle daarop aan dat die skoolhoof van Laerskool Francois Visser uit sy pos geskors word, nadat hy glo die Graad R klasse van die skool in wooneenhede vir buitelanders wou omskep.

**NG KERK UPINGTON-OOS**  
BASAAR & VEILING  
**VRYDAG, 31 JULIE 2015**  
Braaivleisverkope 10:00  
Rouvlies & Witolifant-tafel 14:00  
Teetuin & Speletjies 15:00  
Gesigverf, Ballonkunstenaar, Springkasteel, Skattejag, Inkleurkompetisie en 'n Mini kar om in te speel!  
**AMPTELIKE OPENING 17:00**  
**Veiling 17:30**  
• 1 Arabier Hings (Jack Maritz)  
• 2 Dorperamme  
• 10 Meestmaster ooie  
• Lusernbale  
Navrae aan die Skriba - 054 338 0378

**PADONGELUKFONDS**  
IS U ONLANGS ERNSTIG BESEER IN 'N MOTORONGELUK OF HET U 'N GELIEFDE VERLOOR?  
OF HET U ONLANGS U PADONGELUKFONDS EIS DIREK MET DIE FONDS GESKIK?  
KONTAK GERT NEL PROKUREURS BY 087 233 9188 VIR 'N GRATIS EVALUASIE VIR 'N MOONTLIKE EIS TEEN DIE PADONGELUKFONDS.  
GERT NEL PROKUREURS  
087 233 9188  
www.gertnelincattorneys.co.za

**Abrahams Christopher (Boere)**  
Dit is nou al 10 jaar dat jy weg is Boere. Die hartseer en skielik en baie groot om jou te verloor. Ons mis jou baie, maar sal jou altyd in ons harte koester.  
24/12/1944  
29/07/2005  
Van jou vrou, kinders en kleinkinders.

## Verdagtes vas na gewapende roof

**GEMSBOK-KURUMAN:** Drie verdagtes van Bankarra het, na wat soos 'n arretasie uit 'n aksie film gebeur het, onlangs op aanklag van gewapende roof en die onwettige besit van vuurwapens en ammunisie in die hof verskyn.

Daar word beweer dat op Sondag 26 Julie, 2015 omstreeks 16:30, die klaer saam met 'n vriend in Bankarra gestap het, toe hulle gestop word deur die drie verdagtes in 'n wit VW Golf.

Die mans het die 28-jarige klaer met 'n vuurwapen, messe en 'n panga gedreig en hom beroof van sy kontant en selfoon.

Polisie is onmiddellik in kennis gestel en die klaer het die polisie na 'n huis in die omgewing verwys, aangesien hy een van die verdagtes herken het.

Toe die verdagtes egter die polisie opmerk het een verdagte probeer om weg te hardloop.

So in die hardloop, gooi hy toe 'n sak op die dak van een van die huise. Die polisie het hom ingehaal en gearrester en die sak van die dak af gehaal.

Daar was twee rewolwers en ammunisie in die sak. Pangas en meer ammunisie gekonfiskeer uit die huis.

Die VW Golf is ook op beslag gelê. Drie verdagtes tussen 27 en 35 jaar oud is in hegtenis geneem.

## R3000 uit motor gesteel

**GEMSBOK-UPINGTON:** Die Speurtak van Upington SAPD ondersoek 'n klagte van diefstal vanuit 'n motorvoertuig nadat daar R3000 in kontant, na bewering uit 'n voertuig in Le Rouxstraat, Upington, gesteel is.

Dit is onbekend hoe toegang tot die voertuig verkry is. Niemand is in verband met die voorval in hegtenis geneem nie.

Die polisie ondersoek duur voort. Enige persoon met inligting word versoek om die Speurtak te kontak by tel. (054) 337 3400.

**NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESSES**  
THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE  
CSIR REFERENCE: EMS0102/SCATEC/2015  
Scatec Solar SA 163 (Pty) Ltd (hereinafter referred to as Scatec Solar) (i.e. the Project Applicant), is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation on the remaining extent of Portion 3 of Gembok Bull Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the IKheis Local Municipality, Northern Cape Province.  
In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. A separate Basic Assessment Process is also required and will be undertaken for the development of the proposed transmission lines. The CSIR has been appointed by Scatec Solar to undertake the requisite Basic Assessment and Scoping and EIA Processes for the proposed projects. The proposed project potentially triggers the following listed activities:  
• Basic Assessment Process: GN R983: Activity 11 (i);  
• Scoping and EIA Process: GN R983: Activity 9 (i) and (ii); Activity 12 (k) and (xii); Activity 19 (i); Activity 24 (ii) and Activity 28 (ii); and GN R984: Activity 1 and Activity 15.  
Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation (EA) will be lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed 75 MW Solar PV facility and transmission line, which will be referred to as Kenhardt PV 1, Kenhardt PV 2, Kenhardt PV 3, Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line, and Kenhardt PV 3 - Transmission Line. As such, separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project.  
To ensure that you are included on the project register, as well as to raise any issues and concerns for inclusion in the Basic Assessment and Scoping Reports, you are kindly requested to register your interest in the projects and submit any comments you may have to the CSIR (at the details indicated below) within 30 days of this notification (i.e. by no later than 31 August 2015). Kindly note that available project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>. For more information and/or to register as an Interested and Affected Party, please contact: Rohaida Abed; CSIR; P. O. Box 17001, Congella, Durban, 4013; Phone: 031 242 2300; Fax: 031 261 2509; Email: RAbed@csir.co.za

**GRATIS**  
\*BYBEL STUDIE LESSE  
\*BOEKE  
\*AUDIO/VIDEO LERINGE  
Besoek ons webtuiste  
**www.coyhwh.com**  
Om meer uit te vind oor:  
\*Die Naam van YAHWEH  
\*Yahshua die Messias  
\*Die 7<sup>de</sup> Dag Sabbat  
\*Die Heilige Dae  
\*Wet en Genade werk saam  
En veel meer.  
Kontak: Shemuel 076 196 8233  
coyhwhharties@gmail.com

Met leedwese maak ons bekend die skielike afsterwe van ons ma  
**Johanna Pieters**  
Roudiens navrae: Suster Mokati 083 512 1667  
Begravnis navrae: Greg 071 913 8070  
"Spread Love everywhere you go. Let no one ever come to you without leaving happier."  
- Mother Teresa  
16/09/1951 - 23/07/2015  
Van: Senes & familie  
**Northern Cape Arabian Horse Club Training Seminar**  
Presented by Jack & Fanie Maritz and Jacobus Barnard  
• Basic Horsemanship  
• Biting & Longline  
• Show classes  
-Novice  
-Hunter  
-Western  
-Country  
-Costume  
-English  
• Halter Training and Showing  
• Conditioning & Prepping for a Show  
-Exercise  
-Coat care  
-Main and Tail  
-Face and Body Clip  
• Tack •Bits •Training tack •Showing tack  
Contact: Jacobus Barnard 072 994 2392  
Danelle Gouws 076 679 1392

Note from the CSIR: The Gembok is a weekly newspaper which is distributed every Wednesday and made available from Wednesday to Friday; however it is dated for a Friday (in this case, 31 July 2015). The newspaper advert was distributed on 29 July 2015.

**Scoping Phase (Release of Scoping Report for 30-day comment period): Newspaper Advertisement – The Gemsbok**

**NOTICE OF RELEASE OF BASIC ASSESSMENT (BA) AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORTS FOR COMMENT**

**THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES (KENHARDT PV 1, 2 AND 3) AND ASSOCIATED ELECTRICAL INFRASTRUCTURE (INCLUDING TRANSMISSION LINES) NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**CSIR REFERENCE: EMS0102/SCATEC/2015**  
**KENHARDT PV 1 – DEA REFERENCE: 14/12/16/3/3/2/837**  
**KENHARDT PV 2 – DEA REFERENCE: 14/12/16/3/3/2/838**  
**KENHARDT PV 3 – DEA REFERENCE: 14/12/16/3/3/2/836**

Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar) (i.e. the Project Applicant), is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (including transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities (referred to as “Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3”). Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure (referred to as “Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 - Transmission Line and Kenhardt PV 3 - Transmission Line”). The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

The separate Applications for Environmental Authorisation (EA) for the Scoping and EIA Projects were lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) on 30 September 2015 (together with the Scoping Reports, which were accepted by the DEA on 8 December 2015). The Applications for EA for the BA projects will be submitted to the DEA together with the BA and EIA Reports for comment.

An integrated Public Participation Process is being undertaken for the proposed projects as they are located within the same geographical area and constitute the same type of activity. However, separate reports (i.e. BA, Scoping and EIA Reports) have been compiled for each project.

Interested and Affected Parties (I&APs) are hereby notified of the release of the EIA and BA Reports for the proposed projects for a 30-day review period, which will extend from **3 March 2016** to **5 April 2016** (excluding public holidays). Hard copies of the BA and EIA Reports are available for public viewing at the Kenhardt and Groblershoop Libraries. The BA and EIA Reports can also be downloaded from the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

You are kindly requested to submit any comments you may have on the BA and EIA Reports to the CSIR (at the details indicated below) within **30 days** of this notification (i.e. by no later than **5 April 2016**). For more information, please contact: Rohaida Abed; CSIR; P. O. Box 17001, Congella, Durban, 4013; Phone: 031 242 2300; Fax: 031 261 2509; Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)



## Ou Motorskou word beplan

**GEMSBOK-UPINGTON:** Veteraan en klassieke motors wat vanuit alle uithoeke van die land kom, gaan hard kompeteer om die kalklig by die eerste jaarlikse veteraan motor en motorfiets skou in Upington te steel.

Voertuie wat voor 1980 vervaardig is, word as ou motors beskou en maak die skou spesifiek vir hierdie voertuie voorsiening.

"Ons is hard besig met die finale reelings en borge vir Upington se eerste jaarlikse Veteraan motor en motorfiets skou! Ons het die naweek n komitee vergadering waar ons alle reelings gaan bespreek. Die skou datum sal in September wees, ons is net besig met Kalahari Desert Speedweek vir die finale datums van hul kant," sê Vic, een van die organiseerders van die skou.

Hy sê daar is reeds groot belangstelling reg deur Suid Afrika soos Natal, Jhb, Kaapstad en selfs Kimberley. Alle veteraan, klassieke, retro, sport, hitstjorje en sport motors asook klassieke, skaars, unieke motorfiets is welkom.

Daar sal egter ook plek wees vir heelwat jonger modelle sports en eksotiese motors.

Motorfiets; trekkers; statiese engins en landbou-implemente is ook welkom. Indien jy 'n ou motor/motorfiets/trekker of implement eienaar is, kontak gerus [vicauto@mweb.co.za](mailto:vicauto@mweb.co.za)

Daar gaan ook voorsiening gemaak word vir voedsel/koel drank stalletjies asook voertuig-bykomstigheidstalletjies.

Navrae [vicauto@mweb.co.za](mailto:vicauto@mweb.co.za)

## KURREES CPA hou jaarvergadering

**GEMSBOK-UPINGTON:** Die KURREES CPA hou op 21 Maart 2016 hulle algemene jaarvergadering.

Alle lede moet die vergadering om 09:00 in die VGK Upington kerkzaal in Dawidstraat bywoon.

Verdere inligting kan by mnr J Orange by 072 882 3966 of mnr B Koopman by 076 536 1257 verkry word.

## Goeie vonnis Hy kry 2 x lewenslank

**GEMSBOK-UPINGTON:** Goeie ondersoekwerk deur sersant Clive Maasdorp, verbonde aan Upington SAPD speurtak, het daartoe gelei dat 'n beskuldigde die afgelope week 2 (twee) lewenslange gevangenisstraf opgelê is, vir moord en verkragting.

Die vonnis spruit uit 'n voorval op 26 Oktober 2013 toe die half naakte liggaam van Maria Saaiman alias Bonnie, in die oop veld agter die skougronde, gevind is.

Sy was van vroegoggend van haar woning in Paballelo, oppad na haar werksplek by die lughawe. Haar liggaam is gevind met veelvuldige steekwond beserings. Sers. Maasdorp het na deurtastende ondersoek 'n verdagte gedurende Maart 2015 gearresteer. Brian Jumba (32jr), 'n werklose man van Paballelo is in die rondgaande hooggeregshof deur regter Sharon Erasmus tot lewenslange gevangenisstraf op elk van die aanklagte, te wete moord en verkragting, gevonniss.

Die stasiebevelvoerder van Upington SAPD, kolonel Sampie Koopman, loof sers. Maasdorp vir sy volgehoute ondersoekwerk wat gelei het tot die arrestasie en vonnis oplegging van die beskuldigde.

## Nuwe aanstellings by Rietfontein Gekombineerde Skool



Hierdie drie juffroue het aan die begin van die eerste kwartaal by die Rietfontein Gekombineerde Skool se personeel aangesluit. Vlnr: Juffroue Magdaleen Iqbal, Marilee Esau en Gabriela Cloete. Juffroue Iqbal en Cloete is albei oudleerders van Rietfontein Gekombineerde Skool. Juffrou Iqbal sal die gr.2a klas die jaar beman. Juffrou Esau bied Afrikaans huistaal vir gr.7a & b, English first additional language vir gr.10 b, Wiskunde vir gr. 7 a&b en Tegnologie vir gr.8c aan. Juffrou Cloete bied Afrikaans vir gr.8 a, b en c, English first additional language vir gr. 7 a&b en Lewensoriëntering vir gr. 6a aan.

### GREEN VALLEY NUTS

Green Valley Nuts, 'n projek bestuur deur die Karsten Groep, produseer Pekan neut en kontantgewasse (mielies, koring, groente) kommersieel op 1068 ha ongeveer 35 km vanaf Prieska. Die projek het 'n fabriek wat die Pekan neut verwerk en verpak en benodig die dienste van 'n :-

### VOEDSEL TEGNOLOOG

Verantwoordelik vir die instandhouding van kwaliteit standaarde in die totale waardeketting, van rou materiale tot verpakte produk. Beskik oor kennis van kwaliteitsversekering en akkreditasie vereistes en kwaliteitskontrole tegnieke. Verantwoordelik om kwaliteit in die skoonmaak en verwerkingsproses in te bou deur middel van die implementering van proses veranderings/lyn kontroles/laboratorium ontledings en kwaliteit stelsels.

**Pligte:**

- Klassifiseer en gradeer van neut
- Kwaliteit en voedselveiligheid stelsels
- Lyn inspeksies/kontrole
- Verpakkingsmateriaal
- Ontledings in laboratorium
- Akkreditasie tov uitvoere
- Personeelbestuur

Die geskikte kandidaat sal oor 'n Diploma in Voedseltegnologie of 'n BSc graad met Voedseltegnologie as hoof vak of verwante kwalifikasie beskik met twee tot drie jaar ondervinding.

'n Mededingende vergoedingspakket in ooreenstemming met toepaslike kwalifikasies en ondervinding word aangebied. Byvoordele sluit lidmaatskap van 'n voorsorgfonds en mediese skema in.

Vir navrae oor die pos kan Riaan Botha geskakel word by tel no 053 353 3308 of sel no 082 658 3040

Aansoeke kan gerig word aan die Groep Menslike Hulpbron Bestuurder. Faks u CV na faks no. 086 522 4011 of e-pos [louisjvr@karsten.co.za](mailto:louisjvr@karsten.co.za)

SLUITINGS DATUM VIR AANSOEKE IS 16 MAART 2016

Kandidate wat geen terugvoering binne drie weke na bogenoemde sluitingsdatum ontvang nie, kan hul aansoek as onsuksesvol beskou.

## Upington Belastingbetalersvereniging vergader

**GEMSBOK-UPINGTON:** Die Upington Belastingbetalersvereniging nooi alle inwoners van Upington om hulle vergadering op 17 Maart 2016 om 19:00 in die Anglikaanse Kerkzaal (Engelse kerk) in Extention by te woon.

Die UBV het ten doel om enige klagtes en sake onder die aandaag van // Khara Hais Munisipaliteit te bring, om sodoende hierdie sake aan te spreek. Kontak Tony Swartz 083 559 9867 vir enige navrae.

## NG Kerk Upington-Oos

Steakbraai & Saamkuier

Vrydag, 4 Maart 2016  
19:00 | Kerkzaal

Volw. R125 | Kinders: R30

(Worsbroodjie & Roomsy  
by die kerkzaal te koop)

Bring eie drinkgoed & glase. Wegneemetes vanaf 19:00

### NOTICE OF RELEASE OF BASIC ASSESSMENT (BA) AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORTS FOR COMMENT

THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES (KENHARDT PV 1, 2 AND 3) AND ASSOCIATED ELECTRICAL INFRASTRUCTURE (INCLUDING TRANSMISSION LINES) NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE

CSIR REFERENCE: EMS0102/SCATEC/2015  
KENHARDT PV 1 – DEA REFERENCE: 14/12/16/3/3/2/837  
KENHARDT PV 2 – DEA REFERENCE: 14/12/16/3/3/2/838  
KENHARDT PV 3 – DEA REFERENCE: 14/12/16/3/3/2/836

Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar) (i.e. the Project Applicant), is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (including transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities (referred to as "Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3"). Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure (referred to as "Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line and Kenhardt PV 3 - Transmission Line"). The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

The separate Applications for Environmental Authorisation (EA) for the Scoping and EIA Projects were lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) on 30 September 2015 (together with the Scoping Reports, which were accepted by the DEA on 8 December 2015). The Applications for EA for the BA projects will be submitted to the DEA together with the BA and EIA Reports for comment.

An integrated Public Participation Process is being undertaken for the proposed projects as they are located within the same geographical area and constitute the same type of activity. However, separate reports (i.e. BA, Scoping and EIA Reports) have been compiled for each project.

Interested and Affected Parties (I&APs) are hereby notified of the release of the EIA and BA Reports for the proposed projects for a 30-day review period, which will extend from 3 March 2016 to 5 April 2016 (excluding public holidays). Hard copies of the BA and EIA Reports are available for public viewing at the Kenhardt and Groblershoop Libraries. The BA and EIA Reports can also be downloaded from the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

You are kindly requested to submit any comments you may have on the BA and EIA Reports to the CSIR (at the details indicated below) within 30 days of this notification (i.e. by no later than 5 April 2016). For more information, please contact: Rohaida Abed; CSIR; P. O. Box 17001, Congella, Durban, 4013; Phone: 031 242 2300; Fax: 031 261 2509; Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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# EIA REPORT

## APPENDIX E:

Copies and Proof of  
Correspondence sent to I&APs  
during the Scoping and  
EIA Phases

**Scoping and Environmental Impact  
Assessment** for the Proposed  
Development of a 75 MW Solar  
Photovoltaic Facility (KENHARDT PV 1)  
on the remaining extent of Onder Rugzeer  
Farm 168, north-east of Kenhardt,  
Northern Cape Province

**Copies and Proof of Correspondence Sent to I&APs for the Project Initiation Phase (Prior to the Release of the Scoping Report for I&AP Review)**

**Letter 1: Notification of the BA, Scoping and EIA Processes**

P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: RAbed@csir.co.za



30 July 2015

Dear Interested and Affected Party

**RE: NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (CSIR REFERENCE: EMS0102/S/CATEC/2015)**

Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar) (i.e. the Project Applicant), is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation on the remaining extent of Portion 3 of Gembok Built Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the IKhels Local Municipality, Northern Cape Province.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. A separate Basic Assessment Process is also required and will be undertaken for the development of the proposed transmission lines. The CSIR has been appointed by Scatec Solar to undertake the requisite Basic Assessment and Scoping and EIA Processes for the proposed projects.

Scatec Solar is an integrated independent power producer that is focused on making solar energy a sustainable and affordable source on a global scale. Linked to enhancing its operations within South Africa, each 75 MW Solar PV facility proposed by Scatec Solar will cover an approximate area of 200 hectares (ha) and will be constructed adjacent to each other (with a collective footprint of approximately 600 ha and a combined power generation capacity of 225 MW). The proposed projects will entail the construction of the solar field, buildings, electrical infrastructure, internal access roads, and associated infrastructure and structures.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an Integrated Public Participation Process will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation will be lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed 75 MW Solar PV facility and transmission line, which will be referred to as Kenhardt PV 1, Kenhardt PV 2, Kenhardt PV 3, Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line, and Kenhardt PV 3 – Transmission Line. As such, separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project. The Project Applicant for each proposed 75 MW Solar PV facility and transmission line project will be various subsidiaries and divisions of Scatec Solar.

In line with this, notice is hereby given that Basic Assessment and Scoping and EIA Processes will be undertaken for each of the proposed 75 MW Solar PV facilities and transmission lines. In accordance with the 2014 NEMA EIA Regulations, you have been identified as an Interested and Affected Party (I&AP) and have been included on the project I&AP database.

Please find enclosed, a Background Information Document (including a Comment and Registration Form), which provides an overview of the proposed projects, as well as the potential listed activities that form part of the Basic Assessment and Scoping and EIA Processes and require Environmental Authorisation from the National DEA. The proposed project potentially triggers the following listed activities:

- Basic Assessment Process: GN R983: Activity 11 (I);
- Scoping and EIA Process: GN R983: Activity 9 (I) and (II); Activity 12 (x) and (xii); Activity 19 (I); Activity 24 (II) and Activity 28 (II); and GN R984: Activity 1 and Activity 15.

A comment and registration period of 30 days has been allocated for the review of the Background Information Document, for the submission of any issues or concerns, and for the registration of I&APs (which requires the completion of the enclosed Comment and Registration Form). Kindly complete the enclosed Comment and Registration Form and submit it to the CSIR at the contact details provided above by 31 August 2015. All comments received during this 30 day period will be recorded and included in the Basic Assessment and Scoping Reports.

Kindly note that available project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Should you have any queries or require additional information please do not hesitate to contact the undersigned using the contact details provided above.

Sincerely,

Surina Laurie  
Project Leader  
CSIR Environmental Management Services

Rohalida Abed  
Project Manager  
CSIR Environmental Management Services

**Comment and Registration Form sent with Letter 1**

**BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3, KENHARDT PV 1 – TRANSMISSION LINE, KENHARDT PV 2 – TRANSMISSION LINE, AND KENHARDT PV 3 – TRANSMISSION LINE)**

CSIR REFERENCE: EMS0102/SCATEC/2015

Project Applicant: Scatec Solar SA 163 (PTY) Ltd

**COMMENT AND REGISTRATION FORM**

30 July 2015

<b>Name:</b>	<b>Telephone:</b>
<b>Organisation:</b>	<b>Fax:</b>
<b>Designation:</b>	<b>Email:</b>
<b>Physical address:</b>	<b>Postal address:</b>

Please indicate if you would like to register as an Interested and Affected Party (I&AP) for the proposed projects. Registration is required in order to receive further correspondence during the Basic Assessment and Scoping and EIA Processes. Please tick the appropriate box.

YES

NO

Please indicate if you have any interest (business, financial, personal or other) in the proposed projects and/or the Applications for Environmental Authorisation:

Please describe any issues or concerns you may have regarding the proposed projects, which you think should be considered during the Basic Assessment and Scoping and EIA Processes.

Please provide details of any other individuals or organisations that should be registered as I&APs:

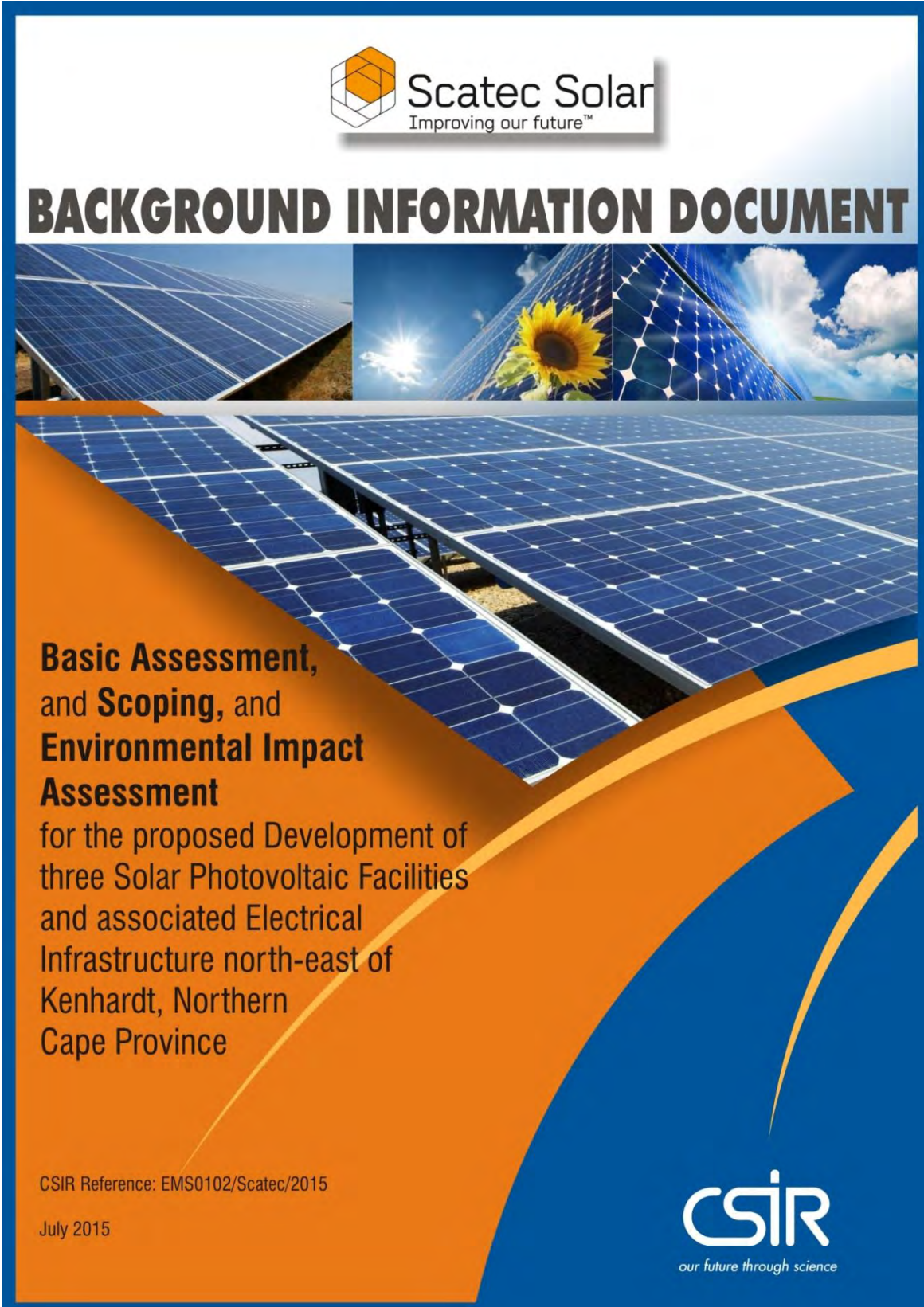
Please complete this Comment and Registration Form by **31 August 2015** and submit it to:


Rohaida Abed  
CSIR  
Postal Address: P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
E-mail: RAbed@csir.co.za  
Project Website: <http://www.csir.co.za/eia/ScatecSolarPV/>





Background Information Document sent with Letter 1




 **Scatec Solar**  
Improving our future™

# BACKGROUND INFORMATION DOCUMENT

**Basic Assessment,  
and Scoping, and  
Environmental Impact  
Assessment**  
for the proposed Development of  
three Solar Photovoltaic Facilities  
and associated Electrical  
Infrastructure north-east of  
Kenhardt, Northern  
Cape Province

CSIR Reference: EMS0102/Scatec/2015  
July 2015

  
our future through science

Basic Assessment and Scoping and Environmental Impact Assessment for the proposed Development of three Solar Photovoltaic Facilities and associated Electrical Infrastructure north-east of Kenhardt, Northern Cape Province

## 1. INTRODUCTION TO THE PROPOSED PROJECT

Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar) is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation on the remaining extent of Portion 3 of Gembok Bult Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province.

Scatec Solar is an integrated independent power producer that is focused on making solar energy a sustainable and affordable source on a global scale. Scatec Solar was founded in 2001 and holds its headquarters in Norway. The company develops, builds, owns and operates a number of solar power plants internationally and within Africa. The company is growing significantly and is currently planned to provide a combined 207 MW of power in the United States, Honduras and Jordan. In addition, Scatec Solar collectively delivers more than 219 MW of power in the Czech Republic, South Africa and Rwanda. Specifically linked to investment within South Africa, Scatec Solar has been involved in the following major solar energy projects:

- The Linde Solar Plant (40 MW) is located in the Northern Cape and is considered to be the first of the large-scale PV plants in production from the second round of the Renewable Energy Independent Power Producer Programme (REIPPP).
- The Dreunberg Solar Plant (75 MW) is the only REIPPP Solar PV Project to be located in the Eastern Cape.
- The Kalkbult Solar Plant (75 MW) is located in the Northern Cape and was the first REIPPP project to be connected to the grid and operational in South Africa.

Linked to enhancing its operations within South Africa, each 75 MW Solar PV facility proposed by Scatec Solar will cover an approximate area of 200 hectares (ha) and will be constructed adjacent to each other (with a collective footprint of approximately 600 ha and a combined power generation capacity of 225 MW). The proposed projects are located in proximity to the Eskom Nieuwehoop Substation (which is currently being constructed on the farm Gembok Bult (remaining extent of Portion 3 of Farm 120)). Each proposed 132 kV transmission line will link to the Eskom Nieuwehoop Substation.

Separate Applications for Environmental Authorisation (EA) will be lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed 75 MW Solar PV facility and transmission line, which will be referred to as:

Scoping and EIA Processes: Proposed 75 MW Solar PV Facilities	Basic Assessment Processes: Proposed 132 kV Transmission Lines
<ul style="list-style-type: none"> <li>• Kenhardt PV 1</li> <li>• Kenhardt PV 2</li> <li>• Kenhardt PV 3</li> </ul>	<ul style="list-style-type: none"> <li>• Kenhardt PV 1 – Transmission Line</li> <li>• Kenhardt PV 2 – Transmission Line</li> <li>• Kenhardt PV 3 – Transmission Line</li> </ul>



## BACKGROUND INFORMATION DOCUMENT

Basic Assessment and Scoping and Environmental Impact Assessment for the proposed Development of three Solar Photovoltaic Facilities and associated Electrical Infrastructure north-east of Kenhardt, Northern Cape Province

The Project Applicant for each of the above proposed projects will be various subsidiaries and divisions of Scatec Solar.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. A separate Basic Assessment Process is also required and will be undertaken for the development of the proposed transmission lines. The CSIR has been appointed to undertake the requisite Basic Assessment and EIA Process for the proposed projects.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process (PPP) will be undertaken for the proposed projects. However, as mentioned above, separate Applications for EA will be lodged with the National DEA for each proposed project and as such, separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project.

## 2. NEED AND JUSTIFICATION FOR THE PROPOSED PROJECTS

At a national level, South Africa is facing serious electricity shortages as well as water scarcity. Linked to this, the proposed projects aim to supply additional electricity to the national grid. Furthermore, the urgent need to reduce greenhouse gas emissions and the importance of a secure and diversified energy supply has resulted in a global shift towards, and an increased focus on, the use of renewable energy technologies. In South Africa, national government has encouraged the utilisation of renewable energy through national policy and strategic planning. The objective is to expand electricity generation capacity in South Africa and promote the practice of sustainable development.

The Integrated Resource Plan for South Africa for the period 2010 to 2030 (hereinafter referred to as "IRP 2010") was released by government in 2010 and

proposes to develop and secure 17 800 MW of renewable energy capacity by 2030 (including wind, solar and other energy sources). The IRP 2010 has set up a target of 3 725 MW of renewable energy to be produced by Independent Power Producers (IPPs) by 2016.

Linked to this, in 2011, the Department of Energy (DOE) launched the REIPPP and invited potential IPPs to submit proposals for the financing, construction, operation and maintenance of the first 3 725 MW of onshore wind, solar thermal, solar PV, biomass, biogas, landfill gas or small hydro projects. The two main evaluation criteria for compliant proposals are price and economic development, with other selection criteria including technical feasibility and grid connectivity, environmental acceptability, black economic empowerment, community development, and local economic and manufacturing propositions. The bidders with the highest rankings (according to the aforementioned criteria) are appointed as "Preferred Bidders" by the DoE.

The proposed projects aim to contribute to the above strategic imperative.

## 3. WHAT DOES THIS DOCUMENT TELL YOU?

This Background Information Document (BID) provides you, as an Interested and Affected Party (I&AP), with:

- Background information on the proposed projects;
- A description of the Basic Assessment and EIA and Public Participation Processes that will be undertaken for the proposed projects; and
- Details on how to register your interest in the projects and receive further information.

As a registered I&AP, there will be opportunities for you to be involved in the Basic Assessment and Scoping and EIA Processes through receiving information, registering your interest on the project database, raising issues of concern and commenting on reports. The input from I&APs, together with the information and assessment provided by the Environmental Assessment Practitioner and relevant specialists, will assist the National DEA with their decision-making in terms of whether to grant or refuse EA for the proposed projects.

## BACKGROUND INFORMATION DOCUMENT

Basic Assessment and Scoping and Environmental Impact Assessment for the proposed Development of three Solar Photovoltaic Facilities and associated Electrical Infrastructure north-east of Kenhardt, Northern Cape Province

#### 4. WHAT DO THE PROPOSED PROJECTS ENTAIL?

The locality map (Figure 1) included with this BID provides an overview of the proposed locality of the projects on the remaining extent of Onder Rugzeer Farm 168 and their connection points on the remaining extent of Portion 3 of Gemsbok Bult Farm 120, north-east of Kenhardt in the Northern Cape. The proposed projects will take place on land that is owned by a third party, and as such consent will be obtained from the landowner accordingly. It is anticipated that the property on which the proposed projects will be constructed will be leased from the landowner.

Each Solar PV facility will consist of the components listed below. The components and their dimensions will be discussed within the relevant Basic Assessment and Scoping and EIA Reports produced for each facility:

##### Solar Field

- Solar Arrays
- Building infrastructure
  - Offices;
  - Operational control centre;
  - Warehouse/workshop;
  - Ablution facilities; and
  - Converter station.

##### Associated Infrastructure

- Electrical infrastructure (including transmission lines and substations);
- Access roads;
- Internal gravel roads;
- Fencing;
- Operation and Maintenance Area;
- Laydown Area;
- Stormwater channels; and
- Water pipelines.

#### 5. ENVIRONMENTAL AUTHORISATION

In terms of the NEMA and the 2014 NEMA EIA Regulations published in GN R982, R983, R984 and R985 on 8 December 2014 in Government Gazette 38282, notice is hereby given that a Basic Assessment and full Scoping and EIA Process are required as the proposed projects include, amongst others, the following activities shown in Tables 1 and 2. Tables 1 and 2 indicate the applicable listed activities together with a summary of the listed activity in the context of the proposed project activities.

Table 1: Listed Activities for the Basic Assessment Processes – Proposed Transmission Lines

Relevant Notice and Activity Number	Description of the planned activity that relates to the applicable listed activity
GN R983: Activity 11 (i)	The proposed project will entail the construction and installation of a total of three overhead transmission lines with a capacity of 132 kV each. One transmission line will be constructed for each 75 MW Solar PV facility. The proposed project will take place on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation will take place on the remaining extent of Portion 3 of Gemsbok Bult Farm 120, north-east of Kenhardt in the Northern Cape Province, outside an urban area.



Basic Assessment and Scoping and Environmental Impact Assessment for the proposed Development of three Solar Photovoltaic Facilities and associated Electrical Infrastructure north-east of Kenhardt, Northern Cape Province

Table 2: Listed Activities for the Scoping and EIA Processes – Proposed 75 MW Solar PV Facilities

Relevant Notice and Activity Number	Description of the planned activity that relates to the applicable listed activity
GN R983: Activity 9 (i) and (ii)	The proposed project will entail the construction of stormwater channels and water pipelines. These structures may exceed 1000 m in length, may have an internal diameter of 0.36 m or more, and possibly a peak throughput of 120 l/s or more.
GN R983: Activity 12 (x) and (xii)	Each proposed 75 MW Solar PV facility will entail the construction of building infrastructure and structures (such as the solar field, offices, workshops, ablution facilities, on-site substations, laydown areas and security enclosures). The buildings and infrastructure are expected to exceed a footprint of 100 m <sup>2</sup> and some of which are likely to occur within 32 m of a watercourse.
GN R983: Activity 19 (i)	The proposed project <b>may</b> entail the excavation, removal and moving of more than 5 m <sup>3</sup> of soil, sand, pebbles or rock from the nearby watercourse. The proposed project <b>may</b> also entail the infilling of more than 5 m <sup>3</sup> of material into the nearby watercourse.
GN R983: Activity 24 (ii)	The proposed project will entail the construction of internal access roads. These roads could possibly be wider than 8 m (without a road reserve).
GN R983: Activity 28 (ii)	The proposed project will take place on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation will take place on the remaining extent of Portion 3 of Gembok Bult Farm 120, north-east of Kenhardt in the Northern Cape. It is understood that the land is currently used for agricultural purposes. The proposed projects (i.e. commercial/industrial development) will cover a total combined footprint of approximately 600 ha.
GN R984: Activity 1	The proposed project will entail the construction of three 75 MW Solar PV facilities (i.e. facilities for the generation of electricity from a renewable resource). The proposed project will take place on the farm Onder Rugzeer 168 and the connection points to the substation will take place on the remaining extent of Portion 3 of Gembok Bult Farm 120, north-east of Kenhardt in the Northern Cape Province, outside an urban area.
GN R984: Activity 15	The total footprint of the proposed project is expected to be approximately 600 ha (i.e. 200 ha for each proposed 75 MW Solar PV facility). As a result, more than 20 ha or more of indigenous vegetation could possibly be removed for the construction of the proposed Solar PV facilities.

Note from the CSIR:

*It is also important to note that a precautionary approach has been adopted by the CSIR when identifying listed activities, in that if there is any doubt at this stage of the project planning whether or not an activity is included in the project design, then the activity is listed. This list may be refined during the course of the Basic Assessment and Scoping and EIA Processes, and listed triggers may be removed or added as applicable.*

The applicable listed activities require EA from the National DEA. The Basic Assessment and Scoping and EIA Process needs to show the Competent Authority, the National DEA, and the project proponent, Scatec Solar, the consequences their choices will have on the biophysical, social and economic environment. The steps in the Basic Assessment and Scoping and EIA Process are outlined below.

## 6. SCOPING AND EIA PROCESS

The Scoping and EIA Process being implemented can be summarised as follows:

### Stage 1: Environmental Scoping:

This Scoping Process is being planned and conducted in a manner that is intended to provide sufficient information to enable the authorities to reach a decision regarding the scope of issues to be addressed in the EIA, and in particular to convey the range of specialist studies that will be included as part of the Environmental Impact Reporting Phase of the EIA, as well as the approach to these specialist studies. Within this context, the main objectives of this Scoping Process are to:

- Identify and inform a broad range of stakeholders about the proposed projects;
- Through a process of broad-based consultation with stakeholders, conduct an open, participatory and transparent Public Participation Process and facilitate the inclusion of any concerns and issues raised by stakeholders;
- Identify the relevant policies and legislation relevant to the proposed project;
- Provide the need and desirability of the proposed project, as well as the need and desirability of the project in the context of the preferred location;
- Identify and confirm the preferred activity, technology

Basic Assessment and Scoping and Environmental Impact Assessment for the proposed Development of three Solar Photovoltaic Facilities and associated Electrical Infrastructure north-east of Kenhardt, Northern Cape Province

alternative, and preferred site (i.e. clarify the scope and nature of the proposed activities and the alternatives being considered);

- Identify and document the key issues to be addressed in the subsequent EIA Phase;
- Confirm the level of assessment required, impact assessment methodology, and the specialist input; and
- Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

**Stage 2: EIA:**

The purpose of this stage of the EIA Process is to:

- Undertake specialist investigations to address the issues of concern that have been raised and identified through the Scoping Process.
- Assess reasonable and feasible alternatives that form part of the proposed project (including the No Go Option);
- Determine the policy and legislative context of the proposed project;
- Describe the need and desirability of the proposed project, as well as the need and desirability of the project in the context of the preferred location;
- Identify the location of the proposed development footprint within the preferred site;
- Identify the most ideal location for the proposed activity within the preferred site;
- Identify, determine and assess the significance of the predicted impacts in line with the accepted Plan of Study for EIA;
- Recommend management actions to enhance positive benefits or avoid/minimise potential negative impacts (based on specialist input); and
- Identify residual risks that need to be managed and monitored.

The following specialist studies have been identified, at this stage, to form part of the EIA Phase of the proposed projects:

- Ecological Impact Assessment (including Terrestrial Ecology, Aquatic Ecology and Avifauna);
- Visual Impact Assessment;
- Heritage Impact Assessment (Archaeology and Cultural Landscape);
- Desktop Palaeontological Impact Assessment;
- Geohydrological Assessment;
- Soils and Agricultural Potential Assessment; and
- Social Impact Assessment

## 7. BASIC ASSESSMENT PROCESS

The objectives of the Basic Assessment Processes being implemented will be similar to that of the Scoping and EIA Processes as explained above. The

proposed transmission lines will be assessed separately as part of a Basic Assessment Process in order to facilitate the administrative aspects surrounding the REIPPP evaluation process and potential transfer of the lines to Eskom. The abovementioned specialist studies undertaken for the Scoping and EIA Processes will feed into the Basic Assessment.

## 8. PUBLIC PARTICIPATION PROCESS

Public involvement forms an important component of the Basic Assessment and EIA Process by assisting in the identification of issues and alternatives to be evaluated. The following outlines the steps in the Public Participation Process which will be undertaken to run in parallel to the Basic Assessment and Scoping and EIA Processes.

### Step 1: Notify Authorities and I&APs of the Basic Assessment and Scoping and EIA Processes (30 days)

The initial step entails providing notification to Authorities and potential I&APs of the proposed projects and the commencement of the Basic Assessment and Scoping and EIA Processes. An initial database of potential I&APs and Authorities will be compiled. Authorities and potential I&APs will be provided with a BID (i.e. this document), including a Comment and Registration Form and written notification. Advertisements will also be placed in a local newspaper during this phase. I&APs will be provided with a 30-day review period within which to raise any issues or concerns for inclusion in the Basic Assessment and Scoping Reports. During this review period, I&APs are required to register their interest on the project database in order to be included from the outset of the Basic Assessment and Scoping and EIA Processes.

### Step 2: Preparation of Applications for EA, and Basic Assessment and Scoping Reports

Separate Applications for EA for each proposed 75 MW Solar PV facility and transmission line will be prepared (i.e. a total of six applications will be prepared). In addition, the Basic Assessment Reports will be compiled in line with Appendix 1 of the 2014 EIA Regulations (GN R982), and the Scoping Reports and Plan of Study for EIA will be compiled in line with Appendix 2 of the 2014 EIA Regulations (GN R982). All issues and concerns raised by the Authorities and I&APs during the review of the BID will be recorded and compiled into an Issues and Responses Trail for inclusion in the Basic Assessment and Scoping Reports.

### Step 3: Submission of Applications for EA

Submit the Applications for EA for each proposed 75 MW Solar PV facility and transmission line (i.e. a total of six applications) to the National DEA for processing.

## BACKGROUND INFORMATION DOCUMENT

Basic Assessment and Scoping and Environmental Impact Assessment for the proposed Development of three Solar Photovoltaic Facilities and associated Electrical Infrastructure north-east of Kenhardt, Northern Cape Province

**Step 4: Authority and I&AP Review of the Scoping Reports (30 days)**

The Scoping Reports will be released to the public for a 30-day review period. All Authorities and registered I&APs on the project database will be notified in writing of the opportunity to review the Scoping Reports. A Comment and Registration Form will also be sent with the written notification to all registered stakeholders. Copies of the Scoping Reports will be placed on the project website (<http://www.csir.co.za/eia/ScatecSolarPV/>), and at the local public library.

**Step 5: Submission of Scoping Reports to the National DEA for Decision-Making**

The comments received from I&APs during the 30-day review of the Scoping Reports will be recorded into a comprehensive Issues and Responses Trail, and will be included in the Scoping Reports before submission to the National DEA. The Scoping Reports will thereafter be finalised and submitted to the National DEA for decision making. All registered I&APs on the project database will be notified of the submission of the Scoping Reports.

The National DEA will have 43 days (from receipt of the Scoping Reports) to either accept the Scoping Reports with or without conditions, or refuse EA.

**Step 6: Undertake Specialist Studies and Preparation of Basic Assessment and EIA Reports (including the Environmental Management Programme (EMPr))**

Once the National DEA accepts the Scoping Reports, the Impact Assessment Phase may commence.

During this phase, the specialist studies (as listed above) will be undertaken and the EIA Reports (including the EMPr) will be compiled in line with the 2014 EIA Regulations and the accepted Plan of Study for EIA.

During this phase, the Basic Assessment Reports (including the EMPr) will also be compiled in line with the 2014 EIA Regulations.

**Step 7: Authority and I&AP Review of the Basic Assessment and EIA Reports and EMPr (30 days)**

During this phase, the Basic Assessment and EIA Reports will be released to the public for a 30-day review period. All Authorities and registered I&APs on the project database will be notified in writing of the opportunity to review the EIA Reports. A Comment and Registration Form will also be sent with the written notification to all registered stakeholders. Copies of the Basic Assessment and EIA Reports will be placed on the project website (<http://www.csir.co.za/eia/ScatecSolarPV/>), and at the local public library.

**Step 8: Submission of the Basic Assessment and EIA Reports to the National DEA for Decision-Making**

A key component of the Basic Assessment and EIA Process

is documenting and responding to the comments received from I&APs and Authorities. The comments received from I&APs during the 30-day review of the Basic Assessment and EIA Reports will be recorded into a comprehensive Comments and Responses Trail, and will be included in the EIA Reports before submission to the National DEA. The Comments and Responses Trail will indicate the nature of the comment, when and who raised the comment, as well as indicate how the comment received has been considered in the Basic Assessment and EIA Reports, in the project design or the EMPr. The Basic Assessment and EIA Reports will thereafter be finalised and submitted to the National DEA for decision making. All registered I&APs on the project database will be notified of the submission of the Basic Assessment and EIA Reports.

The National DEA will have 10 days (from receipt of the EIA Reports) to acknowledge the reports and will thereafter have 107 days to grant or refuse EA.

**Step 9: Notification of Environmental Decision and Appeal Period**

All registered stakeholders on the project database will be notified in writing of the environmental decision for the proposed projects, and will be informed of the opportunity to appeal.

**HOW CAN YOU GET INVOLVED?**

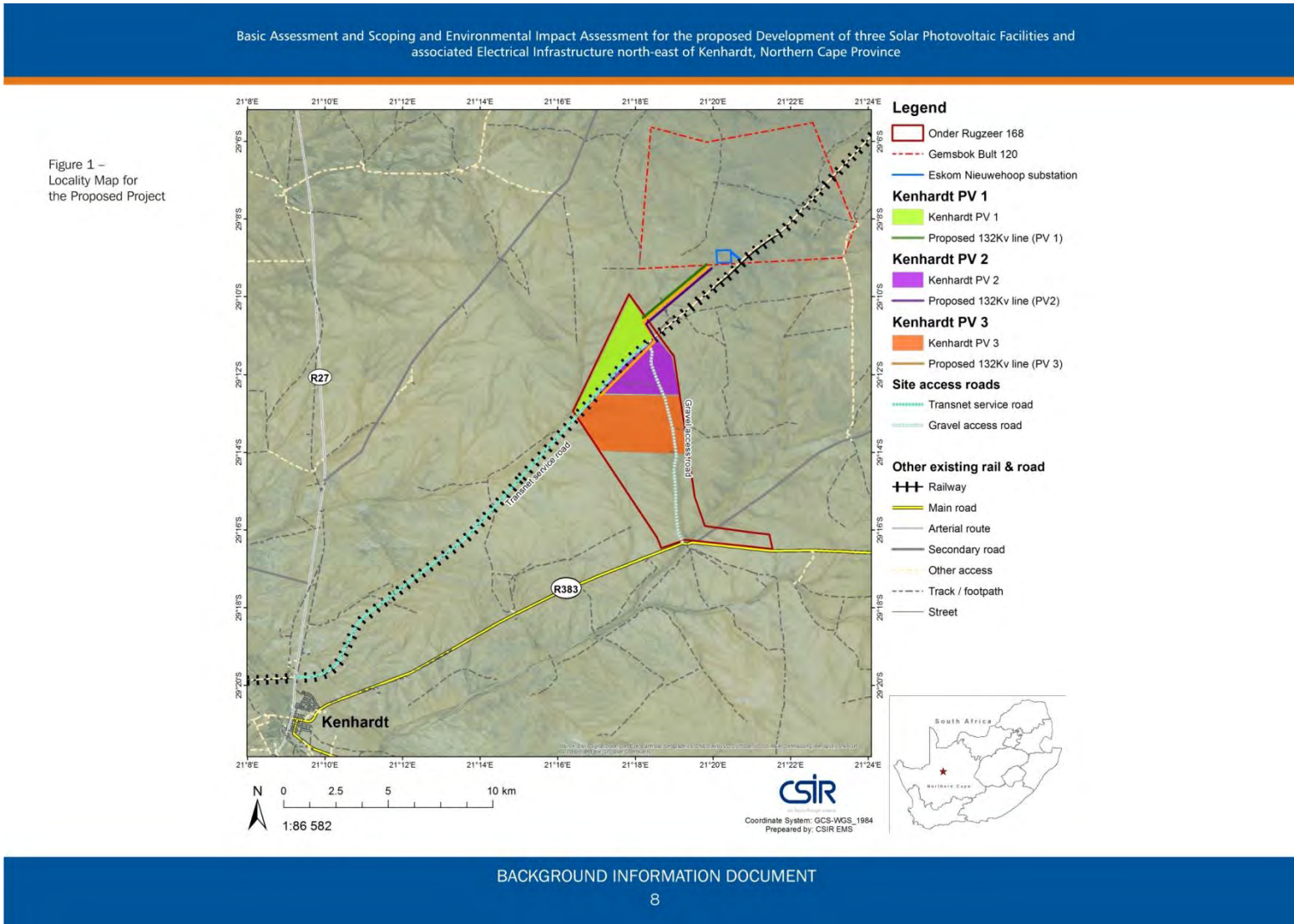
1. By responding to our invitation for your involvement advertised in local newspapers.
2. By mailing or faxing a Comment and Registration Form to the CSIR (contact details provided below).
3. By telephonically contacting the CSIR if you have a query, comment, or require further project information.
4. By reviewing the various reports within the stipulated comment periods provided.
5. By attending any feedback meetings, which may be held during the review period.

**CSIR Contact Details:**

To register as an I&AP, please complete the Comment and Registration Form included with this BID and kindly return to:

Rohaida Abed  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)  
Tel: 031 242 2300  
Fax: 031 261 2509  
Postal Address: P. O. Box 17001, Congella,  
Durban, 4013







Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Proof of Correspondence with I&APs (Registered Mail Receipts for Letter 1)**

**DALBRIDGE POST OFFICE  
LIST OF REGISTERED MAIL FOR CSIR DURBAN – July 2015**

**SCATEC SOLAR - DISTRIBUTION LIST FOR Rohaida Abed – Unit: CAS**

No.	Name	Surname	Company	Designation	Postal	Registered Number Customer Copy (for CSIR)
1	Muhammad	Essop	National Department of Environmental Affairs: Department of Environmental Affairs: Integrated Environmental Authorisations	Competent Authority	Private Bag X447 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 458 Z.A. CUSTOMER COPY 301028R
2	Muhammad	Essop	National Department of Environmental Affairs: Department of Environmental Affairs: Integrated Environmental Authorisations	Competent Authority	Private Bag X447 Pretoria 0002	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 506 Z.A. CUSTOMER COPY 301028R
3	A	Yaphi	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 570 Z.A. CUSTOMER COPY 301028R
4	M	Mathews	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 573 Z.A. CUSTOMER COPY 301028R
5	Mr Eric	Ngxanga	ZF Mgcawu District Municipality - Municipal Manager	Municipal Manager	Private Bag X6039 Uptington 8800	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 537 Z.A. CUSTOMER COPY 301028R
6	H.T	Scheepers	IKheis Municipality - Municipal Manager	Municipal Manager	Private Bag X2, Oranje Street 97 Groblershoop 8850	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 545 Z.A. CUSTOMER COPY 301028R
7	J.G	Labegan	Kai I Garib Municipality - Municipal Manager	Municipal Manager	Private Bag X5, Kakamas, 8870	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 537 Z.A. CUSTOMER COPY 301028R
8	Mashudu	Randwedzi	Department of Water and Sanitation	DWS	Private Bag X5912 Uptington 8800	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 568 Z.A. CUSTOMER COPY 301028R
9	Melinda	Mei	Department of Water and Sanitation	DWS	Private Bag X5912 Uptington 8800	REGISTERED LETTER (with a domestic insurance option) R.C. 073 712 571 Z.A. CUSTOMER COPY 301028R
10	Mandla	Ndzili	Ministry of Environment and Nature Conservation		Private Bag X6120 Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) R.C. 073 713 461 Z.A. CUSTOMER COPY 301028R
11	Mr Sibonelo	Mbanjwa	Provincial Department of Environment and Nature Conservation: Northern Cape		Private Bag X6120 Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) R.C. 073 713 475 Z.A. CUSTOMER COPY 301028R
12	Ms Mashudu	Merubini	Department of Agriculture, Forestry and Fisheries - Delegate of the Minister (Act 70 of 1970)	Delegate of the Minister (Act 70 of 1970)	Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) R.C. 073 713 458 Z.A. CUSTOMER COPY 301028R



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

No.	Name	Surname	Company	Designation	Postal	Registered Number Customer Copy (for CSIR)
13	Thoko	Buthlezi	Department of Agriculture, Forestry and Fisheries - Agril.Land Liaison office		Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 444 ZA CUSTOMER COPY 301028R
14	D	Nhlakad	Department of Agriculture, Forestry and Fisheries - Agril.Land Liaison office		Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 427 ZA CUSTOMER COPY 301028R
15	Anneliza	Collett	Department of Agriculture, Forestry and Fisheries - Agril.Land Liaison office		Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 435 ZA CUSTOMER COPY 301028R
16	Jacoline	Mans	Department of Agriculture, Forestry and Fisheries - Chief Forester: NFA Regulation		PO BOX 2782 Uppington 8600	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 360 ZA CUSTOMER COPY 301028R
17	Ali	Dilema	Agriculture, Land Reform & Rural Development		Private Bag X 5018, Kimberley, 8300	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 373 ZA CUSTOMER COPY 301028R
18	Pieter	Buys	National Energy Regulator of South Africa (NERSA)		PO Box 40343, Arcadia, 0007	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 387 ZA CUSTOMER COPY 301028R
19	IA	Balane	Department of Public Works, Roads and Transport		PO Box 3132, Squarehill Park, Kimberley 8300	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 400 ZA CUSTOMER COPY 301028R
20	Denver	Van Heerden	Department of Public Works, Roads and Transport		PO Box 3132, Squarehill Park, Kimberley 8300	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 413 ZA CUSTOMER COPY 301028R
21	Rene	de kock	South African Roads Agency Limited (SANRAL) Northern Cape (Western Region)		Private Bag X19 Bellville, 7535	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 395 ZA CUSTOMER COPY 301028R
22	Ms. M	Lephane	Department of Labour		Private Bag X5012, Kimberley, 8300	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 408 ZA CUSTOMER COPY 301028R
23	Mr. A.	Botes	Department of Social Development		Private Bag X 5042, Kimberley 8300	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 377 ZA CUSTOMER COPY 301028R
24	Mr. Riaan	Warie	Northern Cape Economic Development Agency		227 Du Toitspan Road, Belgravia, Kimberley 8301	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 325 ZA CUSTOMER COPY 301028R
25	Mr Andrew	Timothy	Directorate Heritage, Department - Sports, Arts and Culture		P. O. Box 1930, Kimberley 8300	REGISTERED LETTER (with a permanent insurance option) Shwelel 0163 713 255 www.saspa.co.za RC 073 713 339 ZA CUSTOMER COPY 301028R



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

No.	Name	Surname	Company	Designation	Postal	Registered Number Customer Copy (for CSIR)
29	Lizell	Stroh	South African Civilian Aviation Authority		Private Bag X73 Halfway House 1685	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 268 ZA CUSTOMER COPY 301029R
30	John	Geeringh	ESKOM	Commenting authority	P.O. Box 1091 Johannesburg 2157	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 299 ZA CUSTOMER COPY 301029R
31	Justine	Wyrngaardt	Eskom Holdings Limited: Eskom Distribution Western Operating Unit			REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 271 ZA CUSTOMER COPY 301029R
32	Sharon	Steyn	Northern Cape Chamber of Commerce and Industry		PO Box 350, Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 245 ZA CUSTOMER COPY 301029R
33	P.J.J	van Rensburg	Agri Northern Cape		PO Box 1094, Kimberly 8300	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 255 ZA CUSTOMER COPY 301029R
35	Adrian	Tipidy	SKA SA		11 Baker Street Rosebank Johannesburg South Africa 2196	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 237 ZA CUSTOMER COPY 301029R
37	The Director		Department of Energy Northern Cape		Private Bag X6093 Kimberley, 8300	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 216 ZA CUSTOMER COPY 301029R
38	Simon	Gear	Birdlife South Africa		PO Box 515 Randburg, 2194	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 199 ZA CUSTOMER COPY 301029R



No.	Name	Surname	Company	Designation	Postal	Registered Number Customer Copy (for CSIR)
39	Lubabalo	Ntsolo	C.A.P.E. co-ordination unit: Northern Cape		Private Bag X7, Claremont, 7735	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 183 ZA CUSTOMER COPY 301029R
41	Dr. Howard	Hendricks	South African National Parks (SANParks) - Snr GM: Policy & Governance Conservation Services Division		PO Box 787, Pretoria, 0001	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 166 ZA CUSTOMER COPY 301029R
42	Rudolph	Grobler			PO Box 41, Keimoes 8860	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 152 ZA CUSTOMER COPY 301029R
43	Ernest	Connan	Ernest Connan Trust		PO Box 280, Upington, 8800	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 149 ZA CUSTOMER COPY 301029R
44	Johan	Steenkamp	JHJ Steenkamp Trust		JHJ Steenkamp Trust PO Box 3267 Upington 8800	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 073 713 135 ZA CUSTOMER COPY 301029R
	Simone	De la Fontaine	Northern Cape Department of Environment and Nature Conservation		Provincial Building 1st Floor Gautier Street Weggenwandel, R5 Upington 8800	REGISTERED LETTER (with a domestic insurance option) Sharcad 0868 713 203 www.rcs.co.za RC 089 995 411 ZA CUSTOMER COPY 301029R



**Email 1 sent to all I&APs on 29 July 2015 (English and Afrikaans)**

**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**BC:** Clive.Stephenson@transnet.net; GeerinJH@eskom.co.za; [Gilbert.Nortier@transnet.net](mailto:Gilbert.Nortier@transnet.net); JacquelineMa@daff.gov.za; Laurie, Surina; LeaskK@eskom.co.za; MashuduMa@daff.gov.za; Mayvyn.Bhana@transnet.net; MeiM@dwa.gov.za; Rabothata, MMatlala; ThokoB@daff.gov.za; WyngaaJO@eskom.co.za; aditeme@agri.ncape.gov.za; admin@grasslands.org.za; advocacy@birdlife.org.za; ameliastrauss2@gmail.com; andre.vanniekerk10@gmail.com; annelizac@nda.agric.za; atiplady@ska.ac.za; boozahunter@yahoo.com; claude@veroniva.co.za; ernest.connan@donco.co.za; fpr@bodr.gov.za; hendri@aheadtrading.co.za; howard.hendricks@sanparks.org; jhjs@webmail.co.za; karen@mulilo.com; klawrence@trpw.ncape.gov.za; kraaines@mweb.co.za; lntsolo@sanbi.org.za; marcyrxnp@gmail.com; messop@environment.gov.za; mitchell.hodgson@scatecsolar.com; mm@kaigarib.gov.za; mmathews@ncpg.gov.za; mndzilili@ncpg.gov.za; monica.lepheane@labour.gov.za; ncagric@worldonline.co.za; nhlakad@daff.gov.za; nyaphi@ncpg.gov.za; peter.buys@nersa.org.za; ratha.timothy@gmail.com; rwarie@ncpg.gov.za; sb@siyanda.gov.za; sdelafontaine@gmail.com; sharon@nocco.co.za; smbanjwa@ncpg.gov.za; strausdj@orientis.co.za; strohl@caa.co.za; teresascheepers@vodamail.co.za; waltjc@nra.co.za; wep@ewt.org.za  
**Date:** 29/07/2015 16:01  
**Subject:** Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** Scatec Solar BID\_A4\_8 PAGES\_July2015\_LOW RES.pdf; CSIR Letter 1 to I&APs\_Scatec Solar NC.pdf; Comment and Response Form\_Scatec Solar NC.pdf

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR Reference: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the initiation of a Basic Assessment (BA) Process and Scoping and Environmental Impact Assessment (EIA) Process for the above-mentioned proposed project, located approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The Project Applicant is Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar). The CSIR has been appointed by Scatec Solar to undertake the required BA Process, and Scoping and EIA Process.

A full Scoping and EIA Process is required for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities on the remaining extent of Onder Rugzeer Farm 168. A separate BA Process is also required and will be undertaken for the development of three transmission lines and the connection points to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120.

The proposed 75 MW Solar PV facilities and transmission lines are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation will be lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and transmission line. Furthermore, separate BA, Scoping and EIA Reports will be compiled for each project, which will be referred to as:

<b>Scoping and EIA Processes: Proposed 75 MW Solar PV Facilities</b>	<b>BA Processes: Proposed 132 kV Transmission Lines</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

The proposed projects are being assessed in terms of the National Environmental Management Act (Act 107 of 1998), as amended (NEMA), and the NEMA EIA Regulations, published in Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014.

Please find attached the following:  
 - Background Information Document (BID);  
 - Letter 1 to Interested & Affected Parties (I&APs); and  
 - Comment and Registration Form.

The BID, which provides an overview of the proposed project, is being released to Stakeholders and I&APs for a 30-day comment period extending from **30 July 2015 to 31 August 2015**.

Hard copies of the above-mentioned documents have also been sent to those of you for which postal addresses are available. In addition, the above-mentioned project information can be accessed at the following website:

<http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **31 August 2015**.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

*Beste Belanghebbende en Geïnteresseerde Party*

**GESAMENTLIKE KENNISGEWING VAN BASIESE EN OMGEWINGSIMPAKEVALUERINGSPROSESSE VIR DIE VOORGESTELDE ONTWIKKELING VAN DRIE SONKRAGANLEGTE EN ELEKTRIESE INFRASTRUKTUUR NOORD-OOS VAN KENHARDT, NOORD- KAAP PROVINSIE**

**Bevoegde Owerheid:** Die Nasionale Departement van Omgewingsake

**WNNR/CSIR verwysingsnommer: EMS0102/SCATEC/2015**

Hierdie e-pos korrespondensie se doel is om u in kennis te stel van die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte, wat 80 km suid van Upington en 30 km noord-oos van Kenhardt in die !Kheis munisipaliteit voorgestel word. Die Aansoeker vir die projek is Scatec Solar SA 163 (PTY) Ltd ("Scatec Solar"). Die WNNR is aangestel deur Scatec Solar om die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte uit te voer.

'n Bestek en Omgewingsimpakevalueringproses word vereis vir elk van die drie 75 MW Fotovoltaïese (PV) sonkragsfasieliete wat op die plaas Restant van Onder Rugzeer 168 voorgestel word. Aparte Basiese evalueringprosesse word ook vereis vir die voorgestelde 132 kV kraglyne en die konneksiepunte aan die Eskom Nieuwehoop Substasie (wat tans gebou word) op die plaas Restant van Gedeelte 3 van Gembok Bult 120.

Aangesien die sonkragsprojekte en die voorgestelde elektriese infrastruktuur in dieselfde geografiese area gebou gaan word en dieselfde tipe projekte is, word dit voorgestel dat 'n geïntegreerde Publieke Deelname Proses gedoen gaan word. Aparte aansoeke gaan by die Nasionale Departement van Omgewingsake ingedien word vir die verskillende projekte en aparte verslae sal ook vir elke projek saamgestel en uitgestuur word. Die projekte sal na verwys word as:

<b>Bestek en Omgewingsimpakevalueringproses: Voorgestelde drie 75 MW PV sonkragsprojekte</b>	<b>Basiese evalueringprosesse: Voorgestelde drie 132 kV kraglyne</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

Die voorgestelde projekte sal ge-evalueer word volgens die Nasionale Omgewingsbeheer Wet, 1998 (Wet No 107 van 1998) (NEMA) en die Omgewingsimpakstudie (OIS) Regulasies soos gepubliseer in Staatskennisgewing R982 in Staatskoerant No 38282 van 08 Desember 2014.

Vind asseblief aangeheg die volgende:

- Beskrywing van die projek (word na verwys as die "BID")
- Brief aan die Belanghebbende en Geïnteresseerde Partye (B&GP'e)
- Kommentaar en Registrasievorm

Die BID, wat dien as agtergrond van die projek, bevat 'n beskrywing van die projek, die gelyste aktiwiteite en is vir 30-dae beskikbaar vir oorsig en kommentaar (**30 Julie 2015 - 31 Augustus 2015**). 'n Harde kopie van die bogenoemde dokumente is ook gestuur aan diegene vir wie ons posadresse het. Inligting van die projek is ook beskikbaar op die projekwebtuiste: <http://www.csir.co.za/eia/ScatecSolarPV/>.

Ons versoek graag dat alle kommentaar aan die WNNR Projekbestuurder (kontakbesonderhede onder aangedui) teen **31 Augustus 2015** verskaf word.

By voorbaat dankie,

Rohaida Abed  
CSIR - Environmental Management Services  
Posbus 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Faks: 031 261 2509  
E-pos: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

**Proof of Delivery of Email 1 sent to all I&APs on 29 July 2015**

Message ID: 55B8DCA1.FB3 : 179 : 65115  
 Subject: Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@caitr.co.za  
 Scheduled Date:  
 Creation Date: 29/07/2015 16:01  
 From: Rohaida Abed

**Recipients:**

Recipient	Action	Date & Time	Comment
agri.ncape.gov.za	Transferred	29/07/2015 16:01	
BC: aditeme@agri.ncape.gov.za (aditeme@agri.ncape.gov.za)	Delivered	29/07/2015 16:02	
aheadtrading.co.za	Transferred	29/07/2015 16:01	
BC: hendri@aheadtrading.co.za (hendri@aheadtrading.co.za)	Delivered	29/07/2015 16:02	
birdlife.org.za	Transferred	29/07/2015 16:01	
BC: advocacy@birdlife.org.za (advocacy@birdlife.org.za)	Delivered	29/07/2015 16:02	
bodr.gov.za	Transferred	29/07/2015 16:01	
BC: fpr@bodr.gov.za (fpr@bodr.gov.za)	Undeliverable	29/07/2015 16:02	
caa.co.za	Transferred	29/07/2015 16:01	
BC: stroh@caa.co.za (stroh@caa.co.za)	Delivered	29/07/2015 16:08	
daff.gov.za	Transferred	29/07/2015 16:01	
BC: JacquelineMa@daff.gov.za (JacolineMa@daff.gov.za)			
BC: MashuduMa@daff.gov.za (MashuduMa@daff.gov.za)			
BC: nhakad@daff.gov.za (nhakad@daff.gov.za)			
BC: ThokoB@daff.gov.za (ThokoB@daff.gov.za)			
donco.co.za	Transferred	29/07/2015 16:01	
BC: ernest.connan@donco.co.za (ernest.connan@donco.co.za)	Delivered	29/07/2015 16:02	
dwa.gov.za	Transferred	29/07/2015 16:01	
BC: MeiM@dwa.gov.za (MeiM@dwa.gov.za)	Delivered	29/07/2015 16:02	
environment.gov.za	Transferred	29/07/2015 16:01	
BC: messop@environment.gov.za (messop@environment.gov.za)	Delivered	29/07/2015 16:03	
BC: Rabothata_MiMafala (MRabothata@environment.gov.za)	Delivered	29/07/2015 16:03	
eskom.co.za	Transferred	29/07/2015 16:01	
BC: GeerinJH@eskom.co.za (GeerinJH@eskom.co.za)	Delivered	29/07/2015 16:02	
BC: LeaskK@eskom.co.za (LeaskK@eskom.co.za)	Delivered	29/07/2015 16:02	
BC: WynaasJO@eskom.co.za (WynaasJO@eskom.co.za)	Delivered	29/07/2015 16:02	
ewt.org.za	Transferred	29/07/2015 16:01	
BC: wep@ewt.org.za (wep@ewt.org.za)	Delivered	29/07/2015 16:11	2.0.0 recipients expanded
gmail.com	Transferred	29/07/2015 16:01	
BC: amelastruss2@gmail.com (amelastruss2@gmail.com)	Delivered	29/07/2015 16:03	
BC: andre.vanniekerk10@gmail.com (andre.vanniekerk10@gmail.com)	Delivered	29/07/2015 16:03	
BC: marcyroxnpc@gmail.com (marcyroxnpc@gmail.com)	Delivered	29/07/2015 16:03	
BC: ratha.timothy@gmail.com (ratha.timothy@gmail.com)	Delivered	29/07/2015 16:03	
BC: odelafontaine@gmail.com (odelafontaine@gmail.com)	Delivered	29/07/2015 16:03	
grasslands.org.za	Transferred	29/07/2015 16:01	
BC: admin@grasslands.org.za (admin@grasslands.org.za)	Delivered	29/07/2015 16:02	
kalgarb.gov.za	Transferred	29/07/2015 16:01	
BC: mm@kalgarb.gov.za (mm@kalgarb.gov.za)	Delivered	29/07/2015 16:03	
labour.gov.za	Transferred	29/07/2015 16:01	
BC: monica.lepheane@labour.gov.za (monica.lepheane@labour.gov.za)	Delivered	29/07/2015 16:03	
mullo.com	Transferred	29/07/2015 16:01	
BC: karen@mullo.com (karen@mullo.com)	Delivered	29/07/2015 16:03	
mweb.co.za	Transferred	29/07/2015 16:01	
BC: kraaines@mweb.co.za (kraaines@mweb.co.za)	Delivered	29/07/2015 16:03	
ncp.gov.za	Transferred	29/07/2015 16:01	
BC: mmathews@ncpg.gov.za (mmathews@ncpg.gov.za)	Delivered	29/07/2015 16:03	
BC: mindzill@ncpg.gov.za (mindzill@ncpg.gov.za)	Delivered	29/07/2015 16:03	
BC: nyaphi@ncpg.gov.za (nyaphi@ncpg.gov.za)	Delivered	29/07/2015 16:03	

BC: rwane@ncpg.gov.za (rwane@ncpg.gov.za)	Delivered	29/07/2015 16:03
BC: smbanjwa@ncpg.gov.za (smbanjwa@ncpg.gov.za)	Delivered	29/07/2015 16:03
nda.agric.za	Transferred	29/07/2015 16:01
BC: annelzacc@nda.agric.za (annelzacc@nda.agric.za)	Delivered	31/07/2015 21:50
nersa.org.za	Transferred	29/07/2015 16:01
BC: peter.buys@nersa.org.za (peter.buys@nersa.org.za)	Delivered	29/07/2015 16:09
nocci.co.za	Transferred	29/07/2015 16:01
BC: sharon@nocci.co.za (sharon@nocci.co.za)		
nra.co.za	Transferred	29/07/2015 16:01
BC: waitjc@nra.co.za (waitjc@nra.co.za)	Delivered	29/07/2015 16:02
orientis.co.za	Transferred	29/07/2015 16:01
BC: straussd@orientis.co.za (straussd@orientis.co.za)	Delivered	29/07/2015 16:02
POBOX1.DURBAN	Delivered	29/07/2015 16:01
To: Rohalda Abed (RAbed@csir.co.za)	Read	29/07/2015 16:01
POBOX1.STELLBOS	Delivered	29/07/2015 16:01
BC: Surina Laurie (SLaurie@csir.co.za)	Third-Party Downloaded Read	29/07/2015 16:01 29/07/2015 16:02
sanbi.org.za	Transferred	29/07/2015 16:01
BC: lntsolio@sanbi.org.za (lntsolio@sanbi.org.za)	Undeliverable	29/07/2015 16:02
sanparks.org	Transferred	29/07/2015 16:01
BC: howard.hendricks@sanparks.org (howard.hendricks@sanparks.org)	Delivered	29/07/2015 16:12
scatecsolar.com	Transferred	29/07/2015 16:01
BC: mitchell.hodgson@scatecsolar.com (mitchell.hodgson@scatecsolar.com)	Delivered	29/07/2015 16:03
siyanda.gov.za	Transferred	29/07/2015 16:01
BC: sb@siyanda.gov.za (sb@siyanda.gov.za)	Undeliverable	03/08/2015 16:27
ska.ac.za	Transferred	29/07/2015 16:01
BC: atipiady@ska.ac.za (atipiady@ska.ac.za)	Delivered	29/07/2015 16:02
transnet.net	Transferred	29/07/2015 16:01
BC: Olive.Stephenson@transnet.net (Olive.Stephenson@transnet.net)	Delivered	29/07/2015 16:03
BC: Gilbert.Nortier@transnet.net (Gilbert.Nortier@transnet.net)	Delivered	29/07/2015 16:03
BC: Mayvyn.Bhana@transnet.net (Mayvyn.Bhana@transnet.net)	Delivered	29/07/2015 16:03
tpw.ncape.gov.za	Transferred	29/07/2015 16:01
BC: kiawrence@tpw.ncape.gov.za (kiawrence@tpw.ncape.gov.za)	Undeliverable	29/07/2015 16:02
veroniva.co.za	Transferred	29/07/2015 16:01
BC: claude@veroniva.co.za (claude@veroniva.co.za)	Delivered	29/07/2015 16:03
vodamail.co.za	Transferred	29/07/2015 16:01
BC: teresascheepers@vodamail.co.za (terasascheepers@vodamail.co.za)	Delivered	29/07/2015 16:19 2.0.0 recipients expanded
webmail.co.za	Transferred	29/07/2015 16:01
BC: jhs@webmail.co.za (jhs@webmail.co.za)	Transferred	29/07/2015 16:30 2.0.0 message relayed
worldonline.co.za	Transferred	29/07/2015 16:01
BC: ncagric@worldonline.co.za (ncagric@worldonline.co.za)	Delivered	29/07/2015 16:02
yahoo.com	Transferred	29/07/2015 16:01
BC: boozahunter@yahoo.com (boozahunter@yahoo.com)	Delivered	29/07/2015 16:03

**Post Offices**

Post Office	Delivered	Route
agri.ncape.gov.za		agri.ncape.gov.za
aheadtrading.co.za		aheadtrading.co.za
birdlife.org.za		birdlife.org.za
boor.gov.za		boor.gov.za
cba.co.za		cba.co.za
daff.gov.za		daff.gov.za
donco.co.za		donco.co.za
dwa.gov.za		dwa.gov.za
environment.gov.za		environment.gov.za

eskom.co.za		eskom.co.za
ewf.org.za		ewf.org.za
gmail.com		gmail.com
grasslands.org.za		grasslands.org.za
kalgarib.gov.za		kalgarib.gov.za
labour.gov.za		labour.gov.za
mullo.com		mullo.com
mweb.co.za		mweb.co.za
nccpg.gov.za		nccpg.gov.za
nda.agric.za		nda.agric.za
nersa.org.za		nersa.org.za
nocci.co.za		nocci.co.za
nra.co.za		nra.co.za
orientis.co.za		orientis.co.za
POBOX1.DURBAN	29/07/2015 16:01	csir.co.za
POBOX1.STELLBOG	29/07/2015 16:01	csir.co.za
sanbi.org.za		sanbi.org.za
sanparks.org		sanparks.org
scatecsolar.com		scatecsolar.com
siyanda.gov.za		siyanda.gov.za
ska.ac.za		ska.ac.za
transnet.net		transnet.net
tpw.ncape.gov.za		tpw.ncape.gov.za
veroniva.co.za		veroniva.co.za
vodamail.co.za		vodamail.co.za
webmail.co.za		webmail.co.za
worldonline.co.za		worldonline.co.za
yahoo.com		yahoo.com

**Files**

File	Size	Date & Time
Comment and Response Form_Scaterc Solar NC.pdf	86206	28/07/2015 15:14
CSIR Letter 1 to I&APs_Scaterc Solar NC.pdf	123630	28/07/2015 15:15
MESSAGE	13601	29/07/2015 16:01
Scaterc Solar BID_A4_8 PAGES_July2015_LOW RES.pdf	751766	29/07/2015 08:56
TEXT.htm	35806	29/07/2015 16:01

**Options**

Auto Delete:	No
Concealed Subject:	No
Expiration Date:	None
Notify Recipients:	Yes
Priority:	Standard
Reply requested by:	None
Security:	Standard
To Be Delivered:	Immediate

**Record Id**

Record Id:	55B8F9C1.DURBAN.POBOX1.100.1356D37.1.C449.1
Common Record Id:	55B8F9C1.DURBAN.POBOX1.200.20000B3.1.30C8D.1



**Response and Follow-up Emails sent to I&APs and Stakeholders during the 30-day review of the BID**

**From:** Rohaida Abed  
**To:** (UPN), Mei Melinda  
**CC:** Shaun, Cloete  
**Date:** 05/08/2015 08:48  
**Subject:** Re: Hard Copies: Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Melinda

Thank you for your email. Hard copies of the BID, Comment Form and Letter 1 has been sent to the following address via registered mail on 30 July 2015:

Department Of Water and Sanitation  
Private Bag X 5912  
Upington  
8800

The documents were sent to the following representatives of DWS (please note the tracking numbers as well).

- Mashudu Randwedzi - Tracking Number: RC 073 712 568 ZA
- Melinda Mei - Tracking Number: RC 073 712 571 ZA

Please let me know once you receive the documents.

Thanks and kind regards,  
Rohaida

>>> "Mei Melinda (UPN)" <MeiM@dws.gov.za> 04/08/2015 13:38 >>>

Good morning Mr. Abed

Your notice received with regards to Basic Assessment; Scoping and Environmental Impact Assessment for the Proposed Development of the three Solar Photovoltaic Facilities and Associated Electrical Infrastructure; North-East of Kenhardt; Northern Cape is of reference.

DWS requires you to forward hard copies of the above mentioned project to either of the following address:

Physical Address:  
Department Of Water and Sanitation  
Louisvale Road Upington  
8801  
OR

Postal Address:  
Department Of Water and Sanitation  
Private Bag X 5912  
Upington  
8800

Your co-operation and assistance is highly appreciated.

With kind regards,

Melinda Mei  
Senior Administration Clerk  
Water Quality Management: Lower Orange Water Management Area  
Tel: 054 338 5836  
Fax: 054 334 0205  
Mail: [MeiM@dwa.gov.za](mailto:MeiM@dwa.gov.za)

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**From:** Rohaida Abed [mailto:RAbed@csir.co.za]

**Sent:** 29 July 2015 04:01 PM

**To:** Rohaida Abed

**Subject:** Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR Reference:** EMS0102/SCATEC/2015

This e-mail correspondence serves to inform you of the initiation of a Basic Assessment (BA) Process and Scoping and Environmental Impact Assessment (EIA) Process for the above-mentioned proposed project, located approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The Project Applicant is Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar). The CSIR has been appointed by Scatec Solar to undertake the required BA Process, and Scoping and EIA Process.

A full Scoping and EIA Process is required for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities on the remaining extent of Onder Rugzeer Farm 168. A separate BA Process is also required and will be undertaken for the development of three transmission lines and the connection points to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120.

The proposed 75 MW Solar PV facilities and transmission lines are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation will be lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and transmission line. Furthermore, separate BA, Scoping and EIA Reports will be compiled for each project, which will be referred to as:

<b>Scoping and EIA Processes: Proposed 75 MW Solar PV Facilities</b>	<b>BA Processes: Proposed 132 kV Transmission Lines</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

The proposed projects are being assessed in terms of the National Environmental Management Act (Act 107 of 1998), as amended (NEMA), and the NEMA EIA Regulations, published in Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014.

Please find attached the following:

- Background Information Document (BID);
- Letter 1 to Interested & Affected Parties (I&APs); and
- Comment and Registration Form.

The BID, which provides an overview of the proposed project, is being released to Stakeholders and I&APs for a 30-day comment period extending from **30 July 2015 to 31 August 2015**.

Hard copies of the above-mentioned documents have also been sent to those of you for which postal addresses are available.

In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **31 August 2015**.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

Beste Belanghebbende en Geïnteresseerde Party

**GESAMENTLIKE KENNISGEWING VAN BASIESE EN OMGEWINGSIMPAKEVALUERINGSPROSESSE VIR DIE VOORGESTELDE ONTWIKKELING VAN DRIE SONKRAGAAANLEGTE EN ELEKTRIESE INFRASTRUKTUUR NOORD-OOS VAN KENHARDT, NOORD- KAAP PROVINSIE**

**Bevoegde Owerheid:** Die Nasionale Departement van Omgewingsake

**WNNR/CSIR verwysingsnommer:** EMS0102/SCATEC/2015

Hierdie e-pos korrespondensie se doel is om u in kennis te stel van die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte, wat 80 km suid van Upington en 30 km noord-oos van Kenhardt in die !Kheis munisipaliteit voorgestel word. Die Aansoeker vir die projek is Scatec Solar SA 163 (PTY) Ltd ("Scatec Solar"). Die WNNR is aangestel deur Scatec Solar om die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte uit te voer.

'n Bestek en Omgewingsimpakevalueringproses word vereis vir elk van die drie 75 MW Fotovoltaïese (PV) sonkragfasiliteite wat op die plaas Restant van Onder Rugzeer 168 voorgestel word. Aparte Basiese evalueringprosesse word ook vereis vir die voorgestelde 132 kV kraglyne en die konneksiepunte aan die Eskom Nieuwehoop Substasie (wat tans gebou word) op die plaas Restant van Gedeelte 3 van Gembok Bult 120.

Aangesien die sonkragprojekte en die voorgestelde elektriese infrastruktuur in dieselfde geografiese area gebou gaan word en dieselfde tipe projekte is, word dit voorgestel dat 'n geïntegreerde Publieke Deelname Proses gedoen gaan word. Aparte aansoeke gaan by die Nasionale Departement van Omgewingsake ingedien word vir die verskillende projekte en aparte verslae sal ook vir elke projek saamgestel en uitgestuur word. Die projekte sal na verwys word as:

<b>Bestek en Omgewingsimpakevalueringproses: Voorgestelde drie 75 MW PV sonkragprojekte</b>	<b>Basiese evalueringprosesse: Voorgestelde drie 132 kV kraglyne</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

Die voorgestelde projekte sal ge-evalueer word volgens die Nasionale Omgewingsbeheer Wet, 1998 (Wet No 107 van 1998) (NEMA) en die Omgewingsimpakstudie (OIS) Regulasies soos gepubliseer in Staatskennisgewing R982 in Staatskoerant No 38282 van 08 Desember 2014.

Vind asseblief aangeheg die volgende:

- Beskrywing van die projek (word na verwys as die "BID")
- Brief aan die Belanghebbende en Geïnteresseerde Partye (B&GP'e)
- Kommentaar en Registrasievorm

Die BID, wat dien as agtergrond van die projek, bevat 'n beskrywing van die projek, die gelyste aktiwiteite en is vir 30-dae beskikbaar vir oorsig en kommentaar (30 Julie 2015 - 31 Augustus 2015). 'n Harde kopie van die bogenoemde dokumente is ook gestuur aan diegene vir wie ons posadresse het. Inligting van die projek is ook beskikbaar op die projekwebtuiste: <http://www.csir.co.za/eia/ScatecSolarPV/>.

Ons versoek graag dat alle kommentaar aan die WNNR Projekbestuurder (kontakbesonderhede onder aangedui) teen **31 Augustus 2015** verskaf word.

By voorbaat dankie,

Rohaida Abed

CSIR - Environmental Management Services  
Posbus 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Faks: 031 261 2509  
E-pos: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**From:** Rohaida Abed  
**To:** townsendmorgan029@gmail.com  
**Date:** 26/08/2015 17:03  
**Subject:** Fwd: Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** Scatec Solar BID\_A4\_8 PAGES\_July2015\_LOW RES.pdf; CSIR Letter 1 to I&APs\_Scatec Solar NC.pdf; Comment and Response Form\_Scatec Solar NC.pdf

Good day

I understand that you contacted our offices for additional information on the proposed Solar PV projects in the Northern Cape. If you would like to register on the database as an I&AP, please complete the attached comment and response form and return it

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

to me via email. Please also see attached a Background Information Document and letter.

Thanks and kind regards,  
Rohaida

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

>>> Rohaida Abed 29/07/2015 16:01 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR Reference: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the initiation of a Basic Assessment (BA) Process and Scoping and Environmental Impact Assessment (EIA) Process for the above-mentioned proposed project, located approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The Project Applicant is Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar). The CSIR has been appointed by Scatec Solar to undertake the required BA Process, and Scoping and EIA Process.

A full Scoping and EIA Process is required for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities on the remaining extent of Onder Rugzeer Farm 168. A separate BA Process is also required and will be undertaken for the development of three transmission lines and the connection points to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120.

The proposed 75 MW Solar PV facilities and transmission lines are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation will be lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and transmission line. Furthermore, separate BA, Scoping and EIA Reports will be compiled for each project, which will be referred to as:

<b>Scoping and EIA Processes: Proposed 75 MW Solar PV Facilities</b>	<b>BA Processes: Proposed 132 kV Transmission Lines</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

The proposed projects are being assessed in terms of the National Environmental Management Act (Act 107 of 1998), as amended (NEMA), and the NEMA EIA Regulations, published in Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014.

Please find attached the following:

- Background Information Document (BID);
- Letter 1 to Interested & Affected Parties (I&APs); and
- Comment and Registration Form.

The BID, which provides an overview of the proposed project, is being released to Stakeholders and I&APs for a 30-day comment period extending from **30 July 2015 to 31 August 2015**.

Hard copies of the above-mentioned documents have also been sent to those of you for which postal addresses are available.

In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **31 August 2015**.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300

Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

Beste Belanghebbende en Geïnteresseerde Party

**GESAMENTLIKE KENNISGEWING VAN BASIESE EN OMGEWINGSIMPAKEVALUERINGSPROSESSE VIR DIE VOORGESTELDE ONTWIKKELING VAN DRIE SONKRAGAAANLEGTE EN ELEKTRIESE INFRASTRUKTUUR NOORD-OOS VAN KENHARDT, NOORD- KAAP PROVINSIE**

**Bevoegde Owerheid:** Die Nasionale Departement van Omgewingsake

**WNNR/CSIR verwysingsnommer:** EMS0102/SCATEC/2015

Hierdie e-pos korrespondensie se doel is om u in kennis te stel van die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte, wat 80 km suid van Upington en 30 km noord-oos van Kenhardt in die !Kheis munisipaliteit voorgestel word. Die Aansoeker vir die projek is Scatec Solar SA 163 (PTY) Ltd ("Scatec Solar"). Die WNNR is aangestel deur Scatec Solar om die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte uit te voer.

'n Bestek en Omgewingsimpakevalueringproses word vereis vir elk van die drie 75 MW Fotovoltaïese (PV) sonkragfasiliteite wat op die plaas Restant van Onder Rugzeer 168 voorgestel word. Aparte Basiese evalueringprosesse word ook vereis vir die voorgestelde 132 kV kraglyne en die konneksiepunte aan die Eskom Nieuwehoop Substasie (wat tans gebou word) op die plaas Restant van Gedeelte 3 van Gembok Bult 120.

Aangesien die sonkragprojekte en die voorgestelde elektriese infrastruktuur in dieselfde geografiese area gebou gaan word en dieselfde tipe projekte is, word dit voorgestel dat 'n geïntegreerde Publieke Deelname Proses gedoen gaan word. Aparte aansoeke gaan by die Nasionale Departement van Omgewingsake ingedien word vir die verskillende projekte en aparte verslae sal ook vir elke projek saamgestel en uitgestuur word. Die projekte sal na verwys word as:

<b>Bestek en Omgewingsimpakevalueringproses: Voorgestelde drie 75 MW PV sonkragprojekte</b>	<b>Basiese evalueringprosesse: Voorgestelde drie 132 kV kraglyne</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

Die voorgestelde projekte sal ge-evalueer word volgens die Nasionale Omgewingsbeheer Wet, 1998 (Wet No 107 van 1998) (NEMA) en die Omgewingsimpakstudie (OIS) Regulasies soos gepubliseer in Staatskennisgewing R982 in Staatskoerant No 38282 van 08 Desember 2014.

Vind asseblief aangeheg die volgende:

- Beskrywing van die projek (word na verwys as die "BID")
- Brief aan die Belanghebbende en Geïnteresseerde Partye (B&GP'e)
- Kommentaar en Registrasievorm

Die BID, wat dien as agtergrond van die projek, bevat 'n beskrywing van die projek, die gelyste aktiwiteite en is vir 30-dae beskikbaar vir oorsig en kommentaar (30 Julie 2015 - 31 Augustus 2015). 'n Harde kopie van die bogenoemde dokumente is ook gestuur aan diegene vir wie ons posadresse het. Inligting van die projek is ook beskikbaar op die projekwebtuiste: <http://www.csir.co.za/eia/ScatecSolarPV/>.

Ons versoek graag dat alle kommentaar aan die WNNR Projekbestuurder (kontakbesonderhede onder aangedui) teen **31 Augustus 2015** verskaf word.

By voorbaat dankie,

Rohaida Abed

CSIR - Environmental Management Services  
Posbus 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Faks: 031 261 2509  
E-pos: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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**From:** Rohaida Abed  
**To:** Miles, Melanie  
**Date:** 27/08/2015 09:33  
**Subject:** Re: Proposed Development of Three Solar Photovoltaic Facilities and Associated Electrical Infrastructure  
**Attachments:** Scatec Solar BID\_A4\_8 PAGES\_July2015\_LOW RES.pdf; Comment and Response Form\_Scatec Solar NC.pdf; CSIR Letter 1 to I&APs\_Scatec Solar NC.pdf

Dear Melanie

As requested, please find attached a copy of the BID for the proposed project, as well as Letter 1 and Comment and Registration Form. Kindly note that the comment period closes on 31 August 2015. We will add you to the project database. Please note that all project information is available on the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Thanks and kind regards,  
Rohaida

>>> "Melanie Miles" <MelanieM@L2B.co.za> 03/08/2015 10:17 >>>

Good Morning,

Your company is currently conducting an Environmental Impact Assessment for the Proposed Development of Three Solar Photovoltaic Facilities and Associated Electrical Infrastructure North East of Kenhardt. Please could you forward me the BID for this application and register me as a Interested & Affected party?

Thanking you in anticipation of a favourable response.

Kindest Regards,

Melanie Miles  
Content Researcher  
MelanieM@L2B.co.za

Leads 2 Business ([www.L2B.co.za](http://www.L2B.co.za))

0860836337 or 0860 TENDER  
Fax: 033 343 5882

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## Copies and Proof of Correspondence Sent to I&APs for the Release of the Scoping Report for I&AP Review

### Letter 2 - dated 25 September 2015: Notification of the Release of the Scoping Reports for a 30-day Review Period

CSIR Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: RAbed@csir.co.za



25 September 2015

Dear Interested and Affected Party

**RE: RELEASE OF SCOPING REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2 AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (CSIR REFERENCE: EMS0102/SCATEC/2015)**

Scatec Solar SA 163 (PTY) Ltd is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (including 132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the Eskom Nieuwehoop Substation on the remaining extent of Portion 3 of Gembok Bult Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the IKheis Local Municipality, Northern Cape Province.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation. The Council for Scientific and Industrial Research (CSIR) has been appointed by the Project Applicant to undertake the separate requisite Basic Assessment and Scoping and EIA Processes for the proposed projects.

The proposed 75 MW Solar PV facility projects (requiring a Scoping and EIA Process) and the Basic Assessment projects are referred to as:

Scoping and EIA Processes: Proposed 75 MW Solar PV Facilities	Basic Assessment Processes: Proposed 132 kV Transmission Lines and Associated Electrical Infrastructure
<ul style="list-style-type: none"><li>Kenhardt PV 1</li><li>Kenhardt PV 2</li><li>Kenhardt PV 3</li></ul>	<ul style="list-style-type: none"><li>Kenhardt PV 1 – Transmission Line</li><li>Kenhardt PV 2 – Transmission Line</li><li>Kenhardt PV 3 – Transmission Line</li></ul>

Scatec Solar SA 163 (PTY) Ltd consists of various subsidiary companies, three of which will serve as the Project Applicant for the proposed Scoping and EIA projects. Table 1 below indicates the Project Applicant details, as well as brief project details.

Table 1: Details of the Scoping and EIA Projects

Project Reference	Project Applicant	Generation Capacity	Project Footprint	Available Development Area
Kenhardt PV 1	Scatec Solar SA 330 (PTY) Ltd	75 MW	250 ha	450 ha
Kenhardt PV 2	Scatec Solar SA 350 (PTY) Ltd	75 MW	250 ha	540 ha
Kenhardt PV 3	Scatec Solar SA 370 (PTY) Ltd	75 MW	250 ha	1000 ha

Scatec Solar is an integrated independent power producer that is focused on making solar energy a sustainable and affordable source on a global scale. Linked to enhancing its operations within South Africa, each 75 MW Solar PV facility will cover an approximate area of 250 ha (as noted in Table 1 above). The required project footprint has increased from 200 ha (as reported in the Background Information Document dated July 2015) to 250 ha for each proposed solar PV facility in order to ensure optimum operations. The proposed solar PV facilities will be constructed adjacent to each other and will therefore have a collective footprint of approximately 750 ha and a combined power generation capacity of 225 MW. Preferred and alternative sites (referred to as Kenhardt PV 1b, Kenhardt PV 2b, and Kenhardt PV 3b) located within the remaining extent of Onder Rugzeer Farm 168 have been considered in the Scoping Phase. The preferred sites will be assessed in the EIA Phase. The area available to develop at the preferred sites exceeds the required project footprint area, and therefore there is scope to avoid major environmental constraints through the final design and layout of the facility. The proposed projects will entail the construction of a solar field, buildings, electrical infrastructure, internal access roads, and associated infrastructure and structures.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process (PPP) will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation (EA) have been lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed Scoping and EIA project and will be lodged for each Basic Assessment project. Furthermore, separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project. The Basic Assessment Reports will be made available for Interested and Affected Party (I&AP) and stakeholder review together with the EIA Reports.

In line with the above, as a registered I&AP on the project database, you are hereby notified of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects to all registered I&APs and stakeholders for a 30-day review period, which will extend from **25 September 2015 to 27 October 2015**. Please find enclosed an Executive Summary of each Scoping Report (including a Comment and Registration Form), which provides an overview of the proposed project and the Scoping Process. Kindly complete the enclosed Comment and Registration Form in order to submit any comments, issues or concerns you may have. Please submit the completed form to the CSIR Project Manager at the contact details provided above by **27 October 2015**.

Hard copies of the Scoping Reports are available for public viewing at the Kenhardt Library (in Park Street) and the Groblershoop Library (at 97 Oranje Street). The Scoping Reports can also be downloaded from the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

All comments received during this 30 day review period will be recorded and included in the Scoping Reports for submission to the National DEA for decision-making in line with Regulations 21 and 22 of the 2014 EIA Regulations (GN R982). As a registered I&AP on the project database, you will be notified of the submission of the Scoping Reports to the DEA for decision-making.

Should you have any queries or require additional information please do not hesitate to contact the undersigned using the contact details provided above.

Sincerely,

Surina Laurie  
Project Leader  
CSIR Environmental Management Services

Rohaida Abed  
Project Manager  
CSIR Environmental Management Services

**Comment and Registration Form sent with Letter 2 (dated 25 September 2015)**

**BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3, KENHARDT PV 1 – TRANSMISSION LINE, KENHARDT PV 2 – TRANSMISSION LINE, AND KENHARDT PV 3 – TRANSMISSION LINE)**

**RELEASE OF SCOPING REPORTS FOR KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

**Project Applicant: Scatec Solar SA 330 (PTY) Ltd, Scatec Solar SA 350 (PTY) Ltd, and Scatec Solar SA 370 (PTY) Ltd**

**COMMENT AND REGISTRATION FORM**

25 September 2015

<b>Name:</b>	<b>Telephone:</b>
<b>Organisation:</b>	<b>Fax:</b>
<b>Designation:</b>	<b>Email:</b>
<b>Physical address:</b>	<b>Postal address:</b>

Please indicate if you would like to register as an Interested and Affected Party (I&AP) for the proposed projects. Registration is required in order to receive further correspondence during the Basic Assessment and Scoping and EIA Processes. Please tick the appropriate box.

YES	
NO	

Please indicate if you have any interest (business, financial, personal or other) in the proposed projects and/or the Applications for Environmental Authorisation:

--

Please describe any issues or concerns you may have regarding the proposed projects, which you think should be considered during the Basic Assessment and Scoping and EIA Processes.


Please provide details of any other individuals or organisations that should be registered as I&APs:


Please complete this Comment and Registration Form by 27 October 2015 and submit it to:

Rohaida Abed CSIR Postal Address: P. O. Box 17001, Congella, Durban, 4013 Tel: 031 242 2300 Fax: 031 261 2509 E-mail: RAbed@csir.co.za Project Website: <a href="http://www.csir.co.za/eia/ScatecSolarPV/">http://www.csir.co.za/eia/ScatecSolarPV/</a>
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## Executive Summary of the Kenhardt PV 1 Scoping Report sent with Letter 2

### **Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

CSIR Report Number: CSIR/CAS/EMS/ER/2015/0007/B  
CSIR Reference: EMS0102/Scatec/2015

#### **Scoping Report – Executive Summary**

#### **1. PROJECT OVERVIEW**

Scatec Solar SA 163 (PTY) Ltd is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the Eskom Nieuwehoop Substation on the remaining extent of Portion 3 of Gembok Bult Farm 120, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. Scatec Solar SA 163 (PTY) Ltd consists of various subsidiary companies, one of which is Scatec Solar SA 330 (PTY) Ltd. Scatec Solar SA 330 (PTY) Ltd (hereinafter referred to as Scatec Solar) is the Project Applicant for this proposed 75 MW solar PV project (referred to as Kenhardt PV 1).

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation. The Applicant has appointed the Council for Scientific and Industrial Research (CSIR) to undertake the separate EIA and Basic Assessment Processes in order to determine the biophysical, social and economic impacts associated with undertaking the proposed activity.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process (PPP) will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation (EA) have been lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed Scoping and EIA project and will be lodged for each Basic Assessment project. Furthermore, separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project. The Basic Assessment Reports will be made available for Interested and Affected Party (I&AP) review with the EIA Reports.

The proposed 75 MW Solar PV facility projects (requiring a Scoping and EIA Process) are referred to as:

- Kenhardt PV 1;
- Kenhardt PV 2; and
- Kenhardt PV 3.

The proposed 132 kV transmission line projects (requiring a Basic Assessment Process) are referred to as:

- Kenhardt PV 1 – Transmission Line;
- Kenhardt PV 2 – Transmission Line; and
- Kenhardt PV 3 – Transmission Line.

This Scoping Report only discusses the proposed **Kenhardt PV 1** project.

#### **2. NEED FOR THE PROJECT**

The Integrated Resource Plan for South Africa for the period 2010 to 2030 (referred to as “IRP 2010”) was released by government in 2010, and proposes to develop and secure 17 800 MW of renewable energy capacity by 2030 (including wind, solar and other energy sources). The IRP was updated in 2013. The IRP 2010 has set up a target of 3 725 MW of renewable energy to be produced by Independent Power Producers (IPPs) by 2016. On 18 August 2015, an additional target of 6 300 MW to be procured and generated from renewable energy sources was added to the Renewable Energy

Independent Power Producer Procurement Programme (REIPPPP) as noted Government Gazette 39111. The additional target allocated for solar PV energy is 2 200 MW.

In 2011, the Department of Energy (DOE) launched the REIPPPP and invited potential IPPs to submit proposals for the financing, construction, operation and maintenance of the first 3 725 MW of onshore wind, solar thermal, solar PV, biomass, biogas, landfill gas or small hydro projects. The two main evaluation criteria for compliant proposals are price and economic development, with other selection criteria including technical feasibility and grid connectivity, environmental acceptability, black economic empowerment, community development, and local economic and manufacturing propositions. The bidders with the highest rankings (according to the aforementioned criteria) are appointed as "Preferred Bidders" by the DOE. The proposed projects aim to contribute to the above strategic imperative.

### 3. PROJECT DESCRIPTION

It is important to point out at the outset that the exact specifications of the proposed project components will be determined during the detailed engineering phase.

Linked to enhancing its operations within South Africa, the 75 MW Solar PV facility (i.e. Kenhardt PV 1) proposed by Scatec Solar will cover an approximate area of 250 hectares (ha). A preferred and alternative site (referred to as Kenhardt PV 1b) have been considered in the Scoping Phase. The preferred site will be assessed in the EIA Phase. The preferred site includes approximately 450 ha of land. Due to the fact that this project only requires 250 ha of land, there is scope to avoid major environmental constraints through the final design of the facility.

The proposed project will make use of PV solar technology to generate electricity from the sun's energy. The Applicant is proposing to develop a facility with a possible maximum installed capacity of 100 MW Direct Current (DC) which produces 75 MW Alternating Current (AC) of electricity from PV solar energy.

Once a Power Purchase Agreement (PPA) is awarded, the proposed facility will generate electricity for a minimum period of 20 years. It is proposed that Scatec Solar will implement the Self-Build Option for the additional electrical infrastructure to be constructed (which includes the 132 kV transmission line and additional feeder bay(s), busbar(s), transformer bay, and extension to the platform at the Eskom Nieuwehoop Substation (which will be assessed separately as part of a Basic Assessment Process)). Following the construction phase, the proposed transmission line will either be transferred into the ownership of Eskom or remain in the ownership of Scatec Solar.

The solar facility will consist of the following components:

- Solar Field:
  - Solar Arrays:
    - PV Modules;
    - Tracking structures;
    - Solar module mounting structures comprised of galvanised steel and aluminium; and
    - Foundations which will likely be drilled and concreted into the ground.
- Building Infrastructure:
  - Offices;
  - Operational and maintenance control centre;
  - Warehouse/workshop;
  - Ablution facilities;
  - Converter station;
  - On-site substation building; and
  - Guard House.
- Associated Infrastructure
  - 132 kV overhead transmission line (**as mentioned above this will be subject to a separate Basic Assessment Process, referred to as Kenhardt PV 1 – Transmission Line**);
  - Associated electrical infrastructure at the Eskom Nieuwehoop Substation (including but not limited to feeders, Busbars, transformer bay and extension to the platform at the Eskom Nieuwehoop Substation) (**as mentioned above this will be subject to a separate Basic Assessment Process, referred to as Kenhardt PV 1 – Transmission Line**);

- On-site substation;
- Internal transmission lines/underground cables;
- Underground low voltage cables or cable trays;
- Access roads;
- Internal gravel roads;
- Fencing;
- Panel maintenance and cleaning area;
- Stormwater channels;
- Water pipelines; and
- Temporary work area during the construction phase (i.e. laydown area).

#### 4. NEED FOR AN ENVIRONMENTAL IMPACT ASSESSMENT

As noted above, in terms of the EIA Regulations promulgated under Chapter 5 of the NEMA published in GN R982, R983, R984 and R985 on 4 December 2014 and enforced on 8 December 2014, a full Scoping and EIA Process is required for the proposed project. The need for the full Scoping and EIA is triggered by, amongst others, the inclusion of Activity 1 listed in GN R984 (Listing Notice 2):

- *“The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs within an urban area”.*

Given that energy related projects have been elevated to national strategic importance in terms of the EA Process, the proposed project requires authorisation from the National DEA, acting in consultation with other spheres of government.

The purpose of the EIA is to identify, assess and report on any potential impacts the proposed project, if implemented, may have on the receiving environment. The Environmental Assessment therefore needs to show the Competent Authority, the DEA; and the project proponent, Scatec Solar, what the consequences of their choices will be in terms of impacts on the biophysical and socio-economic environment and how such impacts can be, as far as possible, enhanced or mitigated and managed as the case may be.

#### 5. PURPOSE OF THE SCOPING REPORT

The Scoping Phase of the EIA refers to the process of determining the spatial and temporal boundaries for the EIA. In broad terms, the objectives of the Scoping Process in terms of the 2014 NEMA EIA Regulations (GN R982) are to:

- Confirm the process to be followed and opportunities for stakeholder engagement;
- Clarify the project scope to be covered;
- Identify and confirm the preferred activity and technology alternative;
- Identify and confirm the preferred site for the preferred activity;
- Identify the key issues to be addressed in the impact assessment phase and the approach to be followed in addressing these issues; and
- Confirm the level of assessment to be undertaken during the impact assessment

This is achieved through parallel initiatives of consulting with:

- The lead authorities involved in the decision-making for this EIA application;
- The public to ensure that local issues are well understood; and
- The EIA specialist team to ensure that technical issues are identified.

The Scoping Process is supported by a review of relevant background literature on the local area. Through this comprehensive process, the environmental assessment can identify and focus on key issues requiring assessment.

The primary objective of the Scoping Report is to present key stakeholders (including affected organs of state) with an overview of the project and key issues that require assessment in the EIA Phase and allow the opportunity for the identification of additional issues that may require assessment.

Issues raised thus far during the Scoping Process have been captured in the Issues and Responses Trail in Chapter 7 of the Scoping Report. Issues raised in response to this Scoping Report (currently being released for a 30-day comment period) will be captured in an Issues and Responses Trail as an appendix to the Scoping Report, which will be submitted to the National DEA for decision-making (i.e. approval or rejection) in line with Regulation 21 (1) of GN R982. This approval is planned to mark the end of the Scoping Phase after which the EIA Process moves into the impact assessment and reporting phase.

## 6. IDENTIFICATION OF ISSUES

The project was advertised in one local newspaper and letters regarding the Basic Assessment and EIA Process were mailed to all pre-identified key stakeholders on the database. The Scoping Report includes the issues identified to date as part of the Scoping Process. A synthesis of these issues is provided in the Issues and Response Trail (Chapter 7), which includes an explanation of how the issues will be addressed in the EIA Phase.

The list below indicates the main issues identified thus far during the Scoping Phase and to be addressed during the EIA Process.

### 6.1. Terrestrial Ecology Impacts:

- Construction Phase: Ousting of fauna through increased anthropogenic activities, disturbance of refugia (location of an isolated population that was widespread in the past) and general change in habitat.
- Construction Phase: Increased electrical light pollution leading to changes in nocturnal behavioural patterns amongst fauna.
- Construction Phase: Exclusion (or entrapment) of in particular, larger fauna on account of the fencing of the site.
- Construction Phase: Changes in edaphics (soils) on account of excavation and import of material, leading to alteration of plant communities and fossorial species in and around these points.
- Operational Phase: Alteration of ecological processes on account of the exclusion of certain species inherent to the functional state of land within the PV facility i.e. larger fossorial species and predators will be excluded from the PV facility site by virtue of its fencing, generally leading to possible variations in populations of other species that remain within the site, with concomitant ecological change.
- Operational Phase: Increased shading of vegetation as a consequence of the PV arrays, will lead to changes in plant water relations and possible changes in plant community structures within the site.
- Operational Phase: Changes in meteorological factors at a localised scale on account of the PV facility is likely to arise (e.g. subtle changes in wind dynamics, "heat bubbles", as well as alteration in run off of surface water and evapo-transpiration states), leading to long term, but generally latent changes in habitat.
- Operational Phase: The fencing of the site, possibly with electric fencing, is likely to impact upon faunal behaviour, leading to the exclusion of certain species and possible mortalities. Alternatively, such changes may also favour some specific individuals, particularly those that remain within the confines of the proposed PV facility, which is likely to lead to further localised alteration in habitat and ecological processes within the facility.

### 6.2. Aquatic Ecology Impacts:

- Construction Phase: Alteration in surface drainage patterns on account of construction activities leading to rapid change in plant communities and general habitat structure both within the site and immediately adjacent to site.
- Construction Phase: Alteration of surface water quality on account of construction activities that lead to changes in water chemistry (e.g. use of concrete, increased hydrocarbon input, increased sediment within run off etc. alter various chemical parameters).
- Construction Phase: Depending upon the origin of water (import or through abstraction of groundwater) changes in sub-surface water resources may arise, particularly in the case of the latter.
- Operational Phase: Abstraction of ground water for the cleaning of modules will alter the state of sub-surface water resources, depending upon nature and origin of such water.

### 6.3. Visual Impacts:

- Construction Phase: Potential visual intrusion of construction activities on the existing views of sensitive visual receptors in the rural landscape.
- Construction Phase: Potential visual intrusion of a large area cleared of vegetation on the existing views of sensitive visual receptors.

- Construction Phase: Potential visual impact of night lighting during the construction phase on the nightscape of the region.
- Operational Phase: Potential landscape impact of introducing a large solar plant into a remote rural landscape.
- Operational Phase: Potential visual intrusion of a large solar field on the existing views of sensitive visual receptors.
- Operational Phase: Potential visual intrusion of tall, relatively large structures on the existing views of sensitive visual receptors.
- Operational Phase: Potential impact of night lighting of the development on the relatively dark rural nightscape.

#### **6.4. Archaeology and Cultural Landscape:**

- Construction and Operational Phases:
  - Direct disturbance and/or destruction of archaeological material;
  - Direct impacts to the landscape through introduction of industrial type facilities; and
  - Direct disturbance and/or destruction of possible graves (although unlikely).

#### **6.5. Palaeontology:**

- Potential damage to or destruction of fossil heritage at or near the surface within the study area.

#### **6.6. Geohydrology:**

- Construction and Operational Phases:
  - Limited groundwater availability in the region;
  - Water quality of the existing boreholes present within the study area; and
  - Borehole yields of existing boreholes that are present within the study area.

#### **6.7. Soils and Agricultural Potential**

- Operational Phase: Economic consequences of the proposed project at local/regional scale due to the modification/loss of agricultural potential on the site.
- Operational Phase: Whether soil conditions will be transformed and agricultural soil resources will be damaged or lost.

#### **6.8. Social Issues:**

- Construction and Operational Phases:
  - Influx of jobseekers;
  - Increased competition for urban-based employment;
  - Increases in social deviance;
  - Increases in incidence of HIV/AIDS infections;
  - Expectations regarding jobs;
  - Local spending;
  - Local employment; and
  - Job losses at the end of the project life-cycle.

The Plan of Study for EIA (Chapter 8) presents the approach to the forthcoming EIA Phase. This includes the Terms of Reference for the various specialist studies that are proposed to address the issues raised, where necessary.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Proof of Correspondence with I&APs (Registered Mail Receipts for Letter 2 (dated 25 September 2015))**

**DALBRIDGE POST OFFICE  
LIST OF REGISTERED MAIL FOR CSIR DURBAN – September 2015**

**SCATEC SOLAR - DISTRIBUTION LIST FOR Rohaida Abed – Unit: CAS**

No	Name	Surname	Company	Designation	Postal Address	Registered Number Customer Copy (for CSIR)
1	Mmatlala	Rabothata	National Department of Environmental Affairs, Department of Environmental Affairs: Integrated Environmental Authorisations	Competent Authority	Private Bag X447 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) Postal Code 0001 111 502 www.dpo.co.za RC 073 712 583 ZA CUSTOMER COPY 301028R
2	M	Mathews	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 712 599 ZA CUSTOMER COPY 301028R
3	Samantha	De la Fontaine	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority (District Ecologist (Candidate Scientist)	Provincial Building (F&S Floor) Corner of Olivier + Nelson Mandela Road, Upington, WC	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 712 605 ZA CUSTOMER COPY 301028R
4	Eric	Ngxanga	ZF Mgcawu District Municipality - Municipal Manager	Municipal Manager	Private Bag X6039 Upington 8800	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 712 625 ZA CUSTOMER COPY 301028R
5	H.T	Scheepers	IKheis Municipality - Municipal Manager	Municipal Manager	Private Bag X2, Orange Street 97, Groblershoop 9850	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 713 089 ZA CUSTOMER COPY 301028R
6	JG	Lategan	Kai I Garib Municipality - Municipal Manager	Municipal Manager	Private Bag X6, Kakamas, 8870	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 713 081 ZA CUSTOMER COPY 301028R
7	Mashudu	Randwedzi	Department of Water and Sanitation	DWS	Private Bag X5912 Upington 8800	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 713 104 ZA CUSTOMER COPY 301028R
8	Shaun	Cioele	Department of Water and Sanitation	DWS	Private Bag X5912 Upington 8801	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 713 098 ZA CUSTOMER COPY 301028R
9	Mandla	Ndzilili	Ministry of Environment and Nature Conservation		Private Bag X6120 Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 713 095 ZA CUSTOMER COPY 301028R
10	Sibonelo	Mbarjwa	Provincial Department of Environment and Nature Conservation: Northern Cape		Private Bag X6120 Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 073 712 611 ZA CUSTOMER COPY 301028R
11	Mashudu	Marubini	Department of Agriculture, Forestry and Fisheries - Delegate of the Minister (Act 70 of 1970)	Delegate of the Minister (Act 70 of 1970)	Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) Postal Code 0001 111 502 www.dpo.co.za RC 073 712 639 ZA CUSTOMER COPY 301028R
12	Thoko	Buthlezi	Department of Agriculture, Forestry and Fisheries - AgriLand Liaison office		Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) Postal Code 0001 111 502 www.dpo.co.za RC 088 033 947 ZA CUSTOMER COPY 301028R
13	D	Nhlakad	Department of Agriculture, Forestry and Fisheries - AgriLand Liaison office		Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) Postal Code 0001 111 502 www.dpo.co.za RC 088 033 992 ZA CUSTOMER COPY 301028R
14	Anneliza	Colett	Department of Agriculture, Forestry and Fisheries - AgriLand Liaison office		Private Bag X120, Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) Postal Code 0001 111 502 www.dpo.co.za RC 088 033 920 ZA CUSTOMER COPY 301028R
15	Ali	Ditane	Agriculture, Land Reform & Rural Development		Private Bag X 5018, Kimberley, 8300	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 088 033 916 ZA CUSTOMER COPY 301028R
16	Plejet	Buys	National Energy Regulator of South Africa (NERSA)		PO Box 40343, Arcadia, 0007	REGISTERED LETTER (with a domestic insurance option) Postal Code 0001 111 502 www.dpo.co.za RC 088 033 933 ZA CUSTOMER COPY 301028R
17	TA	Bulane	Department of Public Works, Roads and Transport		PO Box 3152, Squarehill Park, Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Postal Code 0800 111 502 www.dpo.co.za RC 088 033 955 ZA CUSTOMER COPY 301028R

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

No	Name	Surname	Company	Designation	Postal Address	Registered Number Customer Copy (for CSIR)
18	Denver	Van Heerden	Department of Public Works, Roads and Transport		PO Box 3132, Squarehill Park, Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 088 033 066 ZA CUSTOMER COPY 301028R
19	Rene	de kock	South African Roads Agency Limited (SANRAL) Northern Cape (Western Region)		Private Bag X19 Bellville, 7535	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 088 033 010 ZA CUSTOMER COPY 301028R
20	M	Lepheane	Department of Labour		Private Bag X5012, Kimberley, 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 088 033 023 ZA CUSTOMER COPY 301028R
21	A	Botes	Department of Social Development		Private Bag X 5042, Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 088 033 037 ZA CUSTOMER COPY 301028R
22	Riaan	Warle	Northern Cape Economic Development Agency		227 Dr. Toitspan Road, Selgriavia, Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 088 033 045 ZA CUSTOMER COPY 301028R
23	Andrew	Timothy	Directorate Heritage, Department - Sports, Arts and Culture		P. O. Box 1930, Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 088 033 054 ZA CUSTOMER COPY 301028R
24	Lizell	Stroh	South African Civilian Aviation Authority		Private Bag X73 Halfway House 1885	CUSTOMER COPY 301028R REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 713 072 ZA
25	John	Geeringh	ESKOM	Commenting authority	P.O.Box:1091 Johannesburg 2157	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 713 076 ZA
26	Shaaron	Steyn	Northern Cape Chamber of Commerce and Industry		PO Box 350, Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 713 020 ZA CUSTOMER COPY 301028R
27	H	Myburgh	Agri Northern Cape		PO Box 1094 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 713 033 ZA CUSTOMER COPY 301028R
28	The Director		Department of Energy Northern Cape		Private Bag X6093 Kimberley, 8300	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 713 047 ZA CUSTOMER COPY 301028R
29	Simon	Gear	Birdlife South Africa		PO Box 515 Randburg, 2194	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 713 059 ZA CUSTOMER COPY 301028R
30	Lubabalo	Ntsole	C.A.P.E. Co-ordination Unit: Northern Cape		Private Bag X7, Claremont, 7735	CUSTOMER COPY 301028R REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 712 982 ZA
31	Dr. Howard	Hendricks	South African National Parks (SANParks) - Snr GM: Policy & Governance Conservation Services Division		PO Box 787, Pretoria, 0001	CUSTOMER COPY 301028R REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 712 845 ZA
32	Rudolph	Grobler			PO Box 41, Keimoes 8860	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 712 894 ZA CUSTOMER COPY 301028R
33	Ernest	Connan	Ernest Connan Trust		PO Box 290, Upington, 8800	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 712 996 ZA CUSTOMER COPY 301028R
34	Johan	Steenkamp	JHJ Steenkamp Trust		JHJ Steenkamp Trust PO Box 3267 Upington 8800	REGISTERED LETTER (with a domestic insurance option) Quoted 1993 711 502 www.espost.co.za RC 073 712 963 ZA CUSTOMER COPY 301028R







**Email 2 sent to all I&APs on 23 September 2015**

**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**BC:** Clive.Stephenson@transnet.net; CloeteS@dws.gov.za; GeerinJH@eskom.co.za; Gilbert.Nortier@transnet.net; HaarhL@eskom.co.za; JacolineMa@daff.gov.za; Laurie, Surina; LeaskK@eskom.co.za; MRabothata@environment.gov.za; Marina.Lourens@transnet.net; MashuduMa@daff.gov.za; Mayvyn.Bhana@transnet.net; MeiM@dwa.gov.za; MelanieM@L2B.co.za; ThokoB@daff.gov.za; WyingaaJO@eskom.co.za; aditeme@agri.ncape.gov.za; admin@grasslands.org.za; advocacy@birdlife.org.za; ameliastrauss2@gmail.com; andre.vanniekerk10@gmail.com; annelizac@nda.agric.za; atiplady@ska.ac.za; boozahunter@yahoo.com; Claude Bosman; ernest.connan@donco.co.za; fpr@bodr.gov.za; hendri@aheadtrading.co.za; jdbhenrohn@gmail.com; jhjs@webmail.co.za; karen@mulilo.com; klawrence@trpw.ncape.gov.za; kraaines@mweb.co.za; l.ntsolo@sanbi.org.za; marcyroxnpc@gmail.com; messop@environment.gov.za; mitchell.hodgson@scatecsolar.com; mm@kaigarib.gov.za; mmathews@ncpg.gov.za; mndzilili@ncpg.gov.za; monica.lepheane@labour.gov.za; ncagric@worldonline.co.za; nhlakad@daff.gov.za; nyaphi@ncpg.gov.za; ontvang@agric.co.za; peter.buys@nersa.org.za; ratha.timothy@gmail.com; rwarie@ncpg.gov.za; sb@siyanda.gov.za; sdelafontaine@gmail.com; sharon@nocci.co.za; smbanjwa@ncpg.gov.za; straussdj@orientis.co.za; strohl@caa.co.za; teresascheepers@vodamail.co.za; townsendmorgan029@gmail.com; waltjc@nra.co.za; wep@ewt.org.za  
**Date:** 23/09/2015 15:29  
**Subject:** Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** Scatec Solar PV1\_SR\_SUMMARY.pdf; Scatec Solar PV2\_SR\_SUMMARY.pdf; Scatec Solar PV3\_SR\_SUMMARY.pdf; CSIR Letter 2 to I&APs\_Scatec Solar NC.pdf; Comment and Response Form\_Scatec Solar\_NC.pdf

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF SCOPING REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2, AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR REFERENCE:** EMS0102/Scatec/2015

This e-mail correspondence serves to inform you of the release of Scoping Reports for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The Project Applicant is Scatec Solar SA 330 (PTY) Ltd for Kenhardt PV 1, Scatec Solar SA 350 (PTY) Ltd for Kenhardt PV 2 and Scatec Solar SA 370 (PTY) Ltd for Kenhardt PV 3.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120. The CSIR has been appointed by the Project Applicant to undertake the separate requisite Basic Assessment, and Scoping and EIA Processes for the proposed projects.

The proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation are currently being lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and will be lodged for each Basic Assessment project. Furthermore, separate Basic Assessment, Scoping and EIA Reports will be compiled for each project.

In line with the above, as a registered Interested and Affected Party (I&AP) on the project database, you are hereby notified of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects for a 30-day review period, which will extend from **25 September 2015** to **27 October 2015**.

Please find attached the following:  
- Executive Summary of each Scoping Report;

- Letter 2 to I&APs; and
- Comment and Registration Form.

Hard copies of the Scoping Reports are available for public viewing at the Kenhardt Library (in Park Street) and the Groblershoop Library (at 97 Oranje Street).

In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **27 October 2015**.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**Proof of Delivery of Email 2 sent to all I&APs on 23 September 2015**

Message Id: 5602A91C.47F : 179 : 65115  
 Subject: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@csir.co.za  
 Scheduled Date:  
 Creation Date: 23/09/2015 15:29  
 From: Rohalda Abed

**Recipients:**

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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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To: Rohaida Abed RAbed@csir.co.za)	Read	23/09/2015 15:29
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Post Offices

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Post Office	Delivered	Route
agri.ncape.gov.za		agri.ncape.gov.za
agric.co.za		agric.co.za
ahedstrading.co.za		ahedstrading.co.za
birdlife.org.za		birdlife.org.za
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Comment and Response Form_Scater Solar_NC.pdf	86616	22/09/2015 11:15
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MESSAGE	5672	23/09/2015 16:29
Scater Solar PV1_SR_SUMMARY.pdf	191656	21/09/2015 11:42
Scater Solar PV2_SR_SUMMARY.pdf	191331	21/09/2015 11:39
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Concatenated Subject:	No
Expiration Date:	None
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Priority:	Standard
Reply requested by:	None
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To Be Delivered:	Immediate


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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Page 1 of 1

Message Id: 5602B75B.85A : 179 : 65115  
 Subject: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@csir.co.za  
 Scheduled Date:  
 Creation Date: 23/09/2015 16:29  
 From: Rohaida Abed

**Recipients:**

Recipient	Action	Date & Time	Comment
 agrnk.co.za	Transferred	23/09/2015 16:30	
To: onhvango@agnrk.co.za onhvango@agnrk.co.za)	Delivered	23/09/2015 16:31	

**Post Offices**

Post Office	Delivered	Route
agnrk.co.za		agnrk.co.za

**Files**

File	Size	Date & Time
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CSIR Letter 2 to ISAPs_Scotec Solar NC.pdf	136665	23/09/2015 11:55
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Scotec Solar PV2_SR_SUMMARY.pdf	191331	21/09/2015 11:39
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**Options**



Auto Delete: No  
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 Expiration Date: None  
 Notify Recipients: Yes  
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**Record Id**



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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Proof of Correspondence with I&APs (Courier Waybills and Receipt of Hard Copy and/or CD copy of the Scoping Report, Letter 2, Comment and Registration Form and Executive Summary)**


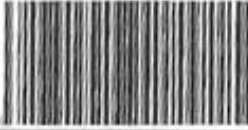
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COMPANY NAME: CSIR - STELLENBOSCH		COMPANY NAME: Nat Dept of Env Affairs; Integrated Environmental		X		X	X
STREET ADDRESS: JAN CILLIERS STR		STREET ADDRESS: Authorisations - Environmental House;		X		X	X
CITY: STELLENBOSCH		CITY: 473 Steve Biko Rd; Arcadia		X		X	X
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POST/ZIP CODE: 7599		POST/ZIP CODE: 0001		X		X	X
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AIRFREIGHT		ROAD FREIGHT 48-96 HRS		AFTER HOURS			
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AMOUNT:		DATE: [Date]		DATE: [Date]		DATE: [Date]	



TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY

		Head Office: Johannesburg 0961 388 883 Branches: Bloemfontein East London Polokwane Brisa George Port Elizabeth Cape Town Nelspruit Pretoria Durban Pietermaritzburg Richards Bay www.globeflight.com Reg. No. 1998/009052/07/ VAT NO. 4650175351				2714273927	
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COMPANY NAME: CSIR - STELLENBOSCH		COMPANY NAME: Dept of Env Affairs; Integrated Environmental		X		X	X
STREET ADDRESS: JAN CILLIERS STR		STREET ADDRESS: Authorisations - Environmental House		X		X	X
CITY: STELLENBOSCH		CITY: 473 Steve Biko Road; Arcadia		X		X	X
CPT COUNTRY: RSA		COUNTRY: S.A.		X		X	X
POST/ZIP CODE: 7599		POST/ZIP CODE: 0001		X		X	X
TELEPHONE NUMBER & E-MAIL: 021 888 2400		TELEPHONE NUMBER & E-MAIL: 012 - 399 9300		IMPORT & EXPORT CODE		SPECIAL SERVICES	
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AIRFREIGHT		ROAD FREIGHT 48-96 HRS		AFTER HOURS			
CROSS BORDER ROAD FREIGHT		CUSTOMS VALUE		RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS		RECEIVED IN GOOD ORDER AND CONDITION	
HAZARDOUS CARGO? YES NO		SIGNATURE: A Taylor		SIGNATURE: [Signature]		CONSIGNEE SIGNATURE:	
INSURANCE YES NO		DATE: [Date]		DATE: [Date]		DATE: [Date]	
AMOUNT:		DATE: [Date]		DATE: [Date]		DATE: [Date]	

TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

		Head Office: Johannesburg 0861 388 883 Branches: Bloemfontein, East London, Polokwane, Bids, George, Port Elizabeth, Cape Town, Nelspruit, Pietermaritzburg, Durban, Richards Bay www.globoflight.com Reg. No. 1908/009052/07/ VAT NO: 4650175351				2714273928	
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S. Laurie		A. Yaphi					
COMPANY NAME		COMPANY NAME					
CSIR - STELLENBOSCH		Prov Dept of Environment + Nature Conservation					
STREET ADDRESS		STREET ADDRESS					
JAN CILLIERS STR		Northern Cape; Sasko Building					
CITY		CITY					
STELLENBOSCH		Long Street 90					
CPT		Kinberley					
COUNTRY		COUNTRY					
RSA		S.A.					
POST/ZIP CODE		POST/ZIP CODE					
7599		8301					
TELEPHONE NUMBER & E-MAIL		TELEPHONE NUMBER & E-MAIL					
021 888 2400		053 - 807 7430					
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		A Taylor					
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YES NO		Taylor					
INSURANCE YES NO		DATE		DATE		DATE	
YES NO		TIME		TIME		TIME	
AMOUNT							
TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY							

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S. Laurie		Melinda Mei					
COMPANY NAME		COMPANY NAME					
CSIR - STELLENBOSCH		Dept of Water + Sanitation					
STREET ADDRESS		STREET ADDRESS					
JAN CILLIERS STR		Louisvale Road					
CITY		CITY					
STELLENBOSCH		Uptington					
CPT		COUNTRY		POST/ZIP CODE			
RSA		S.A.		8801			
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7599		054-338 5836					
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AIRFREIGHT		ROAD FREIGHT 48-96 HRS		AFTER HOURS			
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CUSTOMS VALUE		PRINT NAME		PRINT NAME		PRINT NAME	
		A Taylor					
HAZARDOUS CARGO? YES NO		SIGNATURE		SIGNATURE		CONSIGNEE SIGNATURE	
YES NO		Taylor					
INSURANCE YES NO		DATE		DATE		DATE	
YES NO		TIME		TIME		TIME	
AMOUNT							
TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY							





Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Globeflight**  
24 seven 365

Head Office: Johannesburg 0861 388 883  
Branches: Bloemfontein East London George Nelspruit Pietermaritzburg Durban Polokwane Port Elizabeth Pretoria Richards Bay  
www.globeflight.com  
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2714273932

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COMPANY NAME CSIR - STELLENBOSCH			COMPANY NAME SKA - Head: Strategy					
STREET ADDRESS JAN CILLIERS STR			STREET ADDRESS 17 Baker Street					
CITY STELLENBOSCH			CITY Rosebank					
COUNTRY RSA			COUNTRY S.A.			POST/ZIP CODE 7599 2196		
TELEPHONE NUMBER & E-MAIL 021 888 2400			TELEPHONE NUMBER & E-MAIL 011-442 2434					
GLOBAL DOCUMENT EXPRESS			OVERNIGHT EXPRESS			SAME DAY		
GLOBAL PARCEL EXPRESS			IN CITY DELIVERY			DAWN DELIVERY BY 09H00		
GLOBAL MAIL			BUDGET CARGO 24-48 HRS			SATURDAY DELIVERY		
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CROSS BORDER ROAD FREIGHT			CUSTOMS VALUE					
HAZARDOUS CARGO? YES NO			WE HAVE SEEN AND AGREE TO THE STANDARD CONDITIONS OF CARRIAGE OF GLOBEFLIGHT WORLDWIDE EXPRESS			RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS		
INSURANCE YES NO			PRINT NAME A Taylor			PRINT NAME		
AMOUNT:			SIGNATURE A Taylor			SIGNATURE		
			DATE 30/09/2015			DATE		

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**Globeflight**  
24 seven 365

Head Office: Johannesburg 0861 388 883  
Branches: Bloemfontein East London George Nelspruit Pietermaritzburg Durban Polokwane Port Elizabeth Pretoria Richards Bay  
www.globeflight.com  
Reg. No. 1998/009052/07/ VAT NO. 4850175351

2714273933

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COMPANY NAME CSIR - STELLENBOSCH			COMPANY NAME Groblershoop Library					
STREET ADDRESS JAN CILLIERS STR			STREET ADDRESS 97 Oranje Street					
CITY STELLENBOSCH			CITY Groblershoop					
COUNTRY RSA			COUNTRY S.A.			POST/ZIP CODE 7599 8850		
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			DATE 30/09/2015			DATE		

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**Copies and Proof of Correspondence Sent to I&APs for the Release of the Addendum to the Scoping Report for I&AP Review (6 October 2015)**

**Email 3 sent to all I&APs on 6 October 2015**

**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**BC** Clive.Stephenson@transnet.net; CloeteS@dws.gov.za; GeerinJH@eskom.co.za; Gilbert.Nortier@transnet.net; HaarhL@eskom.co.za; JacolineMa@daff.gov.za; Laurie, Surina; LeaskK@eskom.co.za; MRabothata@environment.gov.za; Marina.Lourens@transnet.net; MashuduMa@daff.gov.za; Mayvyn.Bhana@transnet.net; MeiM@dwa.gov.za; MelanieM@L2B.co.za; ThokoB@daff.gov.za; WyngaaJO@eskom.co.za; aditeme@agri.ncape.gov.za; admin@grasslands.org.za; advocacy@birdlife.org.za; ameliastrauss2@gmail.com; andre.vanniekerk10@gmail.com; annelizac@nda.agric.za; atiplady@ska.ac.za; boozahunter@yahoo.com; claude@veroniva.co.za; ernest.connan@donco.co.za; fpr@bodr.gov.za; hendri@aheadtrading.co.za; jdbhenrohn@gmail.com; jhjs@webmail.co.za; karen@mulilo.com; klawrence@trpw.ncape.gov.za; kraines@mweb.co.za; l.ntsolo@sanbi.org.za; marcyroxnpc@gmail.com; messop@environment.gov.za; mitchell.hodgson@scatecsolar.com; mm@kaigarib.gov.za; mmathews@ncpg.gov.za; mndzilili@ncpg.gov.za; monica.lepheane@labour.gov.za; ncagric@worldonline.co.za; nhlakad@daff.gov.za; nyaphi@ncpg.gov.za; ontvangs@agrink.co.za; peter.buys@nersa.org.za; ratha.timothy@gmail.com; rwarie@ncpg.gov.za; sb@siyanda.gov.za; sdelafontaine@gmail.com; sharon@nocci.co.za; smbanjwa@ncpg.gov.za; straussdj@orientis.co.za; strohl@caa.co.za; teresascheepers@vodamail.co.za; townsendmorgan029@gmail.com; waltjc@nra.co.za; wep@ewt.org.za  
**Date:** 06/10/2015 16:25  
**Subject:** Release of Addendum to Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** Scatec Solar PV1\_DSR\_Addendum\_FINAL.pdf; Scatec Solar PV2\_DSR\_Addendum\_FINAL.pdf; Scatec Solar PV3\_DSR\_Addendum\_FINAL.pdf; Comment and Response Form\_Scatec Solar\_NC\_FINAL.pdf

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF AN ADDENDUM TO THE SCOPING REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2, AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR REFERENCE:** EMS0102/SCATEC/2015

This e-mail correspondence serves to inform you of the release of an Addendum to the Scoping Reports for the three proposed 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The Project Applicant is Scatec Solar SA 330 (PTY) Ltd for Kenhardt PV 1, Scatec Solar SA 350 (PTY) Ltd for Kenhardt PV 2 and Scatec Solar SA 370 (PTY) Ltd for Kenhardt PV 3.

As you are aware, in terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. The CSIR has been appointed by the Project Applicant to undertake the separate requisite Basic Assessment, and Scoping and EIA Processes for the proposed projects.

As a registered Interested and Affected Party (I&AP) on the project database, you were notified on 23 September 2015 via email and registered mail of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects for a 30-day review period, which extends from 25 September 2015 to 27 October 2015.

However, a pre-application meeting was held with the National Department of Environmental Affairs (DEA) on 17 September 2015 to discuss the proposed projects and requirements for the Basic Assessment, and Scoping and EIA Phases. The CSIR compiled notes of the pre-application meeting and submitted it to the DEA on 23 September 2015 for review and acceptance. Due to the fact that no significant issues were raised during the pre-application meeting that

was not addressed in the Scoping Reports for the proposed projects, the Scoping Reports were sent out for public comment for 30 days as noted above.

Subsequent to this, the DEA provided comments on the meeting notes and approval thereof via email on 1 October 2015. As part of the comments received on the meeting notes, the DEA recommended that specialist studies should be included with the Scoping Report, which needs to be site specific (in terms of the applicable alternatives that have been considered in the Scoping Phase). As such, the CSIR has compiled an addendum to the Scoping Report for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects in order to provide the additional information, as per the DEA's request. It should be noted that the CSIR project team has undertaken the assessment of alternatives based on desktop literature, previous experience of working on Solar PV facilities and the specialist studies undertaken for the proposed Nieuwehoop Solar Development located adjacent to this proposed project.

**It is important to note that the Addendums do not present any new information that has not been used in the compilation of the Scoping Reports but serves to provide the DEA and I&APs with a more detailed assessment of how the preferred site location was determined.**

In line with the above, as a registered I&AP on the project database, you are hereby notified of the release of the Addendum to the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects to all registered I&APs and stakeholders for a 30-day review period, which will extend from **6 October 2015** to **5 November 2015**.

Please find attached the following:

- Kenhardt PV 1 Addendum to the Scoping Report;
- Kenhardt PV 2 Addendum to the Scoping Report;
- Kenhardt PV 3 Addendum to the Scoping Report; and a
- Comment and Registration Form to facilitate the commenting process.

The above-mentioned project information can be accessed at the following website:  
**<http://www.csir.co.za/eia/ScatecSolarPV/>**

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **5 November 2015**.

Thank you and kind regards,

Rohaida Abed  
CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**Proof of Delivery of Email 3 sent to all I&APs on 6 October 2015**
























Message Id: 5613D9F7.AB3 : 179 : 65115  
 Subject: Release of Addendum to Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@cafr.co.za  
 Scheduled Date:  
 Creation Date: 06/10/2015 16:25  
 From: Rohalida Abed

**Recipients:**

Recipient	Action	Date & Time	Comment
agri.ncape.gov.za	Transferred	06/10/2015 16:26	
BC: adileme@agri.ncape.gov.za(adileme@agri.ncape.gov.za)	Delivered	06/10/2015 16:27	
agrink.co.za	Transferred	06/10/2015 16:26	
BC: ontvangs@agrink.co.za(ontvangs@agrink.co.za)	Delivered	06/10/2015 16:42	
aheadtrading.co.za	Transferred	06/10/2015 16:26	
BC: hendri@aheadtrading.co.za(hendri@aheadtrading.co.za)	Delivered	06/10/2015 16:27	
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caa.co.za	Transferred	06/10/2015 16:26	
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BC: wep@ewt.org.za(wep@ewt.org.za)	Delivered	06/10/2015 16:44	
gmail.com	Transferred	06/10/2015 16:26	
BC: amelastrauss2@gmail.com(ameIaStrauss2@gmail.com)	Delivered	06/10/2015 16:30	
BC: andre.vanniekerk10@gmail.com(andre.vanniekerk10@gmail.com)	Delivered	06/10/2015 16:30	
BC: jdbhenrohn@gmail.com(jdbhenrohn@gmail.com)	Delivered	06/10/2015 16:30	
BC: marcyroemp@gmail.com(marcyroemp@gmail.com)	Delivered	06/10/2015 16:30	
BC: ratha.timothy@gmail.com(ratha.timothy@gmail.com)	Delivered	06/10/2015 16:30	
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grasslands.org.za	Transferred	06/10/2015 16:26	
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BC: MelanieM@L2B.co.za(MelanieM@L2B.co.za)	Delivered	06/10/2015 16:27	

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Page 2 of 3

 labour.gov.za	Transferred	06/10/2015 16:26
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Addendum to the Scoping Report for Kenhardt PV 1 sent with Email 3 on 6 October 2015

# ADDENDUM TO SCOPING REPORT



## **Scoping and Environmental Impact Assessment**

for the Proposed Development of a  
75 MW Solar Photovoltaic Facility  
(KENHARDT PV 1) on the remaining  
extent of Onder Rugzeer Farm 168,  
north-east of Kenhardt, Northern  
Cape Province

*Prepared for:*  
Scatec Solar SA 330 (PTY) Ltd

CSIR Report No.: CSIR/CAS/EMS/ER/2015/0007/B

October 2015



# report details

Title:	<b>Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province: ADDENDUM TO SCOPING REPORT</b>
Prepared for:	The Scoping Report for the proposed Kenhardt PV 1 project is being made available to all stakeholders for a 30-day review period, extending from 25 September 2015 to 27 October 2015. Additional information has been requested by the National Department of Environmental Affairs, and as such, this addendum has been compiled by the CSIR. This Addendum to the Scoping Report for the proposed Kenhardt PV 1 project will be made available to I&APs from <b>6 October 2015 to 5 November 2015</b> .
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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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## 1. PURPOSE OF THIS ADDENDUM

A pre-application meeting was held with the National Department of Environmental Affairs (DEA) (i.e. Herman Alberts and Mmamohale Kabasa) and the CSIR on 17 September 2015 at the DEA's offices to discuss the proposed projects (i.e. Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 and their associated electrical infrastructure) and requirements for the Basic Assessment, and Scoping and EIA Phases. The CSIR compiled notes of the pre-application meeting and submitted it to the DEA on 23 September 2015 for review and acceptance. Due to the strict timeframes for this project and the fact that no significant issues were raised during the pre-application meeting that was not addressed in the Scoping Report for this project, the Scoping Report was sent out for public comment for 30 days (25 September 2015 to 27 October 2015). Subsequent to this, the DEA provided comments on the meeting notes and approval thereof via email on 1 October 2015. As part of the comments received on the meeting notes, the DEA recommended that specialist studies should be included with the Scoping Report, which needs to be site specific. The need for specialist studies in this regard is related to the assessment of applicable alternatives that have been considered in the Scoping Phase in order to determine the preferred alternatives.

This Addendum to the Scoping Report has been compiled to provide the additional information, as per the DEA's request. It should be noted that the CSIR project team has undertaken this assessment based on desktop literature, previous experience of working on Solar PV facilities and the specialist studies undertaken for the proposed Nieuwehoop Solar Development located adjacent to this proposed project.

This Addendum to the Scoping Report only discusses the proposed **Kenhardt PV 1** project and must be read in conjunction with the project's Scoping Report.

It is important to note that Chapter 5 of the Scoping Report provides a detailed explanation of the advantages and disadvantages of the location alternatives of the proposed PV projects. Furthermore, specialist input (i.e. Terrestrial Ecology, Aquatic Ecology, Avifauna, Visual Landscape, Archaeology and Palaeontology, Geohydrology, Soils and Agricultural Land, and Social Aspects) has also been provided and integrated into the following chapters of the Scoping Report:

- Chapter 3 - Description of the Affected Environment;
- Chapter 6 - Issues and Potential Impacts; and
- Chapter 8 - Plan of Study for EIA.

Therefore, this document (i.e. Addendum to the Scoping Report for Kenhardt PV 1), aims to address the additional comments from the DEA (as requested on 1 October 2015) and to provide the following (in line with Appendix 2 (2) (h) of the 2014 EIA Regulations):

- 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; and
- 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.

It is important to note that the following aspects (in line with Appendix 2 (2) (h) of the 2014 EIA Regulations) have been addressed in Chapter 5 (i.e. Project Alternatives) of the Scoping Reports:

- 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;
- the outcome of the site selection matrix;
- motivation for not considering certain alternatives; and

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

- a concluding statement indicating the preferred alternatives, including preferred location of the activity.

It is therefore important to note that this Addendum does not present new information that have not been used in the compilation of the Scoping Report but serves to provide the DEA and Interested and Affected Parties (I&APs) with a more detailed assessment of how the preferred site location was determined.

## 2. METHODOLOGY FOR THE ASSESSMENT OF ALTERNATIVES

The following methodology has been adopted to rank and determine the nature, significance, consequences, extent, duration and probability of the potential impacts and risks identified for each of the **location alternatives** identified (i.e. Kenhardt PV 1b). As noted in Chapter 5 of the Scoping Report, applicable and relevant technology alternatives will be described during the EIA Phase, such as those relating to the mounting system. This Addendum therefore only relates to the assessment of the location alternatives considered by the Applicant.

A risk assessment approach was used to preliminarily assess (at a scoping level) the potential risks/impacts that the proposed development may impose on the receiving environment. Potential issues have been identified and assessed based on available information on generally expected impacts associated with solar PV facilities. As noted above, information was mainly sourced from existing specialist studies as part of EIAs carried out in the surrounding area (such as the proposed Nieuwehoop Solar Development located adjacent to this proposed project).

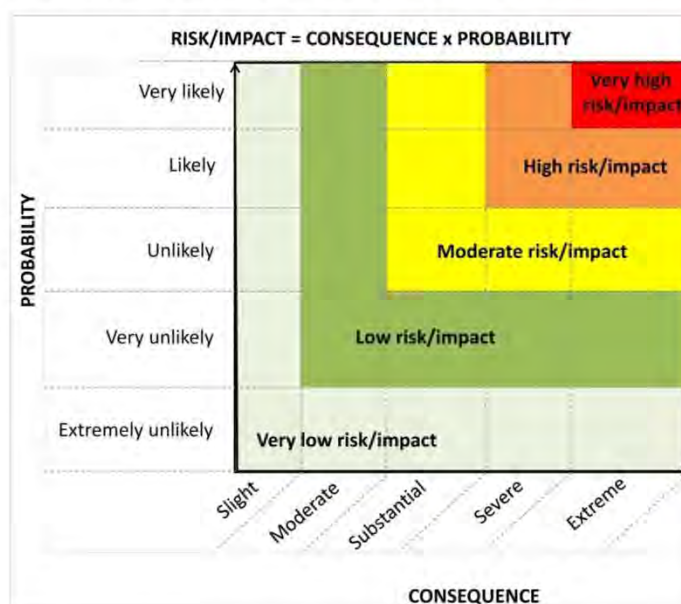


Figure 1: Guide to assessing risk/impact significance as a result of consequence and probability.

The risk assessment approach followed for this Scoping Phase incorporates internationally recognised methods from the Intergovernmental Panel on Climate Change (IPCC) (2014) assessment of the effects of climate change. The approach is based on an interpretation of existing information in relation to the proposed activity, to generate an integrated picture of the risks related to a specified activity in a given location, with and without mitigation. Risk is assessed for each significant stressor (e.g. physical disturbance), on each different type of receiving entity (e.g. the municipal capacity, a sensitive wetland), qualitatively (very low, low, moderate, high, and very high) against a predefined set of criteria (i.e. probability and consequence), as indicated in Figure 1.

The following criteria have been considered in the assessment of risk/impacts of the location alternatives:

- Status - Whether the risk/impact on the overall environment will be:
  - Positive - environment overall will benefit from the impact; or
  - Negative - environment overall will be adversely affected by the impact.
- Spatial extent - The size of the area that will be affected by the risk/impact:
  - Site;
  - Local (<10 km from site);
  - Regional (<100 km of site);
  - National; or
  - International (e.g. Greenhouse Gas emissions or migrant birds).
- Duration - The timeframe during which the risk/impact will be experienced:
  - Very short term (instantaneous);
  - Short term (less than 1 year);
  - Medium term (1 to 10 years);
  - Long term (the impact will occur for the project duration); or
  - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient (i.e. the impact will occur beyond the project decommissioning)).
- Consequence - The anticipated consequence of the risk/impact:
  - Slight;
  - Moderate;
  - Substantial;
  - Severe; and
  - Extreme.
- Probability - The probability of the impact occurring:
  - Very likely;
  - Likely;
  - Unlikely;
  - Very unlikely; and
  - Extremely unlikely.
- Reversibility of the Impacts - the extent to which the risks/impacts are reversible assuming that the project has reached the end of its life cycle (decommissioning phase):
  - Yes: High reversibility of impacts (impact is highly reversible at end of project life);
  - Partially: Moderate reversibility of impacts; or
  - No: Impacts are non-reversible (impact is permanent).
- Irreplaceability of Receiving Environment/Resource Loss caused by risk/impacts - the degree to which the impact causes irreplaceable loss of resources assuming that the project has reached the end of its life cycle (decommissioning phase):
  - High irreplaceability of resources (project will destroy unique resources that cannot be replaced);

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

- Moderate irreplaceability of resources; or
- Low irreplaceability of resources.

The significance of the risk/impact is then determined through a combination of the consequence and probability and is rated qualitatively as follows:

- Very low (the risk/impact may result in very minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making);
- Low (the risk/impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making);
- Moderate (the risk/impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated);
- High (the risk/impact will result in major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making); and
- Very high (the impact will result in very major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making (i.e. the project cannot be authorised unless major changes to the engineering design are carried out to reduce the significance rating)).

Please note that impacts with a positive status (e.g. employment opportunities and diversified economy) may also be indicated as being high or very high. In these cases high and very high ratings are desirable and indicate benefits to the particular receiving environment.

With the implementation of mitigation measures, the residual impacts/risks are ranked as follows in terms of significance:

- Very low = 5;
- Low = 4;
- Moderate = 3;
- High = 2; and
- Very high = 1.

It must be noted that the results of this high-level preliminary impact assessment (which has been conducted by the CSIR project team based on existing information) will be verified by relevant specialists during the EIA Phase. Refer to Chapter 8 of the Scoping Report for the Terms of Reference for the specialist studies that will be undertaken during the EIA Phase. Section 3 below provides the results of the alternatives assessment.

### 3. ASSESSMENT OF LOCATION ALTERNATIVES

Table 1 below shows the assessment of the potential impacts and risks for the location alternatives in terms of nature, significance, consequences, extent, duration and probability.

# Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Table 1: Assessment of Impacts/Risks of the Location Alternatives Identified for the proposed project**

Impact Pathway	Nature of the Potential Impact/Risk	Alternative Site	Status	Phase (Construction, Operation and Decommissioning)	Spatial Extent	Duration	Consequence	Probability	Significance of Impact/Risk (Without Mitigation)	Reversibility	Irreplaceability	Can the Impact/Risk be Avoided?	Can the Impact/Risk be Mitigated/Managed?	Potential Mitigation Measures	Significance of Residual Impact/Risk (With Mitigation)	Ranking of Significance of Residual Impact/Risk (With Mitigation)
<b>Biophysical</b>																
Clearing of approximately 250 ha of vegetation	Habitat and species loss	Kenhardt PV 1 (Preferred)	Negative	Construction Phase	Site	Medium Term	Substantial	Very likely	Moderate	Yes (Rehabilitation after decommissioning)	Moderate	No	Yes	<ul style="list-style-type: none"> <li>Implement a plant search and rescue programme prior to the commencement of construction and vegetation clearing.</li> </ul>	Moderate	3
		Kenhardt PV 1b (Alternative)	Negative	Construction Phase	Site	Medium Term	Substantial	Very likely	Moderate	Yes (Rehabilitation after decommissioning)	Moderate	No	Yes	<ul style="list-style-type: none"> <li>Implement a plant search and rescue programme prior to the commencement of construction and vegetation clearing.</li> </ul>	Moderate	3
	Exposed soil susceptible to erosion	Kenhardt PV 1 (Preferred)	Negative	Construction and Decommissioning Phases	Site	Long Term	Slight	Very likely	Very Low	Yes (Rehabilitation after decommissioning)	Low	Yes	Yes	<ul style="list-style-type: none"> <li>Implement an Erosion Management Plan during the construction and decommissioning phases.</li> <li>Implement an effective system of run-off control (where required).</li> <li>Undertake vegetation removal in a systematic, sequential manner, in order to avoid bare soil for long periods.</li> </ul>	Very low	5
		Kenhardt PV 1b (Alternative)	Negative	Construction and Decommissioning Phases	Site	Long Term	Slight	Very likely	Very Low	Yes (Rehabilitation after decommissioning)	Low	Yes	Yes	<ul style="list-style-type: none"> <li>Implement an Erosion Management Plan during the construction and decommissioning phases.</li> <li>Implement an effective system of run-off control (where required).</li> <li>Undertake vegetation removal in a systematic, sequential manner, in order to avoid bare soil for long periods.</li> </ul>	Very low	5
Excavation of watercourses	Habitat and species loss	Kenhardt PV 1 (Preferred)	Negative	Construction and Decommissioning Phases	Local	Long-term	Substantial	Extremely unlikely	Very Low	Partially (Rehabilitation after decommissioning)	Low (No NFEPA Wetlands)	Yes	Yes	<ul style="list-style-type: none"> <li>Adoptive project design to avoid watercourses and wetlands (if any).</li> <li>The site layout needs to accommodate the need for effective setbacks of the development and its infrastructure from the aquatic habitats.</li> <li>Management of flows into any wetlands or drainage areas should be such that the development, regardless of extent of setback, does not result in any impacts to sensitive aquatic systems.</li> </ul>	Very low	5
		Kenhardt PV 1b (Alternative)	Negative	Construction and Decommissioning Phases	Local	Long-term	Substantial	Extremely unlikely	Very Low	Partially (Rehabilitation after decommissioning)	Low (No NFEPA Wetlands)	Yes	Yes	<ul style="list-style-type: none"> <li>Adoptive project design to avoid watercourses and wetlands (if any).</li> <li>The site layout needs to accommodate the need for effective setbacks of the development and its infrastructure from the aquatic habitats.</li> <li>Management of flows into any wetlands or drainage areas should be such that the development, regardless of extent of setback, does not result in any impacts to sensitive aquatic systems.</li> </ul>	Very low	5
Water Runoff	Altered hydrological regime and water quality	Kenhardt PV 1 (Preferred)	Negative	Construction, Operations and Decommissioning Phases	Local	Long-term	Substantial	Unlikely	Moderate	Partially (Rehabilitation after decommissioning)	Low (No NFEPA Wetlands)	No	Yes	<ul style="list-style-type: none"> <li>Chemical storage containers must be regularly inspected to ensure that leaks are detected early.</li> <li>Chemicals must be stored in impermeable, bunded areas.</li> </ul>	Very low	5

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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Impact Pathway	Nature of the Potential Impact/Risk	Alternative Site	Status	Phase (Construction, Operation and Decommissioning)	Spatial Extent	Duration	Consequence	Probability	Significance of Impact/Risk (Without Mitigation)	Reversibility	Irreplaceability	Can the Impact/Risk be Avoided?	Can the Impact/Risk be Mitigated/Managed?	Potential Mitigation Measures	Significance of Residual Impact/Risk (With Mitigation)	Ranking of Significance of Residual Impact/Risk (With Mitigation)
		Kenhardt PV 1b (Alternative)	Negative	Construction, Operations and Decommissioning Phases	Local	Long-term	Substantial	Very unlikely	Low	Partially (Rehabilitation after decommissioning)	High (based on expected sparse alien invasive plants)	No	Yes	<ul style="list-style-type: none"> <li>Littering and contamination of water sources during construction must be prevented by effective construction camp management.</li> <li>No stockpiling should take place within a watercourse.</li> <li>All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised.</li> <li>Stockpiles and abatement facilities must be located away from river channels i.e. further than 32 m away.</li> </ul>	Very low	5
		Kenhardt PV 1 (Preferred)	Negative	Construction, Operations and Decommissioning Phases	Local	Long-term	Severe	Very likely	High	Partially (Rehabilitation after decommissioning)	High (based on expected sparse alien invasive plants)	No	Yes	<ul style="list-style-type: none"> <li>Chemical storage containers must be regularly inspected to ensure that leaks are detected early.</li> <li>Chemicals must be stored in impermeable, bunded areas.</li> <li>Littering and contamination of water sources during construction must be prevented by effective construction camp management.</li> <li>No stockpiling should take place within a watercourse.</li> <li>All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised.</li> <li>Stockpiles and abatement facilities must be located away from river channels i.e. further than 32 m away.</li> </ul>	Very low	5
Disturbance of soils	Alien plant invasion in disturbed areas	Kenhardt PV 1 (Preferred)	Negative	Construction, Operations and Decommissioning Phases	Local	Long-term	Severe	Very likely	High	Partially (Rehabilitation after decommissioning)	High (based on expected sparse alien invasive plants)	No	Yes	<ul style="list-style-type: none"> <li>All plant and machinery should be cleaned at the contractor's depot / facilities before these are transported to the site.</li> <li>Clearing of vegetation should be kept to a minimum.</li> <li>An alien invasive management plan should be implemented to reduce the invasion of alien species and ensure that the continuous monitoring and removal of alien species is undertaken.</li> </ul>	Low	4
		Kenhardt PV 1b (Alternative)	Negative	Construction, Operations and Decommissioning Phases	Local	Long-term	Severe	Very likely	High	Partially (Rehabilitation after decommissioning)	Low (No NFEPA Wetlands)	Yes	Yes	<ul style="list-style-type: none"> <li>All plant and machinery should be cleaned at the contractor's depot / facilities before these are transported to the site.</li> <li>Clearing of vegetation should be kept to a minimum.</li> <li>An alien invasive management plan should be implemented to reduce the invasion of alien species and ensure that the continuous monitoring and removal of alien species is undertaken.</li> </ul>	Low	4
<b>Social</b>																
Impact of people (spokesters)	Disruption of social fabric (e.g. crime) and pressure on available services (e.g. schools)	Kenhardt PV 1 (Preferred)	Negative	Construction, Operations and Decommissioning Phases	Local	Medium-term	Substantial	Very likely	Moderate	No	Moderate	No	Yes	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Plan.</li> <li>Reserve employment, where practical, for local residents.</li> <li>Develop and implement a Stakeholder Engagement Plan.</li> </ul>	Low	4

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## APPENDIX E - Correspondence sent to I&APs



# Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Impact Pathway	Nature of the Potential Impact/Risk	Alternative Site	Status	Phase (Construction, Operation and Decommissioning)	Spatial Extent	Duration	Consequence	Probability	Significance of Impact/Risk (Without Mitigation)	Reversibility	Irreplacability	Can the Impact/Risk be Avoided?	Can the Impact/Risk be Mitigated/Managed?	Potential Mitigation Measures	Significance of Residual Impact/Risk (With Mitigation)	Ranking of Significance of Residual Impact/Risk (With Mitigation)
Housing	Increased employment opportunities	Kenhardt PV 1b (Alternative)	Negative	Construction, Operations and Decommissioning Phases	Local	Medium-term	Substantial	Very Likely	Moderate	No	Moderate	No	Yes	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Plan.</li> <li>Retain employment, where practical, for local residents.</li> <li>Develop and implement a Stakeholder Engagement Plan.</li> </ul>	Low	4
		Kenhardt PV 1 (Preferred)	Positive	Construction, Operations and Decommissioning Phases	Local	Medium-term	Severe	Very Likely	High (Positive)	Partially	Low	Not Applicable (Positive Impact)	Not Applicable (Positive Impact)	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Policy.</li> </ul>	Very High (Positive)	1
Labour required for project development and operation	Increased employment opportunities	Kenhardt PV 1b (Alternative)	Positive	Construction, Operations and Decommissioning Phases	Local	Medium-term	Severe	Very Likely	High (Positive)	Partially	Low	Not Applicable (Positive Impact)	Not Applicable (Positive Impact)	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Policy.</li> </ul>	Very High (Positive)	1
		Kenhardt PV 1 (Preferred)	Negative	Operations Phase	Local	Long-term	Slight	Unlikely	Very Low	Partially (water re-use and recycling)	High	No	Yes	<ul style="list-style-type: none"> <li>Utilise the boreholes as per the recommended sustainable yields and avoid over abstraction of any one borehole.</li> <li>Monitor the borehole water levels and abstraction volumes.</li> </ul>	Very Low	5
Potential water use for panel cleaning and maintenance	Impact on the stressed regional water resource	Kenhardt PV 1b (Alternative)	Negative	Operations Phase	Local	Long-term	Slight	Unlikely	Very Low	Partially (water re-use and recycling)	High	No	Yes	<ul style="list-style-type: none"> <li>Utilise the boreholes as per the recommended sustainable yields and avoid over abstraction of any one borehole.</li> <li>Monitor the borehole water levels and abstraction volumes.</li> </ul>	Very Low	5
		Kenhardt PV 1 (Preferred)	Positive	Operations Phase	Local	Long-term	Slight	Unlikely	Very Low	Partially (water re-use and recycling)	High	No	Yes	<ul style="list-style-type: none"> <li>Utilise the boreholes as per the recommended sustainable yields and avoid over abstraction of any one borehole.</li> <li>Monitor the borehole water levels and abstraction volumes.</li> </ul>	Very Low	5
<b>Agriculture</b>																
Clearing of land for project construction	Loss of agricultural land	Kenhardt PV 1 (Preferred)	Negative	Construction Phase	Site	Long-term	Slight	Very Likely	Very Low	Yes	Low	No	Yes	<ul style="list-style-type: none"> <li>Limit the development footprint to the area strictly required for optimal operations. Limit unnecessary disturbance outside of the proposed project area.</li> </ul>	Very Low	5
		Kenhardt PV 1b (Alternative)	Negative	Construction Phase	Site	Long-term	Slight	Very Likely	Very Low	Yes	Low	No	Yes	<ul style="list-style-type: none"> <li>Limit the development footprint to the area strictly required for optimal operations. Limit unnecessary disturbance outside of the proposed project area.</li> </ul>	Very Low	5
<b>Economic</b>																
Diversification of land use to include renewable energy together with agriculture and other economic revenues	Increased land use income	Kenhardt PV 1 (Preferred)	Positive	Operations Phase	Site	Long-term	Severe	Very Likely	High (Positive)	Partially	Not applicable	Not Applicable (Positive Impact)	Not Applicable (Positive Impact)	<ul style="list-style-type: none"> <li>Ensure proper maintenance of the facility to ensure optimal operations during the operational phase and to ensure that the proposed facility operates within its design capacity to deliver as the market requires.</li> </ul>	Very High (Positive)	1
		Kenhardt PV 1b (Alternative)	Positive	Operations Phase	Site	Long-term	Severe	Very Likely	High (Positive)	Partially	Not applicable	Not Applicable (Positive Impact)	Not Applicable (Positive Impact)	<ul style="list-style-type: none"> <li>Ensure proper maintenance of the facility to ensure optimal operations during the operational phase and to ensure that the proposed facility operates within its design capacity to deliver as the market requires.</li> </ul>	Very High (Positive)	1
Project expenditure (including direct capital investment, and compulsory social investment)	Investment and growth in local economy	Kenhardt PV 1 (Preferred)	Positive	Construction, Operations and Decommissioning Phases	Regional	Long-term	Severe	Very Likely	High (Positive)	Partially	Not applicable	Not Applicable (Positive Impact)	Not Applicable (Positive Impact)	<ul style="list-style-type: none"> <li>Encourage and focus the implementation of Corporate Social Investment on a local scale.</li> </ul>	Very High (Positive)	1
		Kenhardt PV 1b (Alternative)	Positive	Construction, Operations and Decommissioning Phases	Regional	Long-term	Severe	Very Likely	High (Positive)	Partially	Not applicable	Not Applicable (Positive Impact)	Not Applicable (Positive Impact)	<ul style="list-style-type: none"> <li>Encourage and focus the implementation of Corporate Social Investment on a local scale.</li> </ul>	Very High (Positive)	1

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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Impact Pathway	Nature of the Potential Impact/Risk	Alternative Site	Status	Phase (Construction, Operation and Decommissioning)	Spatial Extent	Duration	Consequence	Probability	Significance of Impact/Risk (Without Mitigation)	Reversibility	Irreplacability	Can the Impact/Risk be Avoided?	Can the Impact/Risk be Mitigated/Managed?	Potential Mitigation Measures	Significance of Residual Impact/Risk (With Mitigation)	Ranking of Significance of Residual Impact/Risk (With Mitigation)
Development of the proposed facility on private land	Decreased property values	Kenhardt PV 1 (Preferred)	Negative	Construction, Operations and Decommissioning Phases	Site	Long-term	Substantial	Very Likely	Moderate	Yes	Not applicable	No	Yes	<ul style="list-style-type: none"> <li>Ensure proper maintenance of the facility to ensure optimal operations during the operational phase to enhance the significance of the impact.</li> </ul>	Moderate	3
		Kenhardt PV 1b (Alternative)	Negative	Construction, Operations and Decommissioning Phases	Site	Long-term	Substantial	Very Likely	Moderate	Yes	Not applicable	No	Yes	<ul style="list-style-type: none"> <li>Ensure proper maintenance of the facility to ensure optimal operations during the operational phase to enhance the significance of the impact.</li> </ul>	Moderate	3
<b>Heritage</b>																
Development of the proposed facility in the presence of sensitive heritage resources	Disturbance, damage or destruction of fossils at surface or beneath the ground	Kenhardt PV 1 (Preferred)	Negative	Construction Phase	Site	Permanent	Slight	Likely	Very Low	No	Low	No	Yes	<ul style="list-style-type: none"> <li>Monitor all deeper (&gt; 1m) excavations into sedimentary rocks for fossil material.</li> <li>Fossil finds made during the construction phase should be safeguarded and reported to SAHRA for possible recording and sampling by a professional palaeontologist.</li> </ul>	Very Low	5
		Kenhardt PV 1b (Alternative)	Negative	Construction Phase	Site	Permanent	Slight	Likely	Very Low	No	Low	No	Yes	<ul style="list-style-type: none"> <li>Monitor all deeper (&gt; 1m) excavations into sedimentary rocks for fossil material.</li> <li>Fossil finds made during the construction phase should be safeguarded and reported to SAHRA for possible recording and sampling by a professional palaeontologist.</li> </ul>	Very Low	5
		Kenhardt PV 1 (Preferred)	Negative	Construction Phase	Site	Permanent	Moderate	Likely	Low	No	High	No	Yes	<ul style="list-style-type: none"> <li>Heritage material found during the construction phase should be safeguarded and reported to SAHRA for possible recording and sampling by a professional palaeontologist.</li> </ul>	Low	4
		Kenhardt PV 1b (Alternative)	Negative	Construction Phase	Site	Permanent	Moderate	Likely	Low	No	High	No	Yes	<ul style="list-style-type: none"> <li>Heritage material found during the construction phase should be safeguarded and reported to SAHRA for possible recording and sampling by a professional palaeontologist.</li> </ul>	Low	4
<b>Visual</b>																
Visual intrusion of the project during construction, operation and decommissioning (including night lighting)	Transformed visual landscape	Kenhardt PV 1 (Preferred)	Negative	Construction, Operations and Decommissioning Phases	Regional	Medium Term for Construction and Decommissioning Phase Long-term for Operational Phase	Substantial	Likely	Moderate	Yes	Low	No	Yes	<ul style="list-style-type: none"> <li>During the construction phase, undertake vegetation removal in a systematic, sequential manner, in order to avoid bare soil for long periods.</li> <li>During the operational phase, painted structures should be maintained.</li> </ul>	Low	4
		Kenhardt PV 1b (Alternative)	Negative	Construction, Operations and Decommissioning Phases	Regional	Medium Term for Construction and Decommissioning Phase Long-term for Operational Phase	Substantial	Likely	Moderate	Yes	Low	No	Yes	<ul style="list-style-type: none"> <li>During the construction phase, undertake vegetation removal in a systematic, sequential manner, in order to avoid bare soil for long periods.</li> <li>During the operational phase, painted structures should be maintained.</li> </ul>	Low	4

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## APPENDIX E - Correspondence sent to I&APs

## 4. CONCLUSION

Based on the above assessment, the preferred site for the project on the Remaining Extent of the Onder Rugzeer Farm 168 is the **Kenhardt PV 1** site. Whilst the impact significance ratings do not differ between the preferred and alternative sites, the preferred site will be selected for assessment in the EIA Phase based on the following:

- The alternative Kenhardt PV 1b site is located too far south from the Eskom Nieuwehoop Substation, which therefore significantly reduces the financial viability of the proposed project as additional costs are required for longer transmission lines. Longer power lines may also result in additional environmental impacts. Therefore, the closer the site is to the Eskom Nieuwehoop Substation will reduce potential economic and environmental impacts, and improve the feasibility of the proposed project.
- The alternative site is located closer to the landowner's residence, therefore it would be better to locate the proposed PV facility a greater distance from the farm house (i.e. at the preferred site) to enable a certain level of privacy.
- The alternative site lies closer to the main public road (i.e. R383), resulting in safety concerns, higher visual intrusion on the sense of place and increased risk of theft during the construction and operational phases.

Furthermore, as noted above, layout alternatives for the project within the preferred site will be determined following the input from the various specialist studies to be undertaken as part of the EIA Phase (the Terms of Reference for these studies are included in Chapter 8 of the Scoping Report). The studies will aim to identify various environmental sensitivities present on the preferred sites that should be avoided, which will be taken into account during the determination of the proposed layout of the PV facility.

## 5. REFERENCES

Intergovernmental Panel on Climate Change (IPCC). 2014. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge: Cambridge University Press.

**Comment and Registration Form sent with Email 3 on 6 October 2015**

BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3, KENHARDT PV 1 – TRANSMISSION LINE, KENHARDT PV 2 – TRANSMISSION LINE, AND KENHARDT PV 3 – TRANSMISSION LINE)

RELEASE OF ADDENDUM TO THE SCOPING REPORTS FOR KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3

CSIR REFERENCE: EMS0102/SCATEC/2015

Project Applicant: Scatec Solar SA 330 (PTY) Ltd, Scatec Solar SA 350 (PTY) Ltd, and Scatec Solar SA 370 (PTY) Ltd

**COMMENT AND REGISTRATION FORM**

6 October 2015

<b>Name:</b>	<b>Telephone:</b>
<b>Organisation:</b>	<b>Fax:</b>
<b>Designation:</b>	<b>Email:</b>
<b>Physical address:</b>	<b>Postal address:</b>

Please indicate if you would like to register as an Interested and Affected Party (I&AP) for the proposed projects. Registration is required in order to receive further correspondence during the Basic Assessment and Scoping and EIA Processes. Please tick the appropriate box.

YES  
NO

Please indicate if you have any interest (business, financial, personal or other) in the proposed projects and/or the Applications for Environmental Authorisation:

Please describe any issues or concerns you may have regarding the proposed projects, which you think should be considered during the Basic Assessment and Scoping and EIA Processes.

Please provide details of any other individuals or organisations that should be registered as I&APs:

Please complete this Comment and Registration Form by 5 November 2015 and submit it to:

Rohaida Abed  
CSIR  
Postal Address: P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2500  
E-mail: RAbed@csir.co.za  
Project Website: <http://www.csir.co.za/eia/ScatecSolarPV/>



**Proof of Correspondence with DEA (Courier Waybills and Receipt of Hard Copy and CD copy of the Addendum to the Scoping Report, sent with a Cover Letter and Comment and Registration Form)**



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9	Delivered - Signed for by : MOROTOLA	PRETORIA	09:15	1 Piece
8	With delivery courier	PRETORIA - SOUTH AFRICA	07:29	1 Piece
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6	Departed Facility in JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:22	1 Piece
5	Processed at JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:20	1 Piece
4	Arrived at Sort Facility JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	03:59	1 Piece
Tuesday, October 06, 2015		Location	Time	Piece
3	Departed Facility in DURBAN - SOUTH AFRICA	DURBAN - SOUTH AFRICA	19:52	1 Piece
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9	Delivered - Signed for by : MOROTOLA	PRETORIA	09:15	1 Piece
8	With delivery courier	PRETORIA - SOUTH AFRICA	07:29	1 Piece
7	Arrived at Delivery Facility in PRETORIA - SOUTH AFRICA	PRETORIA - SOUTH AFRICA	06:02	1 Piece
6	Departed Facility in JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:22	1 Piece
5	Processed at JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:20	1 Piece
4	Arrived at Sort Facility JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	03:59	1 Piece
Tuesday, October 06, 2015		Location	Time	Piece
3	Departed Facility in DURBAN - SOUTH AFRICA	DURBAN - SOUTH AFRICA	19:52	1 Piece
2	Processed at DURBAN - SOUTH AFRICA	DURBAN - SOUTH AFRICA	19:52	1 Piece
1	Shipment picked up	DURBAN - SOUTH AFRICA	16:56	1 Piece

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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



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Wednesday, October 07, 2015		Location	Time	Piece
9	Delivered - Signed for by : MOROTOLA	PRETORIA	09:15	1 Piece
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6	Departed Facility in JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:22	1 Piece
5	Processed at JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:20	1 Piece
4	Arrived at Sort Facility JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	03:59	1 Piece
Tuesday, October 06, 2015		Location	Time	Piece
3	Departed Facility in DURBAN - SOUTH AFRICA	DURBAN - SOUTH AFRICA	19:52	1 Piece
2	Processed at DURBAN - SOUTH AFRICA	DURBAN - SOUTH AFRICA	19:52	1 Piece
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**Follow-up Reminder Email sent to I&APs and Stakeholders on 26 October 2015 during the 30-day review of the Scoping Report and Addendum**

**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**BC** Clive.Stephenson@transnet.net; CloeteS@dws.gov.za; GeerinJH@eskom.co.za; Gilbert.Nortier@transnet.net; HaarhL@eskom.co.za; JacolineMa@daff.gov.za; Laurie, Surina; LeaskK@eskom.co.za; MRabothata@environment.gov.za; Marina.Lourens@transnet.net; MashuduMa@daff.gov.za; Mayvyn.Bhana@transnet.net; MeiM@dwa.gov.za; MelanieM@L2B.co.za; ThokoB@daff.gov.za; WyngaaJO@eskom.co.za; aditeme@agri.ncape.gov.za; admin@grasslands.org.za; advocacy@birdlife.org.za; ameliastrauss2@gmail.com; andre.vanniekerk10@gmail.com; annelizac@nda.agric.za; atiplady@ska.ac.za; boozahunter@yahoo.com; claude@veroniva.co.za; ernest.connan@donco.co.za; fpr@bodr.gov.za; hendri@aheadtrading.co.za; jdbhenrohn@gmail.com; jhjs@webmail.co.za; karen@mulilo.com; klawrence@trpw.ncape.gov.za; kraaines@mweb.co.za; l.ntsolo@sanbi.org.za; marcyroxnpc@gmail.com; messop@environment.gov.za; mitchell.hodgson@scatecsolar.com; mm@kaigarib.gov.za; mmathews@ncpg.gov.za; mndzilili@ncpg.gov.za; monica.lepheane@labour.gov.za; ncagric@worldonline.co.za; nhlakad@daff.gov.za; nyaphi@ncpg.gov.za; ontvangs@agrink.co.za; peter.buys@nersa.org.za; ratha.timothy@gmail.com; rwarie@ncpg.gov.za; sb@siyanda.gov.za; sdelafontaine@gmail.com; sharon@nocci.co.za; smbanjwa@ncpg.gov.za; straussdj@orientis.co.za; strohl@caa.co.za; teresascheepers@vodamail.co.za; townsendmorgan029@gmail.com; waltjc@nra.co.za; wep@ewt.org.za  
**Date:** 26/10/2015 14:09  
**Subject:** Re: Release of Addendum to Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Stakeholders and Interested and Affected Parties

The email correspondence sent on 23 September 2015 regarding the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects, as well as the email correspondence sent on 6 October 2015 (as shown below) regarding the release of the addendum to the aforementioned Scoping Reports, have reference.

This is a reminder that the comment period for the Scoping Reports and addendum closes on 27 October 2015 and 5 November 2015 respectively.

As noted in the email correspondence sent on 23 September 2015 and 6 October 2015, the reports available for comment can be accessed from the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Thank you and kind regards,

Rohaida Abed  
CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

>>> Rohaida Abed 06/10/2015 16:25 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF AN ADDENDUM TO THE SCOPING REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2, AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR REFERENCE:** EMS0102/SCATEC/2015

This e-mail correspondence serves to inform you of the release of an Addendum to the Scoping Reports for the three proposed 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the IKheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The Project Applicant is Scatec Solar SA 330 (PTY) Ltd for Kenhardt PV 1, Scatec Solar SA 350 (PTY) Ltd for Kenhardt PV 2 and Scatec Solar SA 370 (PTY) Ltd for Kenhardt PV 3.

As you are aware, in terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. The CSIR has been appointed by the Project Applicant to undertake the separate requisite Basic Assessment, and Scoping and EIA Processes for the proposed projects.

As a registered Interested and Affected Party (I&AP) on the project database, you were notified on 23 September 2015 via email and registered mail of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects for a 30-day review period, which extends from 25 September 2015 to 27 October 2015.

However, a pre-application meeting was held with the National Department of Environmental Affairs (DEA) on 17 September 2015 to discuss the proposed projects and requirements for the Basic Assessment, and Scoping and EIA Phases. The CSIR compiled notes of the pre-application meeting and submitted it to the DEA on 23 September 2015 for review and acceptance. Due to the fact that no significant issues were raised during the pre-application meeting that was not addressed in the Scoping Reports for the proposed projects, the Scoping Reports were sent out for public comment for 30 days as noted above.

Subsequent to this, the DEA provided comments on the meeting notes and approval thereof via email on 1 October 2015. As part of the comments received on the meeting notes, the DEA recommended that specialist studies should be included with the Scoping Report, which needs to be site specific (in terms of the applicable alternatives that have been considered in the Scoping Phase). As such, the CSIR has compiled an addendum to the Scoping Report for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects in order to provide the additional information, as per the DEA's request. It should be noted that the CSIR project team has undertaken the assessment of alternatives based on desktop literature, previous experience of working on Solar PV facilities and the specialist studies undertaken for the proposed Nieuwehoop Solar Development located adjacent to this proposed project.

**It is important to note that the Addendums do not present any new information that has not been used in the compilation of the Scoping Reports but serves to provide the DEA and I&APs with a more detailed assessment of how the preferred site location was determined.**

In line with the above, as a registered I&AP on the project database, you are hereby notified of the release of the Addendum to the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects to all registered I&APs and stakeholders for a 30-day review period, which will extend from **6 October 2015 to 5 November 2015**.

Please find attached the following:

- Kenhardt PV 1 Addendum to the Scoping Report;
- Kenhardt PV 2 Addendum to the Scoping Report;
- Kenhardt PV 3 Addendum to the Scoping Report; and a
- Comment and Registration Form to facilitate the commenting process.

The above-mentioned project information can be accessed at the following website:  
**<http://www.csir.co.za/eia/ScatecSolarPV/>**

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **5 November 2015**.

Thank you and kind regards,

Rohaida Abed  
CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**Proof of Delivery of the Reminder Email sent to all I&APs on 26 October 2015**
























Page 1 of 3

Message Id: 562E17F4.9A5 : 179 : 65115  
 Subject: Re: Release of Addendum to Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@eslr.co.za  
 Scheduled Date:  
 Creation Date: 26/10/2015 14:09  
 From: Rohalda Abed

**Recipients:**

Recipient	Action	Date & Time	Comment
agrincape.gov.za	Transferred	26/10/2015 14:09	
BC: aditeme@agrincape.gov.za(aditeme@agrincape.gov.za)	Delivered	26/10/2015 14:12	
agrlnk.co.za	Transferred	26/10/2015 14:09	
BC: onbvangs@agrlnk.co.za(onbvangs@agrlnk.co.za)	Delivered	26/10/2015 14:27	
aheadtrading.co.za	Transferred	26/10/2015 14:09	
BC: hendri@aheadtrading.co.za(hendri@aheadtrading.co.za)	Delivered	26/10/2015 14:13	
birdlife.org.za	Transferred	26/10/2015 14:09	
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bodr.gov.za	Transferred	26/10/2015 14:09	
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To: Rohaida Abedi(RAbedi@csir.co.za)	Read	25/10/2015 14:09	
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**Response and Follow-up Emails sent to I&APs and Stakeholders during the 30-day review of the Scoping Report and Addendum**

**Rohaida Abed - RE: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape**

**From:** Rohaida Abed  
**To:** SLD, Marina Lourens Transnet Freight Rail  
**Date:** 22/10/2015 17:06  
**Subject:** RE: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**CC:** Gilbert.Nortier@transnet.net  
**Attachments:** Kenhardt PV1.pdf; Kenhardt PV2.pdf; Kenhardt PV3.pdf

Dear Marina

I trust that you are well. As requested, please find attached three separate maps showing the TFR access road and the proposed project area. As noted in the trailing email, the Scoping Reports are available on the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Thanks and kind regards,  
Rohaida

>>> "Marina Lourens Transnet Freight Rail SLD" <Marina.Lourens@transnet.net> 25/09/2015 07:42  
>>>

Please send us three different drawings as this is 3 separate applications

**From:** Gilbert Nortier Transnet Freight Rail PLZ  
**Sent:** 24 September 2015 06:03 PM  
**To:** Marina Lourens Transnet Freight Rail SLD  
**Subject:** FW: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Hi Marina

3 separate applications, please request drawings indicating TFR assets

Thanks

Gilbert



G.G. Nortier DEM (IOL)  
 (022) 703 3521 083 407 7924  
 (022) 703 3494 [Gilbert.Nortier@transnet.net](mailto:Gilbert.Nortier@transnet.net)

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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**From:** Surina Laurie  
**To:** Rohaida Abed  
**Date:** 28/10/2015 10:13  
**Subject:** Fwd: Re: DEA Reference number

FYI

>>> "LToolsBernado" <ltoolsbernado@ncpg.gov.za> 28/10/2015 08:39 >>>

Thank You

Regards  
Luzane

>>> "Surina Laurie" <SLaurie@csir.co.za> 10/27/2015 10:16 AM >>>

Dear Luzane

We finally received it, please see attached.

Regards,

Surina

Surina Laurie (Pr. Sci. Nat. Environmental Science)  
Senior Environmental Assessment Practitioner  
CSIR - Environmental Management Services  
11 Jan Celliers Street, Stellenbosch  
PO Box 320, Stellenbosch, 7599

Tel: 021 888 2490  
Cell: 082 468 0962  
Fax: 021 888 2693  
Email: slaurie@csir.co.za

>>> Surina Laurie 14/10/2015 08:40 >>>

Dear Luzane

We still have not received it, I will send it to you, once received.

Regards

Surina

Surina Laurie (Pri. Sci. Nat. Environmental Science)  
Senior Environmental Assessment Practitioner  
CSIR - Environmental Management Services  
11 Jan Celliers Street, Stellenbosch  
PO Box 320, Stellenbosch, 7599

Tel: 021 888 2490  
Cell: 082 468 0962  
Fax: 021 888 2693  
Email: slaurie@csir.co.za

>>> "LToolsBernado" <ltoolsbernado@ncpg.gov.za> 12/10/2015 08:21 >>>

Dear Ms Laurie

Regarding our telephonic conversation on the 06th October 2015, The Dept of Environment and Nature Conservation is still waiting for the DEA Ref number of the following project Description

Scoping and Environmental Impact Assessment for the proposed Development of a 75MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province.

Please do send the DEA Ref Number as we need to Acknowledge the document.

Kind Regards  
Luzane Tools-Bernado  
EIA: Administration

---

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**From:** Rohaida Abed  
**To:** (UPN), Mei Melinda  
**CC:** Shaun, Cloete  
**Date:** 30/10/2015 13:10  
**Subject:** Re: FW: Hard Copies: Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** Globeflight\_2714273929.pdf

Dear Melinda

I trust that you are well. I refer to the email below sent on 22 October 2015. Please note that hard copies and CD copies of the Scoping Reports were delivered to your offices (at the physical address noted below) on 1 October 2015 via courier (please see attached waybill). Please confirm if you have received the documents and if the DWS has any comments.

Thank you and kind regards,  
Rohaida

>>> Rohaida Abed 22/10/2015 17:10 >>>  
Dear Melinda

I trust that you are well. Please note that hard copies and CD copies of the Scoping Reports were delivered to your offices (at the physical address noted below) on 1 October 2015 via courier. Please confirm if you have received the documents and if the DWS has any comments.

Thank you and kind regards,  
Rohaida

>>> "Mei Melinda (UPN)" <MeiM@dws.gov.za> 29/09/2015 14:25 >>>

Good Day Mr. Abed

Your notice received with regards to Basic Assessment; Scoping and Environmental Impact Assessment for the Proposed Development of the three Solar Photovoltaic Facilities and Associated Electrical Infrastructure; North-East of Kenhardt; Northern Cape is of reference. DWS requires you to forward hard copies of the above mentioned project to either of the following address:

Physical Address:  
Department Of Water and Sanitation  
Louisvale Road Upington  
8801  
OR

Postal Address:  
Department Of Water and Sanitation  
Private Bag X 5912  
Upington  
8800

Your co-operation and assistance is highly appreciated.

With kind regards,

Melinda Mei  
Water Quality Management: Orange Proto-CMA  
Tel: 054 338 5836  
Fax: 054 334 0205

**From:** Mei Melinda (UPN)  
**Sent:** 04 August 2015 01:39 PM  
**To:** 'Rohaida Abed'  
**Cc:** Cloete Shaun  
**Subject:** Hard Copies: Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Importance:** High

Good morning Mr. Abed

Your notice received with regards to Basic Assessment; Scoping and Environmental Impact Assessment for the Proposed Development of the three Solar Photovoltaic Facilities and Associated Electrical Infrastructure; North-East of Kenhardt; Northern Cape is of reference.

DWS requires you to forward hard copies of the above mentioned project to either of the following address:

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Physical Address:  
Department Of Water and Sanitation  
Louisvale Road Upington  
8801

OR

Postal Address:  
Department Of Water and Sanitation  
Private Bag X 5912  
Upington  
8800

Your co-operation and assistance is highly appreciated.

With kind regards,

Melinda Mei  
Senior Administration Clerk  
Water Quality Management: Lower Orange Water Management Area  
Tel: 054 338 5836  
Fax: 054 334 0205  
Mail: [MeiM@dwa.gov.za](mailto:MeiM@dwa.gov.za)

**From:** Rohaida Abed [mailto:RAbed@csir.co.za]  
**Sent:** 29 July 2015 04:01 PM  
**To:** Rohaida Abed  
**Subject:** Notice of BA and EIA Process - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR Reference: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the initiation of a Basic Assessment (BA) Process and Scoping and Environmental Impact Assessment (EIA) Process for the above-mentioned proposed project, located approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The Project Applicant is Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar). The CSIR has been appointed by Scatec Solar to undertake the required BA Process, and Scoping and EIA Process.

A full Scoping and EIA Process is required for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities on the remaining extent of Onder Rugzeer Farm 168. A separate BA Process is also required and will be undertaken for the development of three transmission lines and the connection points to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120.

The proposed 75 MW Solar PV facilities and transmission lines are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation will be lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and transmission line. Furthermore, separate BA, Scoping and EIA Reports will be compiled for each project, which will be referred to as:

<b>Scoping and EIA Processes: Proposed 75 MW Solar PV Facilities</b>	<b>BA Processes: Proposed 132 kV Transmission Lines</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

The proposed projects are being assessed in terms of the National Environmental Management Act (Act 107 of 1998), as amended (NEMA), and the NEMA EIA Regulations, published in Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014.

Please find attached the following:

- Background Information Document (BID);
- Letter 1 to Interested & Affected Parties (I&APs); and
- Comment and Registration Form.

The BID, which provides an overview of the proposed project, is being released to Stakeholders and I&APs for a 30-day comment period extending from **30 July 2015 to 31 August 2015**.

Hard copies of the above-mentioned documents have also been sent to those of you for which postal addresses are available. In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **31 August 2015**.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

*Beste Belanghebbende en Geïnteresseerde Party*

**GESAMENTLIKE KENNISGEWING VAN BASIESE EN OMGEWINGSIMPAKEVALUERINGSPROSESSE VIR DIE VOORGESTELDE ONTWIKKELING VAN DRIE SONKRAGAAANLEGTE EN ELEKTRIESE INFRASTRUKTUUR NOORD-OOS VAN KENHARDT, NOORD- KAAP PROVINSIE**

**Bevoegde Owerheid:** Die Nasionale Departement van Omgewingsake

**WNNR/CSIR verwysingsnommer: EMS0102/SCATEC/2015**

Hierdie e-pos korrespondensie se doel is om u in kennis te stel van die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte, wat 80 km suid van Upington en 30 km noord-oos van Kenhardt in die !Kheis munisipaliteit voorgestel word. Die Aansoeker vir die projek is Scatec Solar SA 163 (PTY) Ltd ("Scatec Solar"). Die WNNR is aangestel deur Scatec Solar om die Basiese evaluerings- en Bestek en Omgewingsimpakevalueringproses vir die bogenoemde projekte uit te voer.

'n Bestek en Omgewingsimpakevalueringproses word vereis vir elk van die drie 75 MW Fotovoltaïese (PV) sonkragfasiliteite wat op die plaas Restant van Onder Rugzeer 168 voorgestel word. Aparte Basiese evalueringprosesse word ook vereis vir die voorgestelde 132 kV kraglyne en die konneksiepunte aan die Eskom Nieuwehoop Substasie (wat tans gebou word) op die plaas Restant van Gedeelte 3 van Gembok Bult 120.

Aangesien die sonkragprojekte en die voorgestelde elektriese infrastruktuur in dieselfde geografiese area gebou gaan word en dieselfde tipe projekte is, word dit voorgestel dat 'n geïntegreerde Publieke Deelname Proses gedoen gaan word. Aparte aansoeke gaan by die Nasionale Departement van Omgewingsake ingedien word vir die verskillende projekte en aparte verslae sal ook vir elke projek saamgestel en uitgestuur word. Die projekte sal na verwys word as:

<b>Bestek en Omgewingsimpakevalueringproses: Voorgestelde drie 75 MW PV sonkragprojekte</b>	<b>Basiese evalueringprosesse: Voorgestelde drie 132 kV kraglyne</b>
- Kenhardt PV 1	- Kenhardt PV 1 – Transmission Line
- Kenhardt PV 2	- Kenhardt PV 2 – Transmission Line
- Kenhardt PV 3	- Kenhardt PV 3 – Transmission Line

Die voorgestelde projekte sal ge-evalueer word volgens die Nasionale Omgewingsbeheer Wet, 1998 (Wet No 107 van 1998) (NEMA) en die Omgewingsimpakstudie (OIS) Regulasies soos gepubliseer in Staatskennisgewing R982 in Staatskoerant No 38282 van 08 Desember 2014.

Vind asseblief aangeheg die volgende:

- Beskrywing van die projek (word na verwys as die "BID")
- Brief aan die Belanghebbende en Geïnteresseerde Partye (B&GP'e)
- Kommentaar en Registrasievorm

Die BID, wat dien as agtergrond van die projek, bevat 'n beskrywing van die projek, die gelyste aktiwiteite en is vir 30-dae beskikbaar vir oorsig en kommentaar (**30 Julie 2015 - 31 Augustus 2015**). 'n Harde kopie van die bogenoemde dokumente is ook gestuur aan diegene vir wie ons posadresse het. Inligting van die projek is ook beskikbaar op die projekwebtuiste: <http://www.csir.co.za/eia/ScatecSolarPV/>.

Ons versoek graag dat alle kommentaar aan die WNNR Projekbestuurder (kontakbesonderhede onder aangedui) teen **31 Augustus 2015** verskaf word.

By voorbaat dankie,

Rohaida Abed

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

CSIR - Environmental Management Services  
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E-pos: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

---

**From:** Rohaida Abed  
**To:** (WR), Nicole Abrahams  
**CC:** [Dekockr@nra.co.za](mailto:Dekockr@nra.co.za)  
**Date:** 30/10/2015 13:52  
**Subject:** Re: EIA: THREE SOLAR PV FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH EAST OF KENHARDT, NC  
**Attachments:** Kenhardt PV3.pdf; Kenhardt PV2.pdf; Kenhardt PV1.pdf

Dear Nicole

Thank you for email regarding the proposed Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects. We will add you the project database as requested.

As requested, please find attached locality plans for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects.

On 4 September 2015, we also received an email from Ms. Rene de Kock stating the following:

*"Please note that this solar development will not impact on a national road, therefore SANRAL has no jurisdiction and have no further comment with regard to the Solar Facility. Should any service, e.g. power line and/or water pipe will be situated within 60m from the national road or will cross the national road application should be made to SANRAL for approval in terms of the National Roads Act."*

As noted in Chapter 6 of the Scoping Report, a general Traffic Impact Statement (which will include management measures for road maintenance) will be prepared by the EAP, which will provide recommendations for inclusion in the EMPr (during the EIA Report Phase). The same approach was followed by the CSIR for the proposed Nieuwehoop Solar EIA Project which is currently at the decision-making stage of the EIA.

Please confirm if SANRAL has any further comments on the Scoping Report and Addendum (as sent on 6 October 2015 via email). Please note that all project information is available on the project website (<http://www.csir.co.za/>/eia/ScatecSolarPV/>). The comment period closes on 5 November 2015.

Kind Regards,  
Rohaida

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Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

>>> "Nicole Abrahams (WR)" <[AbrahamsN@nra.co.za](mailto:AbrahamsN@nra.co.za)> 14/10/2015 09:24 >>>

Good day Ms Rohaida Abed

I would herewith like to register as an IAP for the above listed project. May I also request a locality plan please. I would like to know if there is a transport plan available for this project yet.

Regards



Reg.No.  
1998/009584/30



Ms Nicole Abrahams  
**Environmental Coordinator**  
Tel: [+27 21 957 4602](tel:+27219574602)  
Fax: [+27 21 910 1699](tel:+27219101699)  
Email: [Abrahamsn@nra.co.za](mailto:Abrahamsn@nra.co.za)

Sanral  
**Western Region**  
1 Havenga Street, Oakdale, 7530  
Private Bag X19, Bellville, 7535  
[www.sanral.co.za](http://www.sanral.co.za)  
SANRAL Fraud Hotline: [0800204558](tel:0800204558)



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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**From:** Rohaida Abed  
**To:** Matlakala, Gloria  
**Date:** 30/10/2015 14:12  
**Subject:** Re: Proposed developments solar project @ Kenhart PV 3  
**Attachments:** Comment and Response Form\_Scaterc Solar\_NC\_FINAL\_061015.pdf; Comment and Response Form\_Scaterc Solar\_NC.pdf; Scaterc Solar PV1\_SR\_SUMMARY.pdf; Scaterc Solar PV2\_SR\_SUMMARY.pdf; Scaterc Solar PV3\_SR\_SUMMARY.pdf

Dear Gloria

Thank you for your email. We will add you the database for the proposed Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects, and you will receive future correspondence in terms of the Basic Assessment, EIA and Public Participation Processes.

Please see attached as requested, a comment and registration form (for the Scoping Report and Addendum), as well as the Executive Summaries to the Scoping Report. The comment period closes on 5 November 2015.

Please confirm if you have any further comments on the Scoping Reports and addendum.

Please note that all project information is available on the project website: <http://www.csir.co.za/eia/ScatercSolarPV/>

Kind Regards,  
Rohaida

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>>> Gloria Matlakala <gloria.tlaky@gmail.com> 26/10/2015 18:43 >>>

Good day Mr Abed

Can you please sent me the registration form to register my company as an I & AP under your database and I'm asking Mr Abed that in future I want to be informed and attend the meetings for the developments you brings to us

For enquiry please sent me emails, or contacts me: 072 056 2833 or 071 984 6106

Hope you will find this in order

Kind regards  
Gloria (Khies Municipality)

---

**From:** Rohaida Abed  
**To:** atiplady@ska.ac.za  
**CC:** temonama@ska.ac.za  
**Date:** 23/10/2015 09:23  
**Subject:** Fwd: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** A Tiplady\_SKA\_Email 1\_020915\_Attachment.pdf

Dear Dr. Tiplady

I trust that you are well. I refer to the email sent below on 23 September 2015 regarding the release of the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV3 Scoping Reports, as well as the email sent on 6 October 2015 with an addendum to the Scoping Reports.

Thank you for the attached comments sent by the SKA on 2 September 2015 on the Background Information Document for the proposed project. The attached correspondence states that "*as a result of the medium to high risk associated with the PV facilities, the SKA project office recommends that further EMI and RFI detailed studies be conducted as significant mitigation measures would be required to lower the risk of detrimental impact to an acceptable level*".

We would appreciate if you could provide additional information regarding the scope and Terms of Reference for the required EMI and RFI studies.

Thank you for your assistance with this.

Kind Regards,  
Rohaida

>>> Rohaida Abed 23/09/2015 15:29 >>>

**NOTICE OF RELEASE OF SCOPING REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2, AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR REFERENCE:** EMS0102/Scatec/2015

This e-mail correspondence serves to inform you of the release of Scoping Reports for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The Project Applicant is Scatec Solar SA 330 (PTY) Ltd for Kenhardt PV 1, Scatec Solar SA 350 (PTY) Ltd for Kenhardt PV 2 and Scatec Solar SA 370 (PTY) Ltd for Kenhardt PV 3.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120. The CSIR has been appointed by the Project Applicant to undertake the separate requisite Basic Assessment, and Scoping and EIA Processes for the proposed projects.

The proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation are currently being lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and will be lodged for each Basic Assessment project. Furthermore, separate Basic Assessment, Scoping and EIA Reports will be compiled for each project.

In line with the above, as a registered Interested and Affected Party (I&AP) on the project database, you are hereby notified of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects for a 30-day review period, which will extend from **25 September 2015** to **27 October 2015**.

Please find attached the following:

- Executive Summary of each Scoping Report;
- Letter 2 to I&APs; and
- Comment and Registration Form.

Hard copies of the Scoping Reports are available for public viewing at the Kenhardt Library (in Park Street) and the Groblershoop Library (at 97 Oranje Street).

In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **27 October 2015**.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

---

**From:** Rohaida Abed  
**To:** [atiplady@ska.ac.za](mailto:atiplady@ska.ac.za)  
**CC:** [temonama@ska.ac.za](mailto:temonama@ska.ac.za)  
**Date:** 27/10/2015 16:51  
**Subject:** Re: Fwd: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Dr. Tiplady

I refer to the email trail below in relation to the proposed Kenhardt PV projects. We would appreciate if you could provide additional information regarding the scope and Terms of Reference for the required EMI and RFI studies.

Thank you for your assistance with this.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Kind Regards,  
Rohaida

>>> Rohaida Abed 23/10/2015 09:23 >>>

Dear Dr. Tiplady

I trust that you are well. I refer to the email sent below on 23 September 2015 regarding the release of the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV3 Scoping Reports, as well as the email sent on 6 October 2015 with an addendum to the Scoping Reports.

Thank you for the attached comments sent by the SKA on 2 September 2015 on the Background Information Document for the proposed project. The attached correspondence states that "*as a result of the medium to high risk associated with the PV facilities, the SKA project office recommends that further EMI and RFI detailed studies be conducted as significant mitigation measures would be required to lower the risk of detrimental impact to an acceptable level*".

We would appreciate if you could provide additional information regarding the scope and Terms of Reference for the required EMI and RFI studies.

Thank you for your assistance with this.

Kind Regards,  
Rohaida

>>> Rohaida Abed 23/09/2015 15:29 >>>

**NOTICE OF RELEASE OF SCOPING REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2, AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR REFERENCE:** EMS0102/Scatec/2015

This e-mail correspondence serves to inform you of the release of Scoping Reports for the development of three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The Project Applicant is Scatec Solar SA 330 (PTY) Ltd for Kenhardt PV 1, Scatec Solar SA 350 (PTY) Ltd for Kenhardt PV 2 and Scatec Solar SA 370 (PTY) Ltd for Kenhardt PV 3.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process will be undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120. The CSIR has been appointed by the Project Applicant to undertake the separate requisite Basic Assessment, and Scoping and EIA Processes for the proposed projects.

The proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity; hence an integrated Public Participation Process will be undertaken. However, separate Applications for Environmental Authorisation are currently being lodged with the National Department of Environmental Affairs (DEA) for each proposed 75 MW Solar PV facility and will be lodged for each Basic Assessment project. Furthermore, separate Basic Assessment, Scoping and EIA Reports will be compiled for each project.

In line with the above, as a registered Interested and Affected Party (I&AP) on the project database, you are hereby notified of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects for a 30-day review period, which will extend from **25 September 2015 to 27 October 2015**.

Please find attached the following:  
- Executive Summary of each Scoping Report;  
- Letter 2 to I&APs; and  
- Comment and Registration Form.

Hard copies of the Scoping Reports are available for public viewing at the Kenhardt Library (in Park Street) and the Groblershoop Library (at 97 Oranje Street).

In addition, the above-mentioned project information can be accessed at the following website:  
**<http://www.csir.co.za/eia/ScatecSolarPV/>**

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by **27 October 2015**.

Thank you and kind regards,

Rohaida Abed

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P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

---

**From:** Rohaida Abed  
**To:** Tiplady, Adrian  
**CC:** [temonama@ska.ac.za](mailto:temonama@ska.ac.za)  
**Date:** 29/10/2015 09:23  
**Subject:** Re: Fwd: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Adrian

Thank you very much for your response. We would appreciate if you could kindly send us the contact details for the EMI specialists based in Pretoria that you suggest in the email below.

Kind Regards,  
Rohaida

>>> Adrian Tiplady <[atiplady@ska.ac.za](mailto:atiplady@ska.ac.za)> 29/10/2015 07:51 >>>  
> Hi Rohaida,

In summary, a detailed EMI and RFI survey would need to be undertaken to characterise the expected radio emissions from the facility. Once this has been conducted, radio frequency propagation modelling would need to be undertaken to determine the quantitative impact the proposed facility would have on the SKA.

The relevant developer would need to contract EMI specialists to undertake these studies. I can suggest a group based in Pretoria, who have undertaken similar studies.

Regards,

Adrian

On 27/10/2015 4:51 PM, Rohaida Abed wrote:

Dear Dr. Tiplady

I refer to the email trail below in relation to the proposed Kenhardt PV projects. We would appreciate if you could provide additional information regarding the scope and Terms of Reference for the required EMI and RFI studies.

Thank you for your assistance with this.

Kind Regards,  
Rohaida

>>> Rohaida Abed 23/10/2015 09:23 >>>

Dear Dr. Tiplady

I trust that you are well. I refer to the email sent below on 23 September 2015 regarding the release of the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV3 Scoping Reports, as well as the email sent on 6 October 2015 with an addendum to the Scoping Reports.

Thank you for the attached comments sent by the SKA on 2 September 2015 on the Background Information Document for the proposed project. The attached correspondence states that "*as a result of the medium to high risk associated with the PV facilities, the SKA project office recommends that further EMI and RFI detailed studies be conducted as significant mitigation measures would be required to lower the risk of detrimental impact to an acceptable level*".

We would appreciate if you could provide additional information regarding the scope and Terms of Reference for the required EMI and RFI studies.

Thank you for your assistance with this.

Kind Regards,  
Rohaida

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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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**From:** Rohaida Abed  
**To:** Tiplady, Adrian  
**CC:** temonama@ska.ac.za  
**Date:** 29/10/2015 16:13  
**Subject:** Re: Fwd: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Adrian

Thank you very much for these contact details. I have forwarded them to the Project Applicant.

Please could you also confirm if the SKA has any comments on the Scoping Report and Addendum for the proposed projects.

Thank you and kind regards,  
Rohaida

>>> Adrian Tiplady <atiplady@ska.ac.za> 29/10/2015 12:10 >>>  
> Hi Rohaida,

ITC Services  
callie@itc-services.com

Regards,

Adrian

On 29/10/2015 9:23 AM, Rohaida Abed wrote:

Dear Adrian

Thank you very much for your response. We would appreciate if you could kindly send us the contact details for the EMI specialists based in Pretoria that you suggest in the email below.

Kind Regards,  
Rohaida

---

**From:** Rohaida Abed  
**To:** Tiplady, Adrian  
**CC:** temonama@ska.ac.za  
**Date:** 30/10/2015 14:39  
**Subject:** Re: Fwd: Release of Scoping Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Adrian

Thank you for your reply and for confirming that your comments sent via email on 2 September 2015 (during the Project Initiation Phase) are still applicable, and no further comments on the Scoping Reports will be provided at this stage.

As noted in the Scoping Reports, the requested Electro Magnetic Interference and Radio Frequency Interference Studies will be undertaken by the project applicant and will be included in the EIA Reports (during the EIA Phase). The SKA will accordingly receive a copy of the EIA Reports for the proposed Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects, for comment.

Thank you and kind regards,  
Rohaida

>>> Adrian Tiplady <atiplady@ska.ac.za> 30/10/2015 09:22 >>>  
> Hi Rohaida,

I would like to confirm that our letter applies to all potential facilities of the same nature located at this site, and future requests for comments on this and other facilities. Once we have been able to assess and analyse appropriate measurement reports, we will issue a further comment.

Regards,

Adrian

On 29/10/2015 4:13 PM, Rohaida Abed wrote:

Dear Adrian

Thank you very much for these contact details. I have forwarded them to the Project Applicant.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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Please could you also confirm if the SKA has any comments on the Scoping Report and Addendum for the proposed projects.

Thank you and kind regards,  
Rohaida

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**Copies and Proof of Correspondence Sent to I&APs for Notification of the Submission of the Scoping Report to DEA for Decision-Making**

**Email 4 sent to I&APs on 11 November 2015**

**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**BC** aditeme@agri.ncape.gov.za; admin@grasslands.org.za; advocacy@birdlife.org.za; ameliastrauss2@gmail.com; andre.vanniekerk10@gmail.com; annelizac@nda.agric.za; atiplady@ska.ac.za; boozahunter@yahoo.com; claude@veroniva.co.za; Clive.Stephenson@transnet.net; CloeteS@dws.gov.za; ernest.connan@donco.co.za; fpr@bodr.gov.za; GeerinJH@eskom.co.za; Gilbert.Nortier@transnet.net; HaarhL@eskom.co.za; hendri@aheadtrading.co.za; JacolineMa@daff.gov.za; jdbhenrohn@gmail.com; jhjs@webmail.co.za; karen@mulilo.com; klawrence@trpw.ncape.gov.za; kraaines@mweb.co.za; l.ntsolo@sanbi.org.za; LeaskK@eskom.co.za; marcyroxnpc@gmail.com; Marina.Lourens@transnet.net; MashuduMa@daff.gov.za; Mayvyn.Bhana@transnet.net; MeiM@dwa.gov.za; MelanieM@L2B.co.za; messop@environment.gov.za; mitchell.hodgson@scatecsolar.com; mm@kaigarib.gov.za; mmathews@ncpg.gov.za; mndzilili@ncpg.gov.za; monica.lepheane@labour.gov.za; MRabothata@environment.gov.za; ncagric@worldonline.co.za; nhlakad@daff.gov.za; nyaphi@ncpg.gov.za; ontvangs@agrink.co.za; peter.buys@nersa.org.za; ratha.timothy@gmail.com; rwarie@ncpg.gov.za; sb@siyanda.gov.za; sdelafontaine@gmail.com; sharon@nocci.co.za; smbanjwa@ncpg.gov.za; straussdj@orientis.co.za; strohl@caa.co.za; teresascheepers@vodamail.co.za; ThokoB@daff.gov.za; townsendmorgan029@gmail.com; waltjc@nra.co.za; wep@ewt.org.za; WyngaaJO@eskom.co.za; ltoolsbernado@ncpg.gov.za; gloria.tlaky@gmail.com; clarkem@kaigarib.gov.za; SchwartzC@dws.gov.za; AbrahamsN@nra.co.za; rredelstorff@sahra.org.za; elsabe.dtec@gmail.com; Laurie, Surina; ptiger@ncpg.gov.za  
**Date:** 11/11/2015 15:35  
**Subject:** Submission of Scoping Reports to the National DEA - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF SUBMISSION OF THE SCOPING REPORTS TO THE COMPETENT AUTHORITY FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2, AND KENHARDT PV 3) ON THE REMAINING EXTENT OF ONDER RUGZEER FARM 168, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority: National Department of Environmental Affairs**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the submission of the Scoping Reports for the abovementioned proposed projects to the National Department of Environmental Affairs (DEA) for decision-making in terms of Regulation 22 of the 2014 National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations. The Project Applicant is intending to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The Project Applicant is Scatec Solar SA 330 (PTY) Ltd for Kenhardt PV 1, Scatec Solar SA 350 (PTY) Ltd for Kenhardt PV 2 and Scatec Solar SA 370 (PTY) Ltd for Kenhardt PV 3.

As a registered Interested and Affected Party (I&AP) on the project database, you were notified on 23 September 2015 via email and registered mail of the release of the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects for a 30-day review period, which extended from 25 September 2015 to 27 October 2015. You were further informed on 6 October 2015 via email of the release of the Addendum to the Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects to all registered I&APs and stakeholders for an additional 30-day review period, which extended from 6 October 2015 to 5 November 2015.

The comments received from stakeholders during the abovementioned 30-day review of both the Scoping Reports and Addendums have been incorporated into the finalised Scoping Reports (where required), as well as

the Issues and Responses Trail (i.e. Chapter 7 of the finalised Scoping Reports). As noted above, the finalised Scoping Reports are currently being submitted to the National DEA, in accordance with Regulation 21 (1) of the 2014 NEMA EIA Regulations, for decision-making (i.e. acceptance or rejection) in terms of Regulation 22 of the 2014 NEMA EIA Regulations. If the Scoping Reports are approved by the National DEA, this approval will mark the end of the Scoping Phase after which the EIA Process moves into the impact assessment and reporting phase.

For information purposes, the finalised Scoping Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 projects have been placed on the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Thank you and kind regards,

Rohaida Abed  
CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)



**Proof of Delivery of Email 4 sent to all I&APs on 11 November 2015**

Message Id: 5643400.EBB : 179 : 65115  
 Subject: Submission of Scoping Reports to the National DEA - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@esir.co.za  
 Scheduled Date:  
 Creation Date: 11/11/2015 15:35  
 From: Rohaida Abed

Recipients:	Action	Date & Time	Comment
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BC: eisabe.dtec@gmail.com(eisabe.dtec@gmail.com)	Delivered	11/11/2015 15:36	
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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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To: Rohaida Abed(RAbed@csir.co.za)	Read	11/11/2015 15:35
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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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yahoo.com	Transferred	11/11/2015 15:35
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Post Offices

Post Office	Delivered	Route
agril.ncape.gov.za		agril.ncape.gov.za
agrlnk.co.za		agrlnk.co.za
aheadtrading.co.za		aheadtrading.co.za
birdlife.org.za		birdlife.org.za
bodr.gov.za		bodr.gov.za
caa.co.za		caa.co.za
daff.gov.za		daff.gov.za
donco.co.za		donco.co.za
dwa.gov.za		dwa.gov.za
dws.gov.za		dws.gov.za
environment.gov.za		environment.gov.za
eskom.co.za		eskom.co.za
ewt.org.za		ewt.org.za
gmail.com		gmail.com
grasslands.org.za		grasslands.org.za
kalgarib.gov.za		kalgarib.gov.za
L2B.co.za		L2B.co.za
labour.gov.za		labour.gov.za
mullio.com		mullio.com
mweb.co.za		mweb.co.za
ncpg.gov.za		ncpg.gov.za
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yahoo.com		yahoo.com

Files

File	Size	Date & Time
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Options

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Concealed Subject:	No
Expiration Date:	None

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Notify Recipients: Yes  
Priority: Standard  
Reply Requested By: None  
Security: Standard  
To Be Delivered: Immediate

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**Proof of Correspondence with DEA (Courier Waybills for submission of finalised Scoping Report)**

Tracking, Track Parcels, Packages, Shipments | DHL Express Tracking

Page 1 of 1



English Contact Center Country Profile DHL Global

**Track DHL Express Shipments**

Here's the fastest way to check the status of your shipment. No need to call Customer Service – our online results give you real-time, detailed progress as your shipment speeds through the DHL network.

**Result Summary**

**Waybill: 4536848702** **Thursday, November 12, 2015 at 09:11** 1 Piece  
**Signed for by: RINA** **Origin Service Area:**  
**Get Signature Proof of Delivery** DURBAN - GLENWOOD - SOUTH AFRICA  
 Destination Service Area:  
 PRETORIA - PRETORIA - SOUTH AFRICA

Thursday, November 12, 2015		Location	Time	Piece
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8	With delivery courier	PRETORIA - SOUTH AFRICA	07:36	1 Piece
7	Arrived at Delivery Facility in PRETORIA - SOUTH AFRICA	PRETORIA - SOUTH AFRICA	05:33	1 Piece
6	Departed Facility in JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:13	1 Piece
5	Processed at JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	05:11	1 Piece
4	Arrived at Sort Facility JOHANNESBURG - SOUTH AFRICA	JOHANNESBURG - SOUTH AFRICA	03:54	1 Piece
Wednesday, November 11, 2015		Location	Time	Piece
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1	Shipment picked up	DURBAN - SOUTH AFRICA	16:23	1 Piece

If you would prefer to speak to someone personally about the location of your shipment, please [contact DHL Express Customer Service](#).

[Terms & Conditions](#)

[Tracking FAQs](#)



**Copies and Proof of Correspondence Sent to I&APs for the Release of the EIA Report for I&AP Review**

**Letter 3 - dated 4 March 2016: Notification of the Release of the EIA (and BA Reports) for a 30-day Review Period**

CSIR Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: RAbed@csir.co.za



4 March 2016

Dear Interested and Affected Party

**RE: RELEASE OF BASIC ASSESSMENT AND ENVIRONMENTAL IMPACT ASSESSMENT REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES (REFERRED TO AS KENHARDT PV 1, KENHARDT PV 2 AND KENHARDT PV 3) AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (CSIR REFERENCE: EMS0102/SCATEC/2015 AND DEA REFERENCE: 14/12/16/3/3/2/837 (KENHARDT PV 1), 14/12/16/3/3/2/838 (KENHARDT PV 2) AND 14/12/16/3/3/2/836 (KENHARDT PV 3))**

Scatec Solar SA 163 (PTY) Ltd (hereinafter referred to as Scatec Solar) (i.e. the Project Applicant), is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (including transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities (referred to as "Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3"). Separate Basic Assessment (BA) processes are also required for the development of the proposed transmission lines and electrical infrastructure (referred to as "Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 - Transmission Line and Kenhardt PV 3 - Transmission Line"). The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

The separate Applications for Environmental Authorisation (EA) for the Scoping and EIA Projects were lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) on 30 September 2015 (together with the Scoping Reports, which were accepted by the DEA on 8 December 2015). The Applications for EA for the BA projects will be submitted to the DEA together with the BA and EIA Reports for comment.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process (PPP) is being undertaken for the proposed projects. However, separate reports (i.e. BA and EIA Reports) have been compiled for each project. The BA Reports will be made available for Interested and Affected Party (I&AP) and stakeholder review together with the EIA Reports.

In line with the above, as a registered I&AP on the project database, you are hereby notified of the release of the EIA and BA Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 EIA projects and the Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 - Transmission Line and Kenhardt PV 3 - Transmission Line BA projects to all registered I&APs and stakeholders for a 30-day review period, which will extend from 3 March 2016 (date of release of the advert) to 5 April 2016.

Please find enclosed a Comment and Registration Form. Kindly complete the enclosed Comment and Registration Form in order to submit any comments, issues or concerns you may have. Please submit the completed form to the CSIR Project Manager at the contact details provided above by 5 April 2016.

Hard copies of the EIA and BA Reports are available for public viewing at the Kenhardt Library (in Park Street) and the Groblershoop Library (at 97 Oranje Street). The EIA and BA Reports can also be downloaded from the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

All comments received during this 30 day review period will be recorded and included in the EIA and BA Reports for submission to the National DEA for decision-making. As a registered I&AP on the project database, you will be notified of the submission of the BA and EIA Reports to the DEA for decision-making.

Should you have any queries or require additional information please do not hesitate to contact the undersigned using the contact details provided above.

Sincerely,

Surina Laurie  
Project Leader  
CSIR Environmental Management Services

Rohaida Abed  
Project Manager  
CSIR Environmental Management Services

**Comment and Registration Form sent with Letter 3 (dated 4 March 2016)**

BASIC ASSESSMENT (BA) AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE (KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3, KENHARDT PV 1 – TRANSMISSION LINE, KENHARDT PV 2 – TRANSMISSION LINE, AND KENHARDT PV 3 – TRANSMISSION LINE)

RELEASE OF EIA REPORTS FOR KENHARDT PV 1, KENHARDT PV 2, KENHARDT PV 3 AND BA REPORTS FOR KENHARDT PV 1 – TRANSMISSION LINE, KENHARDT PV 2 – TRANSMISSION LINE, KENHARDT PV 3 – TRANSMISSION LINE

CSIR REFERENCE: EMS0102/SCATEC/2015  
DEA REFERENCE: 14/12/16/3/3/2/837 (KENHARDT PV 1), 14/12/16/3/3/2/838 (KENHARDT PV 2) AND 14/12/16/3/3/2/836 (KENHARDT PV 3)

Project Applicant: Scatec Solar SA 330 (PTY) Ltd, Scatec Solar SA 350 (PTY) Ltd, and Scatec Solar SA 370 (PTY) Ltd

**COMMENT AND REGISTRATION FORM**

4 March 2016

<b>Name:</b>	<b>Telephone:</b>
<b>Organisation:</b>	<b>Fax:</b>
<b>Designation:</b>	<b>Email:</b>
<b>Physical address:</b>	<b>Postal address:</b>

Please indicate if you would like to register as an Interested and Affected Party (I&AP) for the proposed projects. Registration is required in order to receive further correspondence during the Basic Assessment and Scoping and EIA Processes. Please tick the appropriate box.

YES	
NO	

Please indicate if you have any interest (business, financial, personal or other) in the proposed projects and/or the Applications for Environmental Authorisation:

--

Please describe any issues or concerns you may have regarding the proposed projects, which you think should be considered during the Basic Assessment and Scoping and EIA Processes.


Please provide details of any other individuals or organisations that should be registered as I&APs:


Please complete this Comment and Registration Form by 5 April 2016 and submit it to:

Rohaida Abed CSIR Postal Address: P. O. Box 17001, Congella, Durban, 4013 Tel: 031 242 2300 Fax: 031 261 2509 E-mail: RAbed@csir.co.za Project Website: <a href="http://www.csir.co.za/eia/ScatecSolarPV/">http://www.csir.co.za/eia/ScatecSolarPV/</a>
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## Executive Summary of the Kenhardt PV 1 EIA Report sent with Letter 3

Scoping and Environmental Impact Assessment for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province:

CSIR Report Number: CSIR/CAS/EMS/ER/2015/0007/B  
CSIR Reference: EMS0102/Scatec/2015

### EIA Report – Executive Summary

#### 1. PROJECT OVERVIEW

Scatec Solar SA 163 (PTY) Ltd is proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) power generation facilities and associated electrical infrastructure (including 132 kV transmission lines for each 75 MW facility) on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the Eskom Nieuwehoop Substation on the remaining extent of Portion 3 of Gemsbok Bult Farm 120, approximately 80 km south of Upington and 20-30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. Scatec Solar SA 163 (PTY) Ltd consists of various subsidiary companies, one of which is Scatec Solar SA 330 (PTY) Ltd. Scatec Solar SA 330 (PTY) Ltd (hereinafter referred to as Scatec Solar) is the Project Applicant for this proposed 75 MW solar PV project (referred to as Kenhardt PV 1).

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, a full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process has been undertaken for the development of the proposed transmission lines, associated electrical infrastructure and connection to the Eskom Nieuwehoop Substation. The Applicant has appointed the Council for Scientific and Industrial Research (CSIR) to undertake the separate EIA and Basic Assessment Processes in order to determine the biophysical, social and economic impacts associated with undertaking the proposed activity.

Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process (PPP) will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation (EA) have been lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed Scoping and EIA project, as well as for each Basic Assessment project. Furthermore, separate reports (i.e. Basic Assessment, Scoping and EIA Reports) have been compiled for each project.

The abovementioned integrated PPP approach, as well as the general approach to the Scoping and EIA Projects and the Basic Assessment Projects, were discussed with and approved by the DEA at a pre-application meeting, which was held on 17 September 2015. Appendix I.1 of this EIA Report includes a copy of the agenda and notes of the meeting, as well as the presentation given by the CSIR at the pre-application meeting.

The proposed 75 MW Solar PV facility projects (requiring a Scoping and EIA Process) are referred to as (together with the corresponding assigned DEA Reference Numbers):

- Kenhardt PV 1 – DEA Reference: 14/12/16/3/3/2/837;
- Kenhardt PV 2 – DEA Reference: 14/12/16/3/3/2/838; and
- Kenhardt PV 3 – DEA Reference: 14/12/16/3/3/2/836.

The proposed 132 kV transmission line projects (requiring a Basic Assessment Process) are referred to as Kenhardt PV 1 – Transmission Line; Kenhardt PV 2 – Transmission Line; and Kenhardt PV 3 – Transmission Line. It should be noted that the DEA Reference Numbers for the Basic Assessment Projects were pending at the time of release of this report.

This EIA Report only discusses the proposed Kenhardt PV 1 project.

#### 2. NEED FOR THE PROJECT

The Integrated Resource Plan for South Africa for the period 2010 to 2030 (referred to as "IRP 2010") was released by government in 2010, and proposes to develop and secure 17 800 MW of renewable energy capacity by 2030 (including wind, solar and other energy sources). The IRP was updated in 2013. The IRP 2010 has set up a target of 3 725 MW of renewable energy to be produced by Independent Power Producers (IPPs) by 2016. On 18 August 2015, an additional target of 6 300 MW to be procured and generated from renewable energy sources was added to the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) as noted Government Gazette 39111. The additional target allocated for solar PV energy is 2 200 MW.

In 2011, the Department of Energy (DOE) launched the REIPPPP and invited potential IPPs to submit proposals for the financing, construction, operation and maintenance of the first 3 725 MW of onshore wind, solar thermal, solar PV, biomass, biogas, landfill gas or small hydro projects. The two main evaluation criteria for compliant proposals are price and economic development, with other selection criteria including technical feasibility and grid connectivity, environmental acceptability, black economic empowerment, community development, and local economic and manufacturing propositions. The bidders with the highest rankings (according to the aforementioned criteria) are appointed as "Preferred Bidders" by the DOE. The proposed projects aim to contribute to the above strategic imperative.



### 3. PROJECT APPLICANT

Scatec Solar is an integrated IPP that is focused on making solar energy a sustainable and affordable source on a global scale. Scatec Solar was founded in 2001 and holds its headquarters in Norway. The company develops, builds, owns and operates a number of solar power plants internationally and within Africa. The company is growing significantly and is currently planned to provide a combined 207 MW of power in the United States, Honduras and Jordan. In addition, Scatec Solar collectively delivers more than 219 MW of power in the Czech Republic, South Africa and Rwanda. Specifically linked to investment within South Africa, Scatec Solar has been involved in the following major solar energy projects:

- The Linde Solar Plant (40 MW) is located in the Northern Cape and is considered to be the first of the large-scale PV plants in production from the second round of the REIPPPP.
- The Dreunberg Solar Plant (75 MW) is the only REIPPPP Solar PV Project to be located in the Eastern Cape.
- The Kalkbult Solar Plant (75 MW) is located in the Northern Cape and was the first REIPPPP project to be connected to the grid and operational in South Africa.

Scatec Solar was awarded another further 258 MW in the Fourth Round of the REIPPPP.

### 4. PROJECT EIA TEAM

As mentioned above, the CSIR has been appointed to undertake the separate EIA and Basic Assessment Processes. The EIA project team, including the relevant specialists are indicated in the table below:

NAME	ORGANISATION	ROLE/STUDY TO BE UNDERTAKEN
<b>Environmental Assessment Practitioners</b>		
Paul Lochner	CSIR	Technical Advisor and Quality Assurance (EAPSA) Certified
Sarina Laurie	CSIR	Project Leader (Pr. Sci. Nat.)
Rohaidh Abed	CSIR	Project Manager (Pr. Sci. Nat.)
<b>Specialists</b>		
Simon Bundy	Sustainable Development Projects cc	Ecological Impact Assessment (including Terrestrial Ecology, Aquatic Ecology and Avifauna)
Henry Holland	Private	Visual Impact Assessment
Dr. Jayson Orlon	ASHA Consulting (Pty) Ltd	Heritage Impact Assessment (Archaeology and Cultural Landscape)
Dr. John Almond	Nature Viva cc	Desktop Paleontological Impact Assessment
Julien Conrad	GEOSS	Geohydrological Assessment
Johann Lenz	Private	Soils and Agricultural Potential Assessment
Rudolph du Toit	CSIR	Social Impact Assessment
P. S. van der Merwe and A. J. Odo	MESA Solutions (PTY) Ltd	Electromagnetic Interference and Radio Frequency Interference Surveys

It must be reiterated that the Social Impact Assessment specialist study (included in Chapter 13 of the EIA Report) was subject to a peer review process by an external reviewer (Ms. Liza van der Merwe, a private consultant), as requested by the DEA. This external review report is included as an appendix to the Social Impact Assessment.

A Traffic Impact Statement was also compiled by the Environmental Assessment Practitioner (EAP) and is included in Chapter 14 of the EIA Report, however it serves as a general description of the existing and predicted traffic associated with the proposed project and does not classify as a specialist study in terms of Appendix 6 of the 2014 NEMA EIA Regulations. Furthermore, this statement considered the full development (i.e. the development of the three Solar PV Facilities (i.e. Kenhardt PV 1, 2 and 3) and the associated electrical infrastructure (which are the subjects of separate BA Processes).

### 5. PROJECT DESCRIPTION

It is important to point out at the outset that the exact specifications of the proposed project components will be determined during the detailed engineering phase (subsequent to the issuing of an EA, should one be granted for the proposed project).

Linked to enhancing its operations within South Africa, the 75 MW Solar PV facility (i.e. Kenhardt PV 1) proposed by Scatec Solar will cover an approximate area of 250 hectares (ha). The preferred site for the proposed PV facility was assessed in this EIA Phase, which covers an area of approximately 450 ha. The approximate centre point coordinates for this site is 29°11' 17.73"S and 21°17' 45.82"E.

This 450 ha area was assessed by the specialists and considered in the EIA, even though the proposed project only requires 250 ha of land. This approach was undertaken in order to avoid environmental constraints and sensitivities (highlighted by the specialists), during the siting and final design of the facility. The proposed project site does not fall within a Critical Biodiversity Area (CBA), Ecological Support Area (ESA) or threatened ecosystem.

The proposed project will make use of PV solar technology to generate electricity from the sun's energy. The Applicant is proposing to develop a facility with a possible maximum installed capacity of 100 MW Direct Current (DC) which produces 75 MW Alternating Current (AC) of electricity from PV solar energy.

Once a Power Purchase Agreement (PPA) is awarded, the proposed facility will generate electricity for a minimum period of 20 years. The proposed solar facility will consist of the following components:

- **Solar Field:**
  - Solar Arrays:
    - PV Modules;
    - Tracking structures;
    - Solar module mounting structures comprised of galvanised steel and aluminium; and
    - Foundations which will likely be drilled and concreted into the ground.
- **Building Infrastructure:**
  - Offices;
  - Operational and maintenance control centre;
  - Warehouse/workshop;
  - Ablution facilities;
  - Converter/Inverter stations;
  - On-site substation building; and
  - Guard Houses.
- **Associated Infrastructure**
  - 132 kV overhead transmission line (this is being assessed as part of a separate Basic Assessment Process, referred to as Kenhardt PV 1 – Transmission Line);
  - Associated electrical infrastructure at the Eskom Nieuwehoop Substation (including but not limited to feeders, Busbars, transformer bay and extension to the platform at the Eskom Nieuwehoop Substation) (as mentioned above this is the subject of a separate Basic Assessment Process, referred to as Kenhardt PV 1 – Transmission Line);
  - On-site substation;
  - Internal transmission lines/underground cables;
  - Underground low voltage cables or cable trays;
  - Access roads;
  - Internal gravel roads;
  - Fencing;
  - Panel maintenance and cleaning area;
  - Stormwater channels; and
  - Temporary work area during the construction phase (i.e. laydown area).

## 6. NEED FOR AN EIA

As noted above, in terms of the EIA Regulations promulgated under Chapter 5 of the NEMA published in GN R982, R983, R984 and R985 on 4 December 2014 and enforced on 8 December 2014, a full Scoping and EIA Process is required for the proposed project. The need for the full Scoping and EIA is triggered by, amongst others, the inclusion of Activity 1 listed in GN R984 (Listing Notice 2):

- *The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs within an urban area.*

Given that energy related projects have been elevated to national strategic importance in terms of the EA Process, the proposed project requires authorisation from the National DEA, acting in consultation with other spheres of government.

The purpose of the EIA is to identify, assess and report on any potential impacts the proposed project, if implemented, may have on the receiving environment. The Environmental Assessment therefore needs to show the Competent Authority, the DEA; and the project proponent, Scatec Solar, what the consequences of their choices will be in terms of impacts on the biophysical and socio-economic environment and how such impacts can be, as far as possible, enhanced or mitigated and managed as the case may be.

## 7. APPROACH TO THE EIA PROCESS

The Applications for EA for the Scoping and EIA Projects were submitted to the DEA via courier on 30 September 2015, together with the Scoping Reports for comment. Appendix E of this EIA Report includes the proof of submission (i.e. courier waybills) of the Applications for EA and the Scoping Reports to the DEA. The DEA acknowledged receipt of the Scoping Reports and Applications for EA on 26 October 2015 via email (as included in Appendix I.2 of this EIA Report). DEA EIA Reference Numbers were assigned to each Scoping and EIA Project, as noted above.

The Scoping Reports were made available to Interested and Affected Parties (I&APs) and stakeholders for a 30-day comment period extending from 25 September 2015 to 27 October 2015. The Addendum to the Scoping Report was released to I&APs for a further 30-day comment period extending from 6 October 2015 to 5 November 2015. The addendum included additional information that was requested by the DEA relating to an assessment of alternatives in the Scoping Phase.

The comments received from stakeholders during the 30-day review of both the Scoping Report and Addendum were incorporated into the Scoping Report (where required), and the finalised Scoping Report was submitted to the DEA in November 2015, in accordance with Regulation 21 (1) of the 2014 NEMA EIA Regulations, for decision-making in terms of Regulation 22 of the 2014 NEMA EIA Regulations. The DEA accepted the finalised Scoping Report and Plan of Study for EIA on 8 December 2015, which enabled the commencement of the impact assessment phase.

The EIA Report is now being released to stakeholders for a 30-day review period (together with the Basic Assessment Reports). All comments received will be included in the finalised EIA Report, which will be submitted to DEA for decision-making. The EIA Report is available in the Kenhardt and Groblershoop public libraries. An electronic version of this report is also available on the following project website: <http://www.csir.co.za/eia/ScatecSolarPV/>. Written notifications, hard copies and/or CDs containing the document were sent to key stakeholders, including authorities.

The results of the specialist studies and other relevant project information are summarised and integrated into the EIA Report. Part B of this EIA Report includes an Environmental Management Programme (EMPr). The EMPr is based on the recommendations made by specialists for design, construction, operation and decommissioning of the proposed project.

## 8. IMPACT ASSESSMENT AND MANAGEMENT ACTIONS

This section provides a summary of the main impacts identified and assessed by the specialists in the EIA Report. The significant impacts and corresponding impact significance ratings before and after mitigation and the key associated mitigation and management measures are summarised in this section.

Specialist Study	Main Impacts	Main Mitigation Measures	Overall Impact Significance Before Mitigation or Enhancement	Overall Impact Significance After Mitigation or Enhancement
Ecological Impact Assessment (including Terrestrial Ecology, Aquatic Ecology and Avifauna)	<p><b>Construction Phase:</b></p> <ul style="list-style-type: none"> <li>Ousting (and recruitment) of various fauna.</li> </ul> <p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>Ousting (and recruitment) of various fauna on account of long term changes in the surrounding habitat/environment.</li> <li>Changes in water resources and water quality (i.e. impact on water chemistry) as a result of operational activities.</li> </ul> <p><b>Decommissioning Phase:</b></p> <ul style="list-style-type: none"> <li>Exotic weed invasion as a consequence of abandonment of site and cessation of weed control measures.</li> </ul>	<p><b>Pre-Construction and Construction Phases:</b></p> <ul style="list-style-type: none"> <li>Carry out a second assessment of the site in or around February to March (subsequent to the issuing of an EA and the completion of the detailed engineering) in order to identify any additional plant specimens of significance that may be evident on site. Such specimens may be relocated/removed or avoided (with the relevant permits and approvals in place) prior to the commencement of construction.</li> <li>An initial pre-construction clearance of all exotic vegetation on site should be undertaken to reduce the possibility of further exotic weed invasion. Continued exotic weed control measures should be implemented during the construction phase and may be incorporated into an exotic weed control plan for the site.</li> </ul> <p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>Provision of critter paths within the fencing should be considered in the design.</li> <li>Conduct regular (daily) inspections of the fence line to address any animals that may be affected by the electric fence (i.e. tortoise).</li> <li>Adopt 'dry' cleaning methods, such as dusting and sweeping the site before washing down.</li> </ul> <p><b>Decommissioning Phase:</b></p> <ul style="list-style-type: none"> <li>Conduct monitoring of the land conditions and redress of exotic weeds found present on site.</li> </ul>	Negative: Moderate-Very Low	Negative: Very Low-Low
Visual Impact Assessment	<p><b>Construction, Operational and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>Potential visual intrusion of construction, operational and decommissioning activities on existing views of sensitive visual receptors.</li> </ul> <p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>Potential visual intrusion of the proposed solar energy facility on the views of sensitive visual receptors; and</li> <li>Potential impact of night lighting of a large solar energy facility on the nightscape of the region.</li> </ul>	<p><b>Construction Phase:</b></p> <ul style="list-style-type: none"> <li>Preparation of the solar field area (i.e. clearance of vegetation, grading, contouring and compacting) and solar field construction should be phased in a way that makes practical sense in order to minimise the area of soil exposed and duration of exposure.</li> </ul> <p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>The project developer should maintain re-vegetated surfaces until a self-sustaining stand of vegetation is established and visually adapted to the undisturbed surrounding vegetation. No new disturbance should be created during operations without approval by the Environmental Officer.</li> <li>A lighting plan that documents the design, layout and technology used for lighting purposes should be prepared, indicating how nightscape impacts will be minimised.</li> </ul>	Neutral: Moderate-Very Low	Neutral: Low-Very Low

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Ruzgeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist Study	Main Impacts	Main Mitigation Measures	Overall Impact Significance Before Mitigation or Enhancement	Overall Impact Significance After Mitigation or Enhancement
		<u>Decommissioning Phase:</u> <ul style="list-style-type: none"> <li>Disturbed and transformed areas should be contoured to approximate naturally occurring slopes to avoid lines and forms that will contrast with the existing landscapes.</li> </ul>		
Heritage Impact Assessment (Archaeology and Cultural Landscape)	<u>Construction Phase:</u> <ul style="list-style-type: none"> <li>Damage to or destruction of archaeological resources and graves.</li> </ul> <u>Construction, Operational and Decommissioning Phases:</u> <ul style="list-style-type: none"> <li>Impacts to the cultural and natural landscape.</li> </ul>	<u>Construction Phase:</u> <ul style="list-style-type: none"> <li>The construction team should be informed of the possibility of encountering graves and should be encouraged to report any suspicious-looking stone features prior to disturbance;</li> <li>The potential grave should be avoided with a buffer of at least 5 m or else tested and, if necessary, exhumed prior to construction;</li> <li>The built elements of the facility should be painted in an earthy colour to minimise visual contrast in the landscape; and</li> <li>If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.</li> </ul>	Negative: High-Very Low	Negative: Low-Very Low
Desktop Paleontological Impact Assessment	<u>Construction Phase:</u> <ul style="list-style-type: none"> <li>Potential loss of paleontological heritage resources through disturbance, damage or destruction of fossils and fossil sites (including associated geological contextual data) through surface clearance and excavation activities during the construction phase.</li> </ul>	<u>Construction Phase:</u> <ul style="list-style-type: none"> <li>All substantial bedrock excavations (into sedimentary rocks) should be monitored for fossil material by the responsible ECO. Should significant fossil remains be exposed during construction, the responsible ECO should safeguard these, preferably in situ. The SAHRA should be alerted as soon as possible, so that appropriate action can be taken by a professional paleontologist.</li> <li>Appoint a professional paleontologist to record and sample any chance fossil finds. The paleontologist concerned with mitigation work will need a valid fossil collection permit from SAHRA.</li> </ul>	Negative: Very Low	Negative: Very Low
Geological Assessment	<u>Construction and Operational Phases:</u> <ul style="list-style-type: none"> <li>Potential impact of increased storm water outflows.</li> </ul> <u>Construction, Operational and Decommissioning Phases:</u> <ul style="list-style-type: none"> <li>Potential impact on groundwater quality as a result of accidental oil spillages and fuel leakages.</li> </ul>	<u>Construction, Operational and Decommissioning Phases:</u> <ul style="list-style-type: none"> <li>All reasonable measures must be taken to prevent soil, storm water outflows and groundwater contamination.</li> <li>Emergency measures and plans must be put in place and rehearsed in order to prepare for accidental spillage.</li> <li>Vehicle and washing areas must also be on paved surfaces and the by-products correctly managed.</li> <li>If spillages occur, they should be contained and removed as rapidly as possible, with correct disposal procedures of the spilled material. Proof of disposal (waste disposal slips or waybills) should be obtained and retained on file for auditing purposes.</li> </ul>	Neutral: Very Low	Neutral: Very Low
Soils and Agricultural Potential Assessment	<u>Construction and Decommissioning Phases:</u> <ul style="list-style-type: none"> <li>Degradation of veld vegetation beyond the direct footprint of the proposed PV facility.</li> <li>Loss of topsoil due to poor topsoil management.</li> <li>Loss of agricultural land use.</li> <li>Soil erosion by wind or water due to alteration of the land surface characteristics.</li> </ul>	<u>Construction, Operational and Decommissioning Phases:</u> <ul style="list-style-type: none"> <li>Implement an effective system of stormwater run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.</li> </ul>	Negative: Very Low-Low	Negative: Very Low

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Ruzgeer Farm 168, north-east of Kenhardt, Northern Cape Province

Specialist Study	Main Impacts	Main Mitigation Measures	Overall Impact Significance Before Mitigation or Enhancement	Overall Impact Significance After Mitigation or Enhancement
	<p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>Loss of agricultural land use.</li> <li>Soil erosion by wind or water due to alteration of the land surface characteristics.</li> </ul>			
	<p><b>Construction, Operational and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>Generation of additional land use income through the rental of the land for the proposed solar energy facility.</li> </ul>	None	Positive: Very Low	Positive: Very Low
Social Impact Assessment	<p><b>Construction and Operational Phases:</b></p> <ul style="list-style-type: none"> <li>Negative Impact: Influx of jobseekers</li> <li>Negative Impact: Increases in social deviance and increases in incidence of HIV/AIDS infections</li> <li>Negative Impact: Expectations regarding jobs</li> </ul>	<p><b>Construction and Operational Phases:</b></p> <ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Plan;</li> <li>Clearly define and agree upon the Project Affected People (PAP);</li> <li>Develop a database of PAP and their relevant skills and experience, or use an existing legitimate database of skills and expertise;</li> <li>Develop and implement a Stakeholder Engagement Plan; and</li> <li>Delivery on the Economic Development Plan must be contractually binding on the proponent.</li> </ul>	Negative: Moderate-Low	Negative: Low-Very Low
	<p><b>Construction and Operational Phases:</b></p> <ul style="list-style-type: none"> <li>Positive Impact: Local spending</li> <li>Positive Impact: Local employment</li> <li>Positive Impact: Human development resulting from the proposed Economic Development Plan</li> </ul>	<ul style="list-style-type: none"> <li>Develop and implement a Workforce Recruitment Plan;</li> <li>Procure goods and services, where practical, within the study area;</li> <li>The proponent should engage with local NGOs, CBOs and local government structures in the Kenhardt community to identify and agree upon relevant skills and competencies required;</li> <li>Such skills and competencies should then be included in the Economic Development Plan; and</li> <li>Where possible, align the Economic Development Plan with Local Municipality's IDP.</li> </ul>	Positive: Moderate-Low	Positive: Moderate-Low
Traffic Impact Statement	<p><b>Construction, Operation and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>Increase in traffic generation.</li> <li>Accidents with pedestrians, animals and other drivers on the surrounding tarred/gravel roads.</li> <li>Impact on air quality due to dust generation, noise and release of air pollutants from vehicles and construction equipment.</li> <li>Decrease in quality of surface condition of the roads.</li> </ul>	<p><b>Construction, Operational and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>Should abnormal loads have to be transported by road to the site, a permit needs to be obtained from the Provincial Government Northern Cape (PGNC) Department of Public Works, Roads and Transport. A Road Maintenance Plan should be developed for the section of the Transnet Service Road.</li> </ul>	Negative: High-Low	Negative: Moderate- Low
Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) Survey Technical Study	Note from the CSIR this study was commissioned by the Project Applicant to determine the impact of the proposed project on the Square Kilometre Array (SKA), as requested by the SKA Project Office. This report is not a standard specialist study in terms of Appendix 6 of the 2014 NEMA EIA Regulations, as it is a detailed, technical report which provides a cumulative topographical analysis of the proposed PV projects in the Astronomy Geographic Advantage Area and was undertaken to determine appropriate mitigation and management measures to reduce the risk of a detrimental impact on the SKA project.	<ul style="list-style-type: none"> <li>The inverter units, transformers, communication and control units for an array of panels all be housed in a single shielded environment.</li> <li>For shielding of such an environment ensure RFI gasketing be placed on all seams and doors and RFI Honeycomb filtering be placed on all ventilation openings.</li> <li>Cables to be laid directly in soil or properly grounded cable trays (not plastic sleeves).</li> <li>The use of bare copper directly in soil for earthing is recommended.</li> <li>Assuming a tracking PV plant design, care will have to be taken to shield the noise associated with the relays, contactors and hydraulic pumps of the tracking units.</li> <li>All data communications to and from the plant to be via fibre optic.</li> </ul>	Refer to Technical Report in Appendix K of the EIA Report	Refer to Technical Report in Appendix K of the EIA Report

## 9. OVERALL EVALUATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Based on the findings of the specialist studies, which all recommend that the proposed project can proceed and should be authorised by the DEA, the proposed project is considered to have an overall low negative environmental impact and an overall moderate positive socio-economic impact (with the implementation of respective mitigation and enhancement measures).

The proposed project will take place within the Development Envelope. The location of the 250 ha PV facility within the assessed Development Envelope will avoid the sensitive ecological and heritage features identified by the respective specialists. An indicative Site Development Plan within the Development Envelope has been produced and included within this report.

Section 24 of the Constitutional Act states that 'everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures, that prevents pollution and ecological degradation; promotes conservation; and secures ecologically sustainable development and use of natural resources while promoting justifiable economic and social development'. Based on this, this EIA was undertaken to ensure that these principles are met through the inclusion of appropriate management and mitigation measures and monitoring requirements. These measures will be undertaken to promote conservation by avoiding the sensitive environmental features present on site and through appropriate monitoring and management plans included in the EMPr (Part B of the EIA Report).

The outcomes of this project therefore succeeds in meeting the environmental management objectives of protecting the ecologically sensitive areas and supporting sustainable development and the use of natural resources, whilst promoting justifiable socio-economic development in the towns nearest to the project site. The findings of this EIA show that all natural resources will be used in a sustainable manner (i.e. this project is a renewable energy project and the majority of the negative site specific and cumulative environmental impacts are considered to be of low significance with mitigation measures implemented), while the benefits from the project will promote justifiable economic and social development.

Taking into consideration the findings of the EIA Process and given the national and provincial strategic requirements for infrastructure development, it is the opinion of the EAP that the project benefits outweigh the costs and that the project will make a positive contribution to steering South Africa on a pathway towards sustainable infrastructure development. Provided that the specified mitigation measures are applied effectively, it is recommended that the project receive EA in terms of the 2014 EIA Regulations promulgated under the NEMA.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Proof of Correspondence with I&APs (Registered Mail Receipts for Letter 3 (dated 4 March 2016))**

**DALBRIDGE POST OFFICE**  
**LIST OF REGISTERED MAIL FOR CSIR DURBAN – MARCH 2016**  
**SCATEC SOLAR – DISTRIBUTION LIST FOR ROHAIDA ABED – UNIT: CAS**



No	Name	Surname	Company	Position	Postal Address	Registered Number Customer Copy (for CSIR)
1	Muhammad	Essop	National Department of Environmental Affairs: Integrated Environmental Authorisations	Competent Authority	Private Bag X447 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 346 ZA CUSTOMER COPY 301028R
2	Herman Alberts	Alberts	National Department of Environmental Affairs: Integrated Environmental Authorisations	Competent Authority	Private Bag X447 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 350 ZA CUSTOMER COPY 301028R
3	Biodiversity Director		National Department of Environmental Affairs: Department of Environmental Affairs: Biodiversity		Private Bag X447 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 329 ZA CUSTOMER COPY 301028R
4	A	Yaphi	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 332 ZA CUSTOMER COPY 301028R
5	M	Mathews	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 301 ZA CUSTOMER COPY 301028R
6	Samantha	De la Fontaine	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority (District Ecologist (Candidate Scientist))	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 315 ZA CUSTOMER COPY 301028R
7	Elsabe	Swart	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority Deputy Director: Research & Development Support	Private Bag X6102 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 068 ZA CUSTOMER COPY 301028R
8	Eric	Ngxanga	ZF Mgcawu District Municipality - Municipal Manager	Municipal Manager	Private Bag X6039 Upington 8800	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 071 ZA CUSTOMER COPY 301028R
9	H.T	Scheepers	IKheis Municipality - Municipal Manager	Municipal Manager	Private Bag X2 Oranje Street 97 Groblershoop 8850	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 085 ZA CUSTOMER COPY 301028R
10	JG	Lategan	Kai I Garib Municipality - Municipal Manager	Municipal Manager	Private Bag X6 Kakamas 8870	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 099 ZA CUSTOMER COPY 301028R
11	Mashudu	Randwedzi	Department of Water and Sanitation	DWS	Private Bag X5912 Upington 8800	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 108 ZA CUSTOMER COPY 301028R
12	Melinda	Mei	Department of Water and Sanitation	DWS	Private Bag X5912 Upington 8800	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 111 ZA CUSTOMER COPY 301028R
13	Shaun	Cloete	Department of Water and Sanitation	DWS	Private Bag X5912 Upington 8801	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 802 www.saps.co.za RC 088 033 125 ZA CUSTOMER COPY 301028R



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

No	Name	Surname	Company	Position	Postal Address	Registered Number Customer Copy (for CSIR)
14	Chantel	Schwartz	Department of Water and Sanitation			REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 142 ZA CUSTOMER COPY 301028R
15	Mandia	Ndzilili	Ministry of Environment and Nature Conservation		Private Bag X6120 Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 139 ZA CUSTOMER COPY 301028R
16	Sibonelo	Mbanjwa	Provincial Department of Environment and Nature Conservation: Northern Cape		Private Bag X6120 Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 156 ZA CUSTOMER COPY 301028R
17	Mashudu	Marubini	Department of Agriculture, Forestry and Fisheries - Delegate of the Minister (Act 70 of 1970)	Delegate of the Minister (Act 70 of 1970)	Private Bag X120 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 160 ZA CUSTOMER COPY 301028R
18	Thoko	Buthlezi	Department of Agriculture, Forestry and Fisheries - AgriLand Liaison office		Private Bag X120 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 173 ZA CUSTOMER COPY 301028R
19	D	Nhlakad	Department of Agriculture, Forestry and Fisheries - AgriLand Liaison office		Private Bag X120 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 686 ZA CUSTOMER COPY 301028R
20	Anneliza	Collett	Department of Agriculture, Forestry and Fisheries - AgriLand Liaison office		Private Bag X120 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 690 ZA CUSTOMER COPY 301028R
21	Jacoline	Mans	Department of Agriculture, Forestry and Fisheries - Chief Forester: NFA Regulation		PO BOX 2782 Uptington 8800	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 709 ZA CUSTOMER COPY 301028R
22	Ali	Ditene	Agriculture, Land Reform & Rural Development		Private Bag X 5018 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 712 ZA CUSTOMER COPY 301028R
23	Pieter	Buys	National Energy Regulator of South Africa (NERSA)		PO Box 40343 Arcadia 0007	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 726 ZA CUSTOMER COPY 301028R
24	IA	Bulane	Department of Public Works, Roads and Transport		PO Box 3132 Squarehill Park Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 730 ZA CUSTOMER COPY 301028R
25	Denver	Van Heerden	Department of Public Works, Roads and Transport		PO Box 3132 Squarehill Park Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 289 ZA CUSTOMER COPY 301028R
26	Rene	de kock	South African Roads Agency Limited (SANRAL) Northern Cape (Western Region)		Private Bag X19 Bellville 7535	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 292 ZA CUSTOMER COPY 301028R
27	M	Lepheane	Department of Labour		Private Bag X5012 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 261 ZA CUSTOMER COPY 301028R
28	A	Boles	Department of Social Development		Private Bag X 5042 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 771 502 www.saps.co.za RC 088 033 275 ZA CUSTOMER COPY 301028R

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

No	Name	Surname	Company	Position	Postal Address	Registered Number Customer Copy (for CSIR)
29	Riaan	Warie	Northern Cape Economic Development Agency		227 Du Toitspan Road Belgravia Kimberley 8301	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 244 ZA CUSTOMER COPY 301028R
30	Andrew	Timothy	Directorate Heritage, Department - Sports, Arts and Culture		P. O. Box 1930 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 187 ZA CUSTOMER COPY 301028R
31	Lizell	Stroh	South African Civilian Aviation Authority		Private Bag X73 Halfway House 1685	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 195 ZA CUSTOMER COPY 301028R
32	John	Geeringh	ESKOM	Commenting authority	P.O.Box 1091 Johannesburg 2157	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 200 ZA CUSTOMER COPY 301028R
33	Justine	Wyngaardt	Eskom Holdings Limited: Eskom Distribution Western Operating Unit		Eskom Road Brackenfell Western Cape 7561	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 213 ZA CUSTOMER COPY 301028R
34	Sharon	Steyn	Northern Cape Chamber of Commerce and Industry		PO Box 350 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 258 ZA CUSTOMER COPY 301028R
35	H	Myburgh	Agri Northern Cape		PO Box 1094 Kimberly 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 227 ZA CUSTOMER COPY 301028R
36	Adrian	Tiplady	SKA SA	Head: Strategy	17 Baker Street Rosebank Johannesburg South Africa 2196	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 235 ZA CUSTOMER COPY 301028R
37	Gilbert	Nortier	Transnet Freight Rail	Depot Engineering Manager	Private Bag X11 Vredenburg 7380	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 757 ZA CUSTOMER COPY 301028R
38	The Director		Department of Energy Northern Cape		Private Bag X6093 Kimberley 8300	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 669 ZA CUSTOMER COPY 301028R
39	Kgauta	Mokoena	Department of Mineral Resources	Director: Mine Environmental Research and Sustainable Development	Private Bag x 59 ARCADIA 0007	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 672 ZA CUSTOMER COPY 301028R
40	Deputy Minister		Department of Communications		Tshedimosefso House 1035 cnr Frances Baard and Festival Streets HATFIELD, Pretoria 0083	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 641 ZA CUSTOMER COPY 301028R
41	Chris	Coetzee	Southern African Large Telescope (SALT) Sutherland	SALT Operations Manager	Old Fraserburg Road, Sutherland, 6920	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 655 ZA CUSTOMER COPY 301028R
42	Raoul	Van den Berg	Southern African Large Telescope (SALT) Sutherland	SALT Project Manager	Old Fraserburg Road, Sutherland, 6920	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 624 ZA CUSTOMER COPY 301028R
43	Lubabalo	Ntsolo	C.A.P.E. Co-ordination Unit: Northern Cape		Private Bag X7 Claremont 7735	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 638 ZA CUSTOMER COPY 301028R
44	Dr. Howard	Hendricks	South African National Parks (SANParks) - Snr GM: Policy & Governance Conservation Services Division		PO Box 787 Pretoria 0001	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 403 ZA CUSTOMER COPY 301028R
45	Dr. Joh R	Henschel	SAEON Arid Lands Node	Manager	P.O.Box 110040 Hadison Park Kimberley 8306 South Africa	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 385 ZA CUSTOMER COPY 301028R
46	Rudolph	Grobler			PO Box 41 Keimos 8860	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 477 ZA CUSTOMER COPY 301028R
47	Ernest	Connan	Ernest Connan Trust		PO Box 290 Uptington 8800	REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 777 882 www.saps.co.za RC 088 033 394 ZA CUSTOMER COPY 301028R

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

No	Name	Surname	Company	Position	Postal Address	Registered Number Customer Copy (for CSIR)
48	Johan	Steenkamp	JHJ Steenkamp Trust		JHJ Steenkamp Trust PO Box 3267 Upington 8800	REGISTERED LETTER (with a electronic signature approval) ShareCall 088 111 552 www.sagopa.co.za RC 088 033 363 ZA CUSTOMER COPY 301028R
49	Mitchell	Hodgson	Scatec Solar	Project Development	Unit 109B, The Foundry 75 Preshwih Street Green Point Cape Town 8005	REGISTERED LETTER (with a electronic signature approval) ShareCall 088 111 552 www.sagopa.co.za RC 088 033 377 ZA CUSTOMER COPY 301028R
50	Ronell	van Rooi	Grobiershoop Library		97 Oranje Street Grobiershoop 8850	REGISTERED LETTER (with a electronic signature approval) ShareCall 088 111 552 www.sagopa.co.za RC 088 033 425 ZA CUSTOMER COPY 301028R
51	Geene	Einam	Kenhardt Library		Park Street Kenhardt 8900	REGISTERED LETTER (with a electronic signature approval) ShareCall 088 111 552 www.sagopa.co.za RC 088 033 434 ZA CUSTOMER COPY 301028R
52	Simon	Gear	Birdlife South Africa		PO Box 515 Randburg 2194	REGISTERED LETTER (with a electronic signature approval) ShareCall 088 111 552 www.sagopa.co.za RC 088 033 607 ZA CUSTOMER COPY 301028R



*52  
for no on/A*

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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## Email 5 sent to all I&APs on 4 March 2016

### **Rohaida Abed - Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape**

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**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**Date:** 04/03/2016 17:05  
**Subject:** Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Bc:** aditeme@agri.ncape.gov.za; admin@grasslands.org.za; advocacy@birdlife...  
**Attachments:** CSIR Letter 3 to I&APs\_Scaterc Solar NC\_040316.pdf; Comment and Response Form\_Scaterc Solar\_NC\_040316.pdf

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Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority:** National Department of Environmental Affairs

**CSIR REFERENCE:** EMS0102/SCATEC/2015

This e-mail correspondence serves to inform you of the release of EIA and BA Reports for the development of three 75 Megawatt (MW) Solar PV power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gembok Bult Farm 120. These transmission line projects are referred to as: Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line and Kenhardt PV 3 – Transmission Line.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure. The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

Separate Applications for Environmental Authorisation (EA) for the Scoping and EIA Projects were lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) on 30 September 2015 (together with the Scoping Reports, which were accepted by the DEA on 8 December 2015). The Applications for EA for the BA projects will be submitted to the DEA together with the BA and EIA Reports for comment. An integrated Public Participation Process is being undertaken for the proposed projects as they are located within the same geographical area and constitute the same type of activity. However, separate reports (i.e. BA, Scoping and EIA Reports) have been compiled for each project.

In line with the above, as a registered Interested and Affected Party (I&AP) on the project database, you are hereby notified of the release of the BA and EIA Reports for the proposed projects for a 30-day review period, which will extend from 3 March 2016 to 5 April 2016.

Please find attached the following:

- Letter 3 to I&APs; and
- Comment and Registration Form.

In addition, the above-mentioned project information can be accessed at the following website:  
<http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 281 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

**Proof of Delivery of Email 5 sent to all I&APs on 4 March 2016**

Message Id: 56D9A41F.9E8 : 179 : 65115  
 Subject: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
 Created By: RAbed@ostr.oo.za  
 Scheduled Date:  
 Creation Date: 04/03/2016 17:05  
 From: Rohaida Abed




**Recipients:**

Recipient	Action	Date & Time	Comment
agr.ncape.gov.za	Transferred	04/03/2016 17:05	
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aheadtrading.co.za	Transferred	04/03/2016 17:05	
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BC: stroh@caa.co.za(stroh@caa.co.za)	Delivered	04/03/2016 17:37	
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BC: nhakad@daff.gov.za(nhakad@daff.gov.za)	Delivered	04/03/2016 18:33	
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BC: andre.vannlekerk10@gmail.com(andre.vannlekerk10@gmail.com)	Delivered	04/03/2016 17:09	
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Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

Page 2 of 4

BC: sdelafontaine@gmail.com(sdelafontaine@gmail.com)	Delivered	04/03/2016 17:09
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grasslands.org.za	Transferred	04/03/2016 17:05
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labour.gov.za	Transferred	04/03/2016 17:05
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nda.agric.za	Transferred	04/03/2016 17:05
BC: annelzacc@nda.agric.za(annelzacc@nda.agric.za)	Delivered	04/03/2016 17:37
POBOK 1.DURBAN	Delivered	04/03/2016 17:05
To: Rohaida Abed(RAbed@csir.co.za)	Read	04/03/2016 17:09
POBOK 1.STELLBOS	Delivered	04/03/2016 17:05
BC: Surtia Laurie(SLaurie@csir.co.za)	Third-Party Downloaded Read	04/03/2016 17:05 07/03/2016 07:05
nersa.org.za	Transferred	04/03/2016 17:05
BC: peter.buys@nersa.org.za(peter.buys@nersa.org.za)	Delivered	04/03/2016 17:40
noccd.co.za	Transferred	04/03/2016 17:05
BC: sharon@noccd.co.za(sharon@noccd.co.za)		
nra.co.za	Transferred	04/03/2016 17:05
BC: AbrahamsN@nra.co.za(AbrahamsN@nra.co.za)	Delivered	04/03/2016 17:09
BC: waitc@nra.co.za(waitc@nra.co.za)	Delivered	04/03/2016 17:09
orientis.co.za	Transferred	04/03/2016 17:05
BC: straussd@orientis.co.za(straussd@orientis.co.za)	Delivered	04/03/2016 17:08
saeon.ac.za	Transferred	04/03/2016 17:05
BC: joh.henschel@saeon.ac.za(joh.henschel@saeon.ac.za)	Delivered	04/03/2016 17:09
sahra.org.za	Transferred	04/03/2016 17:05
BC: medelstorf@sahra.org.za(medelstorf@sahra.org.za)	Delivered	04/03/2016 17:08
salt.ac.za	Transferred	04/03/2016 17:05
BC: chris@salt.ac.za(chris@salt.ac.za)	Transferred	04/03/2016 17:16 2.6.0 message relayed
BC: rooul@salt.ac.za(rooul@salt.ac.za)	Transferred	04/03/2016 17:16 2.6.0 message relayed
sanbi.org.za	Transferred	04/03/2016 17:05
BC: Lntsoio@sanbi.org.za(lntsoio@sanbi.org.za)	Undeliverable	04/03/2016 17:09
scalecolar.com	Transferred	04/03/2016 17:05
BC: mitchell.hodgson@scalecolar.com(mitchell.hodgson@scalecolar.com)		
siyanda.gov.za	Transferred	04/03/2016 17:05
BC: sb@siyanda.gov.za(sb@siyanda.gov.za)	Undeliverable	09/03/2016 17:29

 ska.ac.za	Transferred	04/03/2016 17:05
BC: atplady@ska.ac.za(atplady@ska.ac.za)	Delivered	04/03/2016 17:08
 transnet.net	Transferred	04/03/2016 17:05
BC: Clive.Stephenson@transnet.net(Clive.Stephenson@transnet.net)	Delivered	04/03/2016 17:09
BC: Gilbert.Nortier@transnet.net(Gilbert.Nortier@transnet.net)	Delivered	04/03/2016 17:09
BC: Marina.Lourens@transnet.net(Marina.Lourens@transnet.net)	Delivered	04/03/2016 17:09
BC: Mayvyn.Bhana@transnet.net(Mayvyn.Bhana@transnet.net)	Delivered	04/03/2016 17:09
 tpw.ncape.gov.za	Transferred	04/03/2016 17:05
BC: klawrence@tpw.ncape.gov.za(klawrence@tpw.ncape.gov.za)	Undeliverable	04/03/2016 17:08
 veroniva.co.za	Transferred	04/03/2016 17:05
BC: claude@veroniva.co.za(claude@veroniva.co.za)	Delivered	04/03/2016 17:09
 vodamail.co.za	Transferred	04/03/2016 17:05
BC: teresascheepers@vodamail.co.za(teresascheepers@vodamail.co.za)	Delivered	04/03/2016 17:23 2.0.0 recipients expanded
 webmail.co.za	Transferred	04/03/2016 17:05
BC: jjs@webmail.co.za(jjs@webmail.co.za)	Transferred	04/03/2016 17:54 2.0.0 message relayed
 worldonline.co.za	Transferred	04/03/2016 17:05
BC: ncagric@worldonline.co.za(ncagric@worldonline.co.za)	Delivered	04/03/2016 17:08
 yahoo.com	Transferred	04/03/2016 17:05
BC: boozahunter@yahoo.com(boozahunter@yahoo.com)	Delivered	04/03/2016 17:09

#### Post Offices

Post Office	Delivered	Route
agri.ncape.gov.za		agri.ncape.gov.za
agrinik.co.za		agrinik.co.za
aheadtrading.co.za		aheadtrading.co.za
birdlife.org.za		birdlife.org.za
boodr.gov.za		boodr.gov.za
caa.co.za		caa.co.za
daff.gov.za		daff.gov.za
dmr.gov.za		dmr.gov.za
donco.co.za		donco.co.za
dps.gov.za		dps.gov.za
dwa.gov.za		dwa.gov.za
dws.gov.za		dws.gov.za
environment.gov.za		environment.gov.za
eskom.co.za		eskom.co.za
ewf.org.za		ewf.org.za
gmail.com		gmail.com
grasslands.org.za		grasslands.org.za
licasa.org.za		licasa.org.za
kalgarib.gov.za		kalgarib.gov.za
L2B.co.za		L2B.co.za
labour.gov.za		labour.gov.za
mulilo.com		mulilo.com
mweb.co.za		mweb.co.za
ncpg.gov.za		ncpg.gov.za
nda.agric.za		nda.agric.za
nersa.org.za		nersa.org.za
noccl.co.za		noccl.co.za
rfa.co.za		rfa.co.za
orientis.co.za		orientis.co.za
POBOX1.DURBAN	04/03/2016 17:05	csir.co.za
POBOX1.STELLBOS	04/03/2016 17:05	csir.co.za
saeon.ac.za		saeon.ac.za
salra.org.za		salra.org.za
salt.ac.za		salt.ac.za
sarbi.org.za		sarbi.org.za
scalec solar.com		scalec solar.com
stiyanda.gov.za		stiyanda.gov.za



sla.ac.za	sla.ac.za
transnet.net	transnet.net
tpw.ncape.gov.za	tpw.ncape.gov.za
veroniva.co.za	veroniva.co.za
vodamail.co.za	vodamail.co.za
webmail.co.za	webmail.co.za
worldonline.co.za	worldonline.co.za
yahoo.com	yahoo.com

**Files**

File	Size	Date & Time
Comment and Response Form_Scater Solar_NC_040316.pdf	84 KB (86705 Bytes)	04/03/2016 16:45
CSIR Letter 2 to ISAPs_Scater Solar NC_040316.pdf	109 KB (112158 Bytes)	04/03/2016 16:51
MESSAGE	6 KB (6609 Bytes)	04/03/2016 17:05
TEXT.htm	11 KB (11977 Bytes)	04/03/2016 17:05

**Options**



Auto Delete:	No
Concealed Subject:	No
Expiration Date:	None
Notify Recipients:	Yes
Priority:	Standard
Reply Requested By:	None
Security:	Standard
To Be Delivered:	Immediate



**Record Id**

Record Id:	56D9C03F.DURBAN.POBOX1.100.1356037.1.F513.1
Common Record Id:	56D9C03F.DURBAN.POBOX1.200.20000B3.1.384E4.1

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Proof of Correspondence with I&APs (Courier Waybills and Receipt of Hard Copy and/or CD copy of the EIA Report, Letter 3 and Comment and Registration Form)**

		Head Office: Johannesburg 0851 388 883 Branches: Bloemfontein East London Polokwane Brns George Port Elizabeth Cape Town Nelspruit Pretoria Durban Pietermaritzburg Richards Bay www.globoflight.com Reg. No. 1998/009052/07/ VAT NO. 4650175351				2714273897	
DATE: 17-3-16	SHIPPER: P01521	TO: ems01021RLW 021001021SE	TO: (RECIPIENT'S NAME) Jacoline Mans		1		
SHIPPER (YOUR NAME) R. Abed		TO: (RECIPIENT'S NAME) Jacoline Mans		1		X	X
COMPANY NAME CSIR - STELLENBOSCH		COMPANY NAME Chief Forester: NFA Regulation		X		X	X
STREET ADDRESS JAN CILLIERS STR		STREET ADDRESS Dept of Agriculture, Forestry + Fisheries		X		X	X
CITY STELLENBOSCH		CITY Louisvale Road		X		X	X
CPT		CITY Uptington		X		X	X
COUNTRY: RSA		COUNTRY: S.A.		X		X	X
POST/ZIP CODE: 7599		POST/ZIP CODE: 8801		X		X	X
TELEPHONE NUMBER & E-MAIL		TELEPHONE NUMBER & E-MAIL: 054-338 5860		X		X	X
021 888 2400		OVERNIGHT EXPRESS <input checked="" type="checkbox"/>		SAME DAY			
GLOBAL DOCUMENT EXPRESS		IN CITY DELIVERY		DAWN DELIVERY BY 09H00			
GLOBAL PARCEL EXPRESS		BUDGET CARGO 24-48 HRS		SATURDAY DELIVERY			
GLOBAL MAIL		ROAD FREIGHT 48-96 HRS		AFTER HOURS			
AIRFREIGHT							
CROSS BORDER ROAD FREIGHT CUSTOMS VALUE							
HAZARDOUS CARGO? YES: NO:		WE HAVE SEEN AND AGREE TO THE STANDARD CONDITIONS OF CARRIAGE OF GLOBEFLIGHT WORLDWIDE EXPRESS PRINT NAME: A TAYLOR		RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS PRINT NAME:		RECEIVED IN GOOD ORDER AND CONDITION PRINT NAME:	
INSURANCE YES: NO:		SIGNATURE: <i>A Taylor</i>		SIGNATURE:		CONSIGNEE SIGNATURE:	
AMOUNT:		DATE: 17-3-16 TIME:		DATE: TIME:		DATE: TIME:	
TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY							

		Head Office: Johannesburg 0661 388 883 Branches: Bloemfontein East London Polokwane Brns George Port Elizabeth Cape Town Nelspruit Pretoria Durban Pietermaritzburg Richards Bay www.globoflight.com Reg. No. 1998/009052/07/ VAT NO. 4650175351				2714273894	
DATE: 17-3-16	SHIPPER: P01521	TO: ems01021RLW 021001021SE	TO: (RECIPIENT'S NAME) Director: Biodiversity		1		
SHIPPER (YOUR NAME) R. Abed		TO: (RECIPIENT'S NAME) Director: Biodiversity		1		X	X
COMPANY NAME CSIR - STELLENBOSCH		COMPANY NAME Nat Dept of Env Affairs: Biodiversity +		X		X	X
STREET ADDRESS JAN CILLIERS STR		STREET ADDRESS Conservation; Environment House		X		X	X
CITY STELLENBOSCH		CITY 473 Steve Biko Road; Arcadia		X		X	X
CPT		CITY Pretoria		X		X	X
COUNTRY: RSA		COUNTRY: S.A.		X		X	X
POST/ZIP CODE: 7599		POST/ZIP CODE: 0001		X		X	X
TELEPHONE NUMBER & E-MAIL		TELEPHONE NUMBER & E-MAIL: 012-399 9371		X		X	X
021 888 2400		OVERNIGHT EXPRESS <input checked="" type="checkbox"/>		SAME DAY			
GLOBAL DOCUMENT EXPRESS		IN CITY DELIVERY		DAWN DELIVERY BY 09H00			
GLOBAL PARCEL EXPRESS		BUDGET CARGO 24-48 HRS		SATURDAY DELIVERY			
GLOBAL MAIL		ROAD FREIGHT 48-96 HRS		AFTER HOURS			
AIRFREIGHT							
CROSS BORDER ROAD FREIGHT CUSTOMS VALUE							
HAZARDOUS CARGO? YES: NO:		WE HAVE SEEN AND AGREE TO THE STANDARD CONDITIONS OF CARRIAGE OF GLOBEFLIGHT WORLDWIDE EXPRESS PRINT NAME: A TAYLOR		RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS PRINT NAME:		RECEIVED IN GOOD ORDER AND CONDITION PRINT NAME:	
INSURANCE YES: NO:		SIGNATURE: <i>A Taylor</i>		SIGNATURE:		CONSIGNEE SIGNATURE:	
AMOUNT:		DATE: 17-3-16 TIME:		DATE: TIME:		DATE: TIME:	
TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY							



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Globeflight**  
24 seven 365

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Branches: Bloemfontein East London Polokwane  
Brits George Port Elizabeth  
Cape Town Nelspruit Pretoria  
Durban Pietermaritzburg Richards Bay  
www.globeflight.com  
Reg. No. 1998/009052/07 / VAT NO. 4660175351

2714273893

02 - 3-16 P01521 ems 0102/RW 02100/0215E 3

SHIPPER: (YOUR NAME) R. Abed  
COMPANY NAME: CSIR - STELLENBOSCH  
STREET ADDRESS: JAN CILLIERS STR  
CITY: STELLENBOSCH  
COUNTRY: RSA POST/ZIP CODE: 7599  
TELEPHONE NUMBER & E-MAIL: 021 888 2400

TO: (RECIPIENT'S NAME) Muhammad Essop  
COMPANY NAME: Nat Dept of Env Affairs; Integrated  
STREET ADDRESS: Env Authorisations - Environmental House  
473 Steve Biko Road; Arcadia  
CITY: Pretoria  
COUNTRY: S.A. POST/ZIP CODE: 0001  
TELEPHONE NUMBER & E-MAIL: 012-3999300

OVERNIGHT EXPRESS  IN CITY DELIVERY   
BUDGET CARGO 24-48 HRS  ROAD FREIGHT 48-96 HRS

WE HAVE SEEN AND AGREE TO THE STANDARD CONDITIONS OF CARRIAGE OF GLOBEFLIGHT WORLDWIDE EXPRESS  
PRINT NAME: A TAYLOR  
SIGNATURE: [Signature]  
DATE: -3-16 TIME: [ ]

RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS  
PRINT NAME: [ ]  
SIGNATURE: [ ]  
DATE: [ ] TIME: [ ]

RECEIVED IN GOOD ORDER AND CONDITION  
PRINT NAME: [ ]  
SIGNATURE: [ ]  
DATE: [ ] TIME: [ ]

HAZARDOUS CARGO? YES NO  
INSURANCE YES NO

AMOUNT: [ ]

TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY

3 boxes  
Documents

**Globeflight**  
24 seven 365

Head Office: Johannesburg 0861 388 883  
Branches: Bloemfontein East London Polokwane  
Brits George Port Elizabeth  
Cape Town Nelspruit Pretoria  
Durban Pietermaritzburg Richards Bay  
www.globeflight.com  
Reg. No. 1998/009052/07 / VAT NO. 4660175351

2714273895

02 - 3-16 P01521 ems 0102/RW 02100/0215E 1

SHIPPER: (YOUR NAME) R. Abed  
COMPANY NAME: CSIR - STELLENBOSCH  
STREET ADDRESS: JAN CILLIERS STR  
CITY: STELLENBOSCH  
COUNTRY: RSA POST/ZIP CODE: 7599  
TELEPHONE NUMBER & E-MAIL: 021 888 2400

TO: (RECIPIENT'S NAME) A Yaphi  
COMPANY NAME: Prov Dept of Environment + Nature Conserv.  
STREET ADDRESS: Northern Cape; Sasko Building Kimberley  
90 Long Street  
CITY: Kimberley  
COUNTRY: S.A. POST/ZIP CODE: 8301  
TELEPHONE NUMBER & E-MAIL: 053-8077430

OVERNIGHT EXPRESS  IN CITY DELIVERY   
BUDGET CARGO 24-48 HRS  ROAD FREIGHT 48-96 HRS

WE HAVE SEEN AND AGREE TO THE STANDARD CONDITIONS OF CARRIAGE OF GLOBEFLIGHT WORLDWIDE EXPRESS  
PRINT NAME: A TAYLOR  
SIGNATURE: [Signature]  
DATE: -3-16 TIME: [ ]

RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS  
PRINT NAME: [ ]  
SIGNATURE: [ ]  
DATE: [ ] TIME: [ ]

RECEIVED IN GOOD ORDER AND CONDITION  
PRINT NAME: [ ]  
SIGNATURE: [ ]  
DATE: [ ] TIME: [ ]

HAZARDOUS CARGO? YES NO  
INSURANCE YES NO



AMOUNT: [ ]

TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY

Documents



Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

		Head Office: Johannesburg 0861 386 883 Branches: Bloemfontein East London Polokwane Brits George Port Elizabeth Cape Town Nelspruit Pretoria Durban Pietermaritzburg Richards Bay www.globeflight.com Reg. No. 1995/009052/07 / VAT NO. 4650175351				2714273887	
22 -3-16 P01521		emscioz lew 02100 jozi SE		2			
SHIPPER (YOUR NAME) R. Abed		TO (RECIPIENT'S NAME) Geene Enam					
COMPANY NAME CSIR - STELLENBOSCH		COMPANY NAME Kenhardt Library					
STREET ADDRESS JAN CILLIERS STR		STREET ADDRESS Park Street					
CITY STELLENBOSCH		CITY Kenhardt					
COUNTRY: RSA		POST/ZIP CODE 7599		COUNTRY: S.A.		POST/ZIP CODE 8900	
TELEPHONE NUMBER & E-MAIL 021 888 2400		TELEPHONE NUMBER & E-MAIL 084-4316300				IMPORT & EXPORT CODE	
<input type="checkbox"/> GLOBAL DOCUMENT EXPRESS <input type="checkbox"/> GLOBAL PARCEL EXPRESS <input type="checkbox"/> GLOBAL MAIL <input type="checkbox"/> AIRFREIGHT <input type="checkbox"/> CROSS BORDER ROAD FREIGHT		<input type="checkbox"/> OVERNIGHT EXPRESS <input type="checkbox"/> IN CITY DELIVERY <input type="checkbox"/> BUDGET CARGO 24-48 HRS <input type="checkbox"/> ROAD FREIGHT 48-96 HRS		<input checked="" type="checkbox"/> X <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> SAME DAY <input type="checkbox"/> DAWN DELIVERY BY 09H00 <input type="checkbox"/> SATURDAY DELIVERY <input type="checkbox"/> AFTER HOURS	
CUSTOMS VALUE		WE HAVE SEEN AND AGREE TO THE STANDARD CONDITIONS OF CARRIAGE OF GLOBEFLIGHT WORLDWIDE EXPRESS PRINT NAME: A. Thylor		RECEIVED BY GLOBEFLIGHT WORLDWIDE EXPRESS PRINT NAME: W. Taylor		RECEIVED IN GOOD ORDER AND CONDITION PRINT NAME: Documents	
HAZARDOUS CARGO? YES: NO: INSURANCE YES: NO:		SIGNATURE: W. Taylor		SIGNATURE: A. Thylor		CONSIGNEE SIGNATURE:	
AMOUNT:		DATE: 22-3-16 TIME:		DATE: TIME:		DATE: TIME:	
TOP COPY - P.O.D.; 2ND COPY - CONSIGNEE; 3RD COPY - ACCOUNTS; BOTTOM COPY - SENDER COPY							

## Follow-up and Response Emails sent to I&APs and Stakeholders during the 30-day review of the EIA Report

4/6/2016

Submission of HIA and Desktop PIA | SAHRA

**SAHRIS**

MyDashboard Explore Create Calendar Maps Help

Submission of HIA and Desktop PIA

Between you, [natasha.higgitt](#) and [ragna.redelstorff](#)

You Mar 16

Hi Ragna and Natasha

I trust that you are well. My email correspondence sent on 4 March 2016 regarding the release of the BA Reports for the Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line and Kenhardt PV 3 - Transmission Line Projects, and the EIA Reports for the Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 Projects have reference, The Heritage Impact Assessments and Desktop Palaeontological Impact Assessments have been uploaded to SAHRIS for all six projects (Case References: 8204, 8205, 8206, 8207, 8208 and 8209).

Updated KML files, showing a transmission line corridor, have been uploaded to the mapping information section and additional documents section, All transmission lines for the three BA projects (Case References: 8207, 8208 and 8209) will be constructed within this corridor. I have removed the previous transmission line KML file that was uploaded previously. Please refer to the corridor uploaded today.

Updated KML files, showing the slightly revised Kenhardt PV 2 and PV 3 area, have been uploaded to the mapping information section and additional documents section, I have removed the PV area KML file that was uploaded previously. Please refer to the areas uploaded today. The additional documents section also includes KML files for the 250 ha area of the PV sites (for the EIA Projects, (Case References: 8204, 8205 and 8206)).

Thank you  
Rohaida

### **CaseReference:**

[Scoping and EIA for the Proposed Development of a 75 MW Solar Photovoltaic Facility north-east of Kenhardt, Northern Cape Province \(Kenhardt PV 1\)](#)

[Scoping and EIA for the Proposed Development of a 75 MW Solar Photovoltaic Facility north-east of Kenhardt, Northern Cape Province \(Kenhardt PV 2\)](#)

[Scoping and EIA for the Proposed Development of a 75 MW Solar Photovoltaic Facility north-east of Kenhardt, Northern Cape Province \(Kenhardt PV 3\)](#)

[BA for the Proposed Development of a Transmission Line north-east of Kenhardt, Northern Cape Province \(Kenhardt PV 1 - Transmission Line\)](#)

[BA for the Proposed Development of a Transmission Line north-east of Kenhardt, Northern Cape Province \(Kenhardt PV 2 - Transmission Line\)](#)

[BA for the Proposed Development of a Transmission Line north-east of Kenhardt, Northern Cape Province \(Kenhardt PV 3 - Transmission Line\)](#)

[natasha.higgitt](#) Mar 17

Good morning,

Thank you for notifying SAHRA of the update, I will inform you when comments have been issued.

Regards,  
Natasha Higgitt

[natasha.higgitt](#) Mar 22

Good afternoon,

I have started looking at the Kenhardt cases that were updated last week and I have noticed that three cases are missing their EIAs. Please ensure that the EIAs are uploaded to the case files so that I have all the relevant information in order to provide comments. Additionally, the appendices from the all the reports (EIAs and BARs) have not been uploaded to the case files. We need all the documents including all appendices to be submitted so that we can assess the case in its entirety. Appendices such as the maps, facility illustrations and public participation are particularly necessary. Please upload these documents to the case files so that we can process them without delay.

Regards,  
Natasha Higgitt

You Mar 29

Dear Natasha

Thank you for your email, Apologies, we only uploaded the conclusions, EMPr and HIA and PIA for the EIA Projects and the BA Reports, HIA, PIA and EMPr for the BA Projects due to the file sizes which exceed 25 MB, All the appendices and chapters for all six projects (Case References: 8204, 8205, 8206, 8207, 8208 and 8209) are larger than 25 MB and cannot be uploaded on SAHRIS. Would it be possible for you to please download the appendices and chapters from the project website (<http://www.csir.co.za/eia/ScatecSolarPV/>)? Please let me know.

Thanks  
Rohaida

[natasha.higgitt](#) Mar 29

Good afternoon,

I understand your dilemma, however we will accept the appendices and chapters in parts

<http://www.sahra.org.za/sahris/messages/view/17433>

1/2

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

4/6/2016

Submission of HIA and Desktop PIA | SAHRA

i.e. Part 1 of Appendix A, Part 2 etc. which would allow you to split the documents into manageable sizes for upload. While we would be able to download the documents from your website to review, they still need to be uploaded to the case file for record keeping purposes and we cannot do this on behalf of the applicant/consultant.

Thank you for your co-operation in this regard.

You Mar 30

Hi Natasha

Thanks very much for your message and for accepting the files in parts, I have uploaded one complete file of all EIA chapters and two files for the appendices (Part 1 and Part 2) for the EIA Projects (8204, 8205 + 8206), I have also uploaded two files for the appendices (Part 1 and Part 2) for the BA Projects (8207, 8208 + 8209),

Thank you very much for your assistance with this, We look forward to your response, Would you be able to submit comments by 5 April 2016?

Thank you  
Rohaida

[natasha.higgitt](#) Mar 31

Good afternoon,

Thank you for uploading the documents, The website has been down for most of today, but I shall try my best to get comments to you by 5 April 2016.

You Mar 31

Hi Natasha

Thank you very much, we appreciate it.

Kind Regards  
Rohaida

[natasha.higgitt](#) Apr 5

Good afternoon,

Please note that comments have been issued on the above mentioned cases.

Kind regards,  
Natasha Higgitt

You 1 min ago

Dear Natasha

Thank you very much for the comments, It is appreciated.

Kind Regards  
Rohaida

Reply

Case Reference

ADD ANOTHER ITEM

Message

SEND MESSAGE [Clear](#)

Messages

[Back to Top](#)

South African Heritage Resources  
Agency (SAHRA)  
Head Office  
111 Hamington Street  
CAPE TOWN  
8001

PO Box 4637  
Cape Town, 8000  
Tel 021 462 4502/Fax 021 462 4509  
Email [info@sahra.org.za](mailto:info@sahra.org.za)  
Web [www.sahra.org.za](http://www.sahra.org.za)  
(<http://www.sahra.org.za>)



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**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

**From:** Rohaida Abed  
**To:** atiplady@ska.ac.za  
**CC:** temonama@ska.ac.za  
**Date:** 18/03/2016 10:08  
**Subject:** Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** CSIR Letter 3 to I&APs\_Scaterc Solar NC\_040316.pdf; Comment and Response Form\_Scaterc Solar\_NC\_040316.pdf

Dear Adrian

I trust that you are well. I am following up on the email below regarding the release of the EIA and BA Reports for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

CD copies of the above reports have been sent to your office via courier. The above reports can also be downloaded from the project website: <http://www.csir.co.za/eia/ScatercSolarPV/>

The required EMI studies are included in Appendix K of the EIA Reports and Appendix D.9 of the BA Reports.

We would appreciate it if you could submit any comments by 5 April 2016.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority: National Department of Environmental Affairs**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the release of EIA and BA Reports for the development of three 75 Megawatt (MW) Solar PV power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. These transmission line projects are referred to as: Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line and Kenhardt PV 3 – Transmission Line.

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**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

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Please find attached the following:

- Letter 3 to I&APs; and
- Comment and Registration Form.

In addition, the above-mentioned project information can be accessed at the following website:  
<http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

---

**From:** Surina Laurie  
**To:** [atiplady@ska.ac.za](mailto:atiplady@ska.ac.za)  
**CC:** Rohaida Abed  
**Date:** 06/04/2016 13:06  
**Subject:** RE: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Adrian

Our commenting period closed yesterday and we are therefore finalising our reports.

Would it be possible to please provide feedback on the below? We are concerned that by not addressing these issues now, that the DEA will be unable to reach a decision.

Your input would be much appreciated.

Surina

**Surina Laurie (Pr. Sci. Nat. Environmental Science)**  
Senior Environmental Assessment Practitioner  
CSIR - Environmental Management Services  
11 Jan Celliers Street, Stellenbosch  
PO Box 320, Stellenbosch, 7599

Tel: 021 888 2490  
Cell: 082 468 0962  
Fax: 021 888 2693  
Email: [slaurie@csir.co.za](mailto:slaurie@csir.co.za)

>>> Surina Laurie 31/03/2016 11:03 >>>

Hi Adrian

Called your office this morning but they said you are not available.

When you have some time, we would really appreciate your feedback on the below?

Kind regards

Surina

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PO Box 320, Stellenbosch, 7599

Tel: 021 888 2490  
Cell: 082 468 0962  
Fax: 021 888 2693

Email: slaurie@csir.co.za

>>> Surina Laurie 30/03/2016 08:14 >>>

Hi Adrian

The letter received (and attached) from SKA has reference. Due to this being quite a technical component of the project, we are unsure what certain comments included in the letter mean. The points that are of relevance are detailed below, along with our questions in red:

iii. Assuming all proposed mitigation measures are implemented and achieve the expected attenuation, Kenhardt PV1 and Kenhardt PV3 would pose a low to medium risk of detrimental impact. Kenhardt PV2 would remain a high risk; Does this high risk mean that it is currently a fatal flaw to risk to the SKA project? And is a medium to low risk acceptable?

iv. An appropriate EMC control plan should be developed to identify specific mitigation measures that will be implemented for Kenhardt PV1, 2 and 3. In particular, the measures implemented for Kenhardt PV2 should be tested and proven within a laboratory environment prior to construction approval; Please clarify what does "prior to construction approval" mean? Should the lab testing be done prior to the a decision on Environmental Authorisation being issued or can this be included as a condition of the EA?

In addition, can SKA indicate what laboratory can be contacted for these tests? The Applicant has indicated that they are willing to fully comply but unsure how to implement the comments received.

If you would like to discuss this, please let me know when it will work for you?

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Cell: 082 468 0962

Fax: 021 888 2693

Email: slaurie@csir.co.za

>>> Adrian Tiplady <atiplady@ska.ac.za> 23/03/2016 08:28 >>>

Hi Rohaida,

Please find attached.

Regards,

Adrian

On 18/03/2016 10:08 AM, Rohaida Abed wrote:

Dear Adrian

I trust that you are well. I am following up on the email below regarding the release of the EIA and BA Reports for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
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Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

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Thank you and kind regards,

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**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

**From:** Surina Laurie  
**To:** atiplady@ska.ac.za  
**CC:** Rohaida Abed; Tshogofatso Monama  
**Date:** 13/04/2016 14:37  
**Subject:** Re: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape  
**Attachments:** 20160412\_Kenhardt PV 2\_DEA\_SKA commitment letter\_signed..pdf

Dear Adrian

Thank you for the clarification below.

Would it be possible to include the wording within the official letter or can we include your email as assume that it should be read with the letter?

In addition, please find attached a letter of commitment from Scatec to adhere to SKA's requirements.

Kind regards

Surina

>>> Adrian Tiplady <atiplady@ska.ac.za> 07/04/2016 07:32 >>>

Hi Surina,

1. Any medium or high risk means that, unless specific and detail mitigation measures are design and implemented, it would be a fatal flaw. Specifically, a high risk means that we think the amount of mitigation require will be technically very challenging, and that there is no guarantee is could be achievable. Medium risk means that the amount of mitigation is still technically challenging, but could be achievable. However, we would need to see evidence that such a process has taken place;
2. We would be comfortable that its a condition of the EA, but the condition must ensure that we are satisfied that the risk is mitigated completely before any construction takes place;
3. I can suggest MESA Solutions in Stellenbosch or ITC Services in Pretoria. What is important is that it is more than just tests required - but detailed design work as well;

Regards,

Adrian

On 06/04/2016 1:06 PM, Surina Laurie wrote:

Dear Adrian

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Would it be possible to please provide feedback on the below? We are concerned that by not addressing these issues now, that the DEA will be unable to reach a decision.

Your input would be much appreciated.

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Thank you and kind regards,

Rohaida Abed

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Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)



12 April 2016

Department of Environmental Affairs  
Department: Integrated Environmental Authorisations  
Environment House  
473 Steve Biko Road  
Arcadia  
Pretoria 0001

Attention: Mr Muhammad Essop  
CC: SKA South Africa Project Office

**COMMITMENT LETTER: ADHERENCE TO THE REQUIREMENTS OF THE SKA LETTER, DATED 23 MARCH 2016:**

The proposed projects proposed by Scatec Solar ("Scatec") close to Kenhardt, namely, Kenhardt PV 1 (DEA Reference: 14/12/16/3/3/2/837), Kenhardt PV 2 (DEA Reference: 14/12/16/3/3/2/838) and Kenhardt PV 3 (DEA Reference: 14/12/16/3/3/2/836) have reference.

The MESA study considered the worst case scenario in terms of risk to the SKA project, whereby it was assumed that all 13 solar facilities currently proposed in the area are constructed. It should however be noted that depending on how many solar PV facilities are 1) awarded preferred bidder status (typically only 4-6 projects are awarded each round) 2) reach financial close and are constructed on site, the cumulative impact will differ. For example, in the unlikely scenario of all 13 proposed facilities are constructed, then the exceedance of emissions from the three Kenhardt facilities (the facilities under consideration) above the required protection level, taking into account their locations, will be 38 dB towards the closest SKA Telescope. However, if only the three Kenhardt facilities are constructed, the cumulative effect reduces, and so the exceedance above the required protection level reduces to 31.6 dB towards the closest SKA Telescope. Based on this, prior to any Scatec Kenhardt PV facility being constructed on site, the cumulative impact of the additional Scatec facility will be assessed and suitable mitigation measures determined, sent to SKA for authorisation and implemented to ensure that the cumulative impact of all the solar facilities constructed in the area under consideration are below the SARAS protection level.

Scatec Solar SA 350 (Pty) Ltd (RF)  
Unit 1098, The Foundry  
75 Freshwater Street  
Green Point  
Cape Town  
8510.

Reg. No. 2012/10/3586/07

Director:  
Mr Jan Fourie





We hereby commit to adhere to the provisions stipulated within the SKA letter which requires that an appropriate electromagnetic compatibility ("EMC") Electromagnetic Control (EMC) plan be developed to identify specific mitigation measures to be implemented for Kenhardt PV 1, 2 and 3. In particular, the measures to be implemented for Kenhardt PV 2 will be tested and proven within a laboratory environment prior to any construction taking place. The EMC control plan as well as the results of the laboratory testing will be provided to SKA for comment and authorisation. As stated above, the mitigation measures provided will help to ensure adherence to the SARAS protection level threshold.

Scatec has allocated project budget to the development of the EMC control plans and the further testing required for the Kenhardt PV 2 project in laboratory. We are therefore confident that should this project receive Environmental Authorisation (EA) and the SKA provisions included as conditions of the EA, that the holder of the EA will be committed and able to ensure adherence to SKA requirements.

Should you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely,



Mitchell Hodgson  
Project Development Manager, South Africa.



Landline: +27 87 7025868  
Mobile: +27 (0)72 810 2006  
Email: [mitchell.hodgson@scatecsolar.com](mailto:mitchell.hodgson@scatecsolar.com)

Scatec Solar SA 350 (Pty) Ltd (RF)  
Unit 109B, The Foundry  
75 Freshwisch Street  
Green Point  
Cape Town  
8500.

Reg. No. 2012/1035880/07

Director:  
Mr Jan Fourie

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

**From:** Rohaida Abed  
**To:** Gilbert.Nortier@transnet.net  
**Date:** 18/03/2016 10:33  
**Subject:** Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Mr. Nortier

I trust that you are well. I am following up on the email below regarding the release of the EIA and BA Reports for the following projects:

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>>> Rohaida Abed 04/03/2016 17:05 >>>

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Thank you and kind regards,

Rohaida Abed

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Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

---

**From:** Rohaida Abed  
**To:** SchwartzC@dws.gov.za  
**Date:** 01/04/2016 09:32  
**Subject:** Re: Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Chantel

Thanks for the discussion earlier. As discussed, the 6 reports as noted below were delivered to your offices via courier and they are available on the project website (as noted below). Please can you send us your comments by 5 April 2016.

Thanks and kind regards,  
Rohaida

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>>> Rohaida Abed 18/03/2016 10:13 >>>

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- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

The above reports can be downloaded from the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>  
We would appreciate it if you could submit any comments to us by 5 April 2016.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority: National Department of Environmental Affairs**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the release of EIA and BA Reports for the development of three 75 Megawatt (MW) Solar PV power generation facilities, located on the remaining extent of Onder Rugzeer Farm

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. These transmission line projects are referred to as: Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line and Kenhardt PV 3 – Transmission Line.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure. The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

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Please find attached the following:

- Letter 3 to I&APs; and
- Comment and Registration Form.

In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**From:** Rohaida Abed  
**To:** (UPN), Schwartz Chantel  
**Date:** 06/04/2016 13:27  
**Subject:** Re: FW: Comments: Kenhardt PV 1,2 & 3

Hi Chantel

Thank you very much for the comments on the Kenhardt PV 1, 2 and 3 EIA Reports. Do the comments also address and cover the three transmission line BA Reports, which were also sent to the Department together with the EIA Reports. The comment period closed yesterday and an integrated PPP is being undertaken. The BA Reports are referred to as Kenhardt PV 1 - Transmission Line, Kenhardt PV 2 - Transmission Line, and Kenhardt PV 3 - Transmission Line.

We look forward to your response.

Kind Regards  
Rohaida

>>> "Schwartz Chantel (UPN)" <SchwartzC@dws.gov.za> 05/04/2016 08:33 >>>

My apologies, attached is the letter

Regards,  
Chantel

**Ms Chantèl Schwartz**  
**Department of Water and Sanitation**  
**Orange Proto-CMA**  
**Tel: (054) 338- 5836**  
**Fax: (054) 334-0205**

**From:** Schwartz Chantel (UPN)  
**Sent:** 05 April 2016 08:32 AM  
**To:** RAbed@csir.co.za  
**Subject:** Comments: Kenhardt PV 1,2 & 3

Good Morning Rohaida

Find attached the Comments by the department on the Basic Assessment and Environmental Impact Assessment for Kenhardt PV 1,2,3

Regards,  
Chantel

**Ms Chantèl Schwartz**  
**Department of Water and Sanitation**  
**Orange Proto-CMA**  
**Tel: (054) 338- 5836**  
**Fax: (054) 334-0205**

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**From:** Rohaida Abed  
**To:** JacolineMa  
**Date:** 11/04/2016 09:10  
**Subject:** RE: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Hi Jacoline

Thanks for your email, it is appreciated. We are submitting the final EIA Reports to DEA this week (i.e. by Thursday, 14 April) and need to start printing the reports tomorrow. Would it be possible for you to provide comments by tomorrow afternoon instead (12 April 2016)?

Please confirm?

Thanks  
Rohaida

>>> JacolineMa <JacolineMa@daff.gov.za> 11/04/2016 08:48 >>>

Dear Rohaida

I received the C.D. – thank you very much. I missed the due date. If you can allow additional time, I can go through the reports and submit comments, otherwise it will be useless to comment if you have already submitted to DEA. Please advise. I receive too many EIA reports and I simply cannot comment on all due to time constraints and other responsibilities. But if you need inputs and can allow extra time, I will try to submit comments by Wednesday, 13 April. Please let me know so I do not waste time.

Regards,

**Jacoline Mans**

Designation: Chief Forester (NFARegulation)  
Directorate: Forestry Management (Other Regions) Northern Cape  
Department of Agriculture, Forestry and Fisheries  
Tel: 054 338 5909  
Fax: 054 334 0030  
Web: www.daff.gov.za  
E-mail: JacolineMa@daff.gov.za

**Notice**

The information contained in this e-mail may be confidential, legally privileged and protected by law. Access by the intended recipient only is authorised. If you are not the intended recipient, kindly notify the sender immediately. Unauthorised use, copying or dissemination hereof is strictly prohibited. Save for *bona fide* departmental purposes, the Department of Agriculture, Forestry and Fisheries does not accept responsibility for the contents or opinions expressed in this e-mail, nor does it warrant

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

this communication to be free from errors, contamination, interference or interception.

**From:** Rohaida Abed [mailto:RAbed@csir.co.za]

**Sent:** 04 April 2016 09:22 AM

**To:** JacolineMa

**Subject:** Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Jacoline

I trust that you are well. I refer to the email below. Please can you confirm if you have any comments on the Kenhardt PV 1, 2 and 3 and Kenhardt PV Transmission Line reports.

We would appreciate it if you could submit any comments to us by 5 April 2016.

Thanks and kind regards,

Rohaida

>>> Rohaida Abed 18/03/2016 10:16 >>>

Dear Jacoline

I trust that you are well. I refer to the email below regarding the release of the EIA and BA Reports for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

CD copies of the above reports have been sent to your office via courier. The above reports can also be downloaded from the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

We would appreciate it if you could submit any comments to us by 5 April 2016.

Thanks and kind regards,

Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority: National Department of Environmental Affairs**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the release of EIA and BA Reports for the development of three 75 Megawatt (MW) Solar PV power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. These transmission line projects are referred to as: Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line and Kenhardt PV 3 – Transmission Line.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure. The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

Separate Applications for Environmental Authorisation (EA) for the Scoping and EIA Projects were lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) on 30 September 2015 (together with the Scoping Reports, which were accepted by the DEA on 8 December 2015). The Applications for EA for the BA projects will be submitted

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

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to the DEA together with the BA and EIA Reports for comment. An integrated Public Participation Process is being undertaken for the proposed projects as they are located within the same geographical area and constitute the same type of activity. However, separate reports (i.e. BA, Scoping and EIA Reports) have been compiled for each project.

In line with the above, as a registered Interested and Affected Party (I&AP) on the project database, you are hereby notified of the release of the BA and EIA Reports for the proposed projects for a 30-day review period, which will extend from 3 March 2016 to 5 April 2016.

Please find attached the following:

- Letter 3 to I&APs; and
- Comment and Registration Form.

In addition, the above-mentioned project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**From:** Rohaida Abed  
**To:** [sdelafontaine@gmail.com](mailto:sdelafontaine@gmail.com)  
**Date:** 06/04/2016 11:49  
**Subject:** Re: Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Samantha

Thank you for the discussion earlier (6 April 2016). As discussed, thanks for confirming that the DENC have gone through the following reports and that all previous comments submitted by the DENC during Scoping have been addressed in the BA and EIA Reports, and as such, the DENC do not have any further comments to submit:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

Please could you confirm the above?

Thanks  
Rohaida

>>> Rohaida Abed 06/04/2016 10:01 >>>

**From:** Rohaida Abed  
**To:** [elsabe.dtec@gmail.com](mailto:elsabe.dtec@gmail.com); [sdelafontaine@gmail.com](mailto:sdelafontaine@gmail.com)  
**Date:** 06/04/2016 10:01  
**Subject:** Re: Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Samantha

Thank you for the discussion on Monday, 4 April 2016. As discussed, CD copies were sent to your offices (head office). Please can you confirm if you have any comments on the EIA and BA Reports as noted in the email below, and as discussed on Monday, 4 April 2016.

Thanks  
Rohaida

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

>>> Rohaida Abed 30/03/2016 14:42 >>>

Dear Elsabe and Samantha

I trust that you are well. I am following up on the emails below regarding the Kenhardt PV 1, 2 and 3 EIA and BA Projects. I also tried calling your office and cellphones. We would appreciate it if you could submit any comments to us by 5 April 2016.

We look forward to your response.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 18/03/2016 10:12 >>>

Dear Elsabe and Samantha

I trust that you are well. I refer to the email below regarding the release of the EIA and BA Reports for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

The above reports can be downloaded from the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

We would appreciate it if you could submit any comments to us by 5 April 2016.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority: National Department of Environmental Affairs**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the release of EIA and BA Reports for the development of three 75 Megawatt (MW) Solar PV power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. These transmission line projects are referred to as: Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line and Kenhardt PV 3 – Transmission Line.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure. The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

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**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

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2016 to 5 April 2016.

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Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**From:** Rohaida Abed  
**To:** mm@kaigarib.gov.za; clarkem@kaigarib.gov.za  
**Date:** 04/04/2016 09:12  
**Subject:** Re: Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Mr. Clarke

I trust that you are well. I am following up on the emails below regarding the Kenhardt PV 1, 2 and 3 EIA and BA Projects. We would appreciate it if you could submit any comments to us by 5 April 2016. Would it also be possible to please provide feedback regarding confirmation of services for the proposed project in terms of waste, sewage, water etc.

We look forward to your response.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 30/03/2016 14:40 >>>

Dear Mr. Clarke

I trust that you are well. I am following up on the emails below regarding the Kenhardt PV 1, 2 and 3 EIA and BA Projects. We would appreciate it if you could submit any comments to us by 5 April 2016. Would it also be possible to please provide feedback regarding confirmation of services for the proposed project in terms of waste, sewage, water etc.

We look forward to your response.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 18/03/2016 10:23 >>>

Dear Mr. Clarke

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- BA Project: Kenhardt PV 1 - Transmission Line
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**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

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Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

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**CSIR REFERENCE: EMS0102/SCATEC/2015**

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- Comment and Registration Form.

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Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

**From:** Rohaida Abed  
**To:** teresascheepers@vodamail.co.za  
**Date:** 04/04/2016 09:19  
**Subject:** Re: Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Ms. Scheepers

I trust that you are well. I refer to the email below regarding the release of the EIA and BA Reports for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
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>>> Rohaida Abed 04/03/2016 17:05 >>>

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**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

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Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

---

**From:** Rohaida Abed  
**To:** Abed, Rohaida  
**CC:** GeerinJH@eskom.co.za; ThokoB@daff.gov.za; MashuduMa@daff.gov.za; strohl@caa.co.za; klawrence@trpw.ncape.gov.za; waltjc@nra.co.za; AbrahamsN@nra.co.za; sb@siyanda.gov.za; fpr@zfm.gov.za; gloria.tlaky@gmail.com; Kgauta.Mokoena@dmr.gov.za; esibeko@dtps.gov.za; chris@salt.ac.za; raoul@salt.ac.za; advocacy@birdlife.org.za; wep@ewt.org.za; joh.henschel@saeon.ac.za; Janine.goosen@birdlife.org.za; fpr@zfm-dm.gov.za; aditeme@agri.ncape.gov.za  
**Date:** 04/04/2016 16:08  
**Subject:** Fwd: Release of EIA and BA Reports - Solar PV Facilities and Associated Electrical Infrastructure, Northern Cape

Dear Stakeholders and Interested and Affected Parties

I refer to the email below regarding the release of the EIA and BA Reports for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

The above reports can be downloaded from the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

We would appreciate it if you could submit any comments to us (or confirm that you do not have any comments) by 5 April 2016.

Thanks and kind regards,  
Rohaida

>>> Rohaida Abed 04/03/2016 17:05 >>>

Dear Stakeholders and Interested and Affected Parties

**NOTICE OF RELEASE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND BASIC ASSESSMENT (BA) REPORTS FOR THE PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC (PV) FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE, NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**Competent Authority: National Department of Environmental Affairs**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

This e-mail correspondence serves to inform you of the release of EIA and BA Reports for the development of three 75 Megawatt (MW) Solar PV power generation facilities, located on the remaining extent of Onder Rugzeer Farm 168, approximately 80 km south of Upington and 30 km north-east of Kenhardt within the !Kheis Local Municipality, Northern Cape Province. The proposed 75 MW Solar PV projects are referred to as: Kenhardt PV 1, Kenhardt PV 2 and Kenhardt PV 3 respectively. The proposed 75 MW Solar PV facilities will connect (via transmission lines and associated electrical infrastructure) to the Eskom Nieuwehoop Substation (which is currently being constructed) on the remaining extent of Portion 3 of Gemsbok Bult Farm 120. These transmission line projects are referred to as: Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line and Kenhardt PV 3 – Transmission Line.

**Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province**

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) and the 2014 NEMA EIA Regulations promulgated in Government Gazette 38282 and Government Notice (GN) R982, R983, R984 and R985 on 8 December 2014, the proposed projects require a full Scoping and EIA Process for the construction of the three Solar PV facilities. Separate BA processes are also required for the development of the proposed transmission lines and electrical infrastructure. The CSIR has been appointed by Scatec Solar to undertake the requisite BA, and Scoping and EIA Processes for the proposed projects.

Separate Applications for Environmental Authorisation (EA) for the Scoping and EIA Projects were lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) on 30 September 2015 (together with the Scoping Reports, which were accepted by the DEA on 8 December 2015). The Applications for EA for the BA projects will be submitted to the DEA together with the BA and EIA Reports for comment. An integrated Public Participation Process is being undertaken for the proposed projects as they are located within the same geographical area and constitute the same type of activity. However, separate reports (i.e. BA, Scoping and EIA Reports) have been compiled for each project.

In line with the above, as a registered Interested and Affected Party (I&AP) on the project database, you are hereby notified of the release of the BA and EIA Reports for the proposed projects for a 30-day review period, which will extend from 3 March 2016 to 5 April 2016.

Please find attached the following:

- Letter 3 to I&APs; and
- Comment and Registration Form.

In addition, the above-mentioned project information can be accessed at the following website:  
<http://www.csir.co.za/eia/ScatecSolarPV/>

Kindly ensure that all comments are submitted to the CSIR Project Manager (details provided below) by 5 April 2016.

Thank you and kind regards,

Rohaida Abed

CSIR - Environmental Management Services  
P. O. Box 17001, Congella, Durban, 4013  
Tel: 031 242 2300  
Fax: 031 261 2509  
Email: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

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**From:** Rohaida Abed  
**To:** KhuthalaD  
**Date:** 06/04/2016 13:49  
**Subject:** Re: Proposed development of three solar PV on the Remaining extent of Onder Rugzeer farm 168  
**Attachments:** Map 11\_Environmental Sensitivity\_Kenhardt PV1.jpg; Map 12\_Environmental Sensitivity\_Kenhardt PV2.jpg; Map 13\_Environmental Sensitivity\_Kenhardt PV3.jpg; Scatec Solar Kenhardt\_no alternatives+EGI\_02022016.pdf

Dear Khuthala

Thanks for your email - please can you send the attachment you refer to in your email?

Please see attached a locality plan for the following projects:

- EIA Project: Kenhardt PV 1
- EIA Project: Kenhardt PV 2
- EIA Project: Kenhardt PV 3
- BA Project: Kenhardt PV 1 - Transmission Line
- BA Project: Kenhardt PV 2 - Transmission Line
- BA Project: Kenhardt PV 3 - Transmission Line

The above reports can be downloaded from the project website: <http://www.csir.co.za/eia/ScatecSolarPV/>

Please can you also see attached three separate sensitivity maps showing the development footprint and layout areas of the PV facilities.

Please could you send me your comments as soon as possible as the comment period closed yesterday, 5 April 2016.

Thanks  
Rohaida

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

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>>> "KhuthalaD" <KhuthalaD@daff.gov.za> 06/04/2016 12:05 >>>

Good day

Your application is ready to be presented but the layout plan which is attached is not clear please email me layout plan which will show three projects with the sizes.

Kind Regards  
Khuthala

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# EIA REPORT

## APPENDIX F:

### Copy of Site Notice Board and Proof of Placement

**Scoping and Environmental Impact Assessment** for the Proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province

**Site Notice Board - English**

**JOINT NOTICE OF BASIC ASSESSMENT AND SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESSES**

**PROPOSED DEVELOPMENT OF THREE SOLAR PHOTOVOLTAIC FACILITIES AND ASSOCIATED ELECTRICAL INFRASTRUCTURE NORTH-EAST OF KENHARDT, NORTHERN CAPE PROVINCE**

**CSIR REFERENCE: EMS0102/SCATEC/2015**

Notice is hereby given in terms of Regulation 41 of the Environmental Impact Assessment (EIA) Regulations published in Government Notice (GN) R982 in Government Gazette 38282 of 8 December 2014, under Section 24(4)(a) of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA), that Scatec Solar SA 163 (PTY) Ltd are proposing to develop three 75 Megawatt (MW) Solar Photovoltaic (PV) facilities and associated electrical infrastructure (132 kV transmission lines for each 75 MW facility), on the remaining extent of Onder Rugzeer Farm 168 and the connection points to the substation on the remaining extent of Portion 3 of Gembok Bult Farm 120. The proposed projects are located 30 km north-east of Kenhardt. Each 75 MW Solar PV facility proposed will cover an approximate area of 200 hectares (ha) and will be constructed adjacent to each other (with a collective footprint of approximately 600 ha and a combined power generation capacity of 225 MW). The proposed projects will entail the construction of the solar field, buildings, electrical infrastructure, internal access roads, and associated infrastructure and structures.

A full Scoping and EIA Process is required for the construction of the three Solar PV facilities. A separate Basic Assessment Process is also required and will be undertaken for the development of the proposed transmission lines. The CSIR has been appointed by Scatec Solar SA 163 (PTY) Ltd to undertake the required Basic Assessment and Scoping and EIA Processes for the proposed projects. The need for a Basic Assessment and Scoping and EIA is triggered by the following potential listed activities listed in GN R983 and GN R984:

Process	Government Notice	Listed Activity Number
Basic Assessment Processes	GN R983 - 8 December 2014	Activity 11 (i)
Scoping and EIA Processes	GN R983 - 8 December 2014	Activity 9 (i) and (ii); Activity 12 (x) and (xii); Activity 19 (i); Activity 24 (ii) and Activity 28 (ii)
	GN R984 - 8 December 2014	Activity 1 and Activity 15.

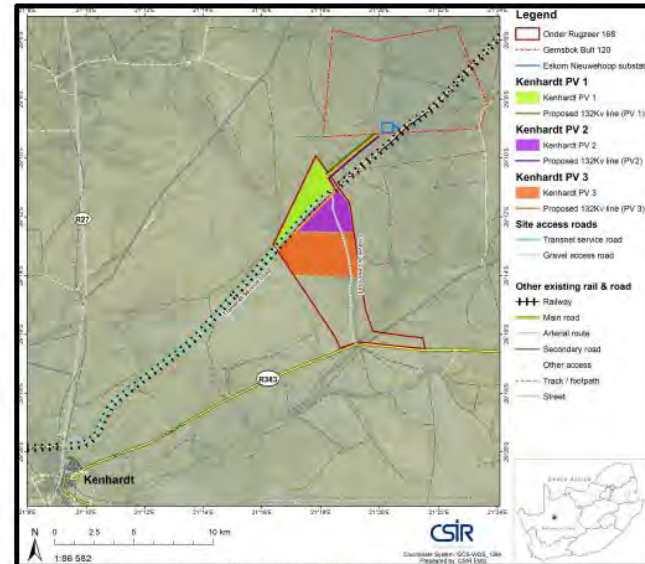
Since the proposed 75 MW Solar PV facilities are located within the same geographical area and constitute the same type of activity, an integrated Public Participation Process will be undertaken for the proposed projects. However, separate Applications for Environmental Authorisation (EA) will be lodged with the Competent Authority (i.e. the National Department of Environmental Affairs (DEA)) for each proposed 75 MW Solar PV facility and transmission line, which will be referred to as Kenhardt PV 1, Kenhardt PV 2, Kenhardt PV 3, Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line, and Kenhardt PV 3 – Transmission Line. Separate reports (i.e. Basic Assessment and Scoping and EIA Reports) will be compiled for each project.

To ensure that you are included on the project register as an Interested and Affected Party (I&AP), as well as to raise any issues and concerns for inclusion in the Basic Assessment and Scoping Reports, you are kindly requested to register your interest in the projects and submit any comments you may have to the CSIR (at the details indicated below). Available project information can be accessed at the following website: <http://www.csir.co.za/eia/ScatecSolarPV/>.

The Background Information Document is currently available for a 30-day commenting period (03 August 2015 - 04 September 2015).



To obtain further information or to register as Interested and Affected Party (I&AP), please contact:  
 CSIR  
 Rohaida Abed  
 P. O. Box 17001, Congella, Durban, 4013  
 Phone: 031 242 2300  
 Fax: 031 261 2509  
 Email: RAbed@csir.co.za





**Site Notice Board - Afrikaans**

**GESAMENTLIKE KENNISGEWING VAN BASIESE EN OMGEWINGSIMPAKEVALUERINGSPROSESSE**

**VOORGESTELDE ONTWIKKELING VAN DRIE SONKRAGANLEGTE EN ELEKTRIESE INFRASTRUKTUUR NOORD-OOS VAN KENHARDT, NOORD-KAAP PROVINSIE**

**CSIR VERWYSING: EMS0102/SCATEC/2015**

Hiermee word kennis gegee, in terme van Regulasie 41 van die Omgewingsimpakstudie (OIS) Regulasies soos gepubliseer in Staatskennisgewing R982 in Staatskoerant No 38282 van 08 Desember 2015, onder Seksie 24(4)(a) van die Nasionale Omgewingsbeheer Wet, 1998 (Wet No 107 van 1998) (NEMA), dat Scatec Solar SA 163 (Pty) Ltd van voornemens is om drie Fotovoltaiese (PV) sonkragfasiliteite, elk met 'n opwekkingskapasiteit van 75 MW en elektriese infrastruktuur (132 kV kraglyn vir elke 75 MW sonkrag fasiliteit) te installeer op die Restant van Onder Rugzeer 168 en die konneksiepunten na die substasie op die Restant van Gedeelte 3 van Gembok Bult 120. Die voorgestelde projekte is 30 km noord-oos van Kenhardt geleë. Elke projek gaan ongeveer 200 hektaar (ha) beslaan en sal langs mekaar gebou word. Elke projek gaan, onder andere, sonpanele, geboue, elektriese infrastruktuur, en toegangspaaie bestaan.

Elke sonkragprojek vereis dat 'n Bestekopname and Omgewingsimpakevalueringproses onderneem word. Aparte Basiese evalueringprosesse sal ook gedoen word vir die voorgestelde 132 kV kraglyne. Die WNNR (CSIR) is aangestel deur Scatec Solar 163 (Pty) Ltd om die evalueringprosesse uit te voer. Die prosesse word benodig omdat die volgende gelyste aktiwiteite van toepassing is op die projekte:

Proses	Staatskennisgewing	Gelyste aktiwiteit nommer
Basiese evaluering	GN R983 - 8 Desember 2014	Aktiwiteit 11 (i)
Bestekopname en Omgewingsimpakevaluering	GN R983 - 8 Desember 2014	Aktiwiteit 9 (i) and (ii); Aktiwiteit 12 (x) and (xii); Aktiwiteit 19 (i); Aktiwiteit 24 (ii) and Aktiwiteit 28 (ii)
	GN R984 - 8 Desember 2014	Aktiwiteit 1 and Aktiwiteit 15.

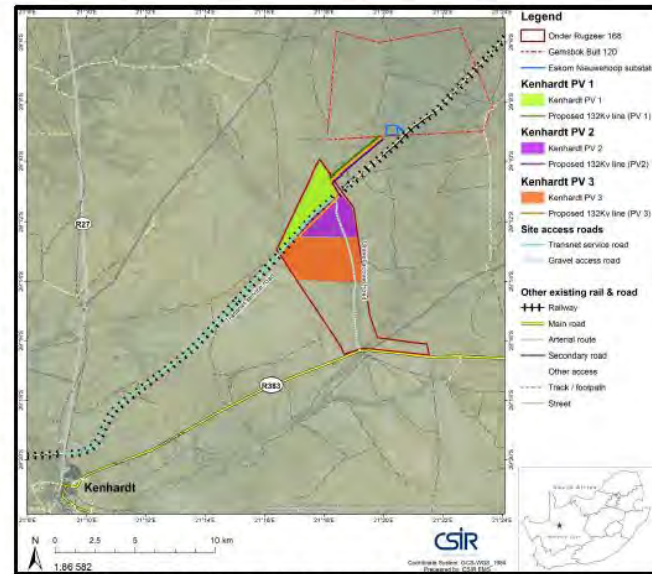
Aangesien die sonkragprojekte en die voorgestelde elektriese infrastruktuur in dieselfde geografiese area gebou gaan word and dieselfde tipe projekte is, word dit voorgestel dat 'n geïntegreerde Publieke Deelname Proses gedoen gaan word. Aparte aansoeke gaan by die Nasionale Departement van Omgewingsake ingedien word vir die verskillende projekte en sal na verwys word in die volgende formaat: Kenhardt PV 1, Kenhardt PV 2, Kenhardt PV 3, Kenhardt PV 1 – Transmission Line, Kenhardt PV 2 – Transmission Line, and Kenhardt PV 3 – Transmission Line. Aparte verslae sal ook vir elke projek saamgestel en uitgestuur word.

Om te verseker dat u vir die projekte as 'n Belangstellende en Geaffekteerde Party (B&GP) geregistreer word of om enige kwessie uit te lig wat u met die projekte het, word u vriendelik versoek om te registreer vir die projekte en u kommentaar aan WNNR se verteenwoordiger (inligting hieronder) te stuur. Verdere inligting sal ook deur die loop van die projek op die projek se webtuiste beskikbaar wees: <http://www.csir.co.za/eia/ScatecSolarPV/>.

'n Dokument wat verdere inligting oor die projek verskaf is vir 30 dae beskikbaar vir besigtiging en kommentaar (03 Augustus 2015 - 04 September 2015).



Om meer inligting te bekom of om te registreer as Geïnteresseerde en Belanghebbende Party (G&BP), kontak asseblief:  
**CSIR**  
 Rohaida Abed  
 Posbus 17001, Congella, Durban, 4013  
 Telefoon: 031 242 2300  
 Faks: 031 261 2509  
 E-pos: [RAbed@csir.co.za](mailto:RAbed@csir.co.za)

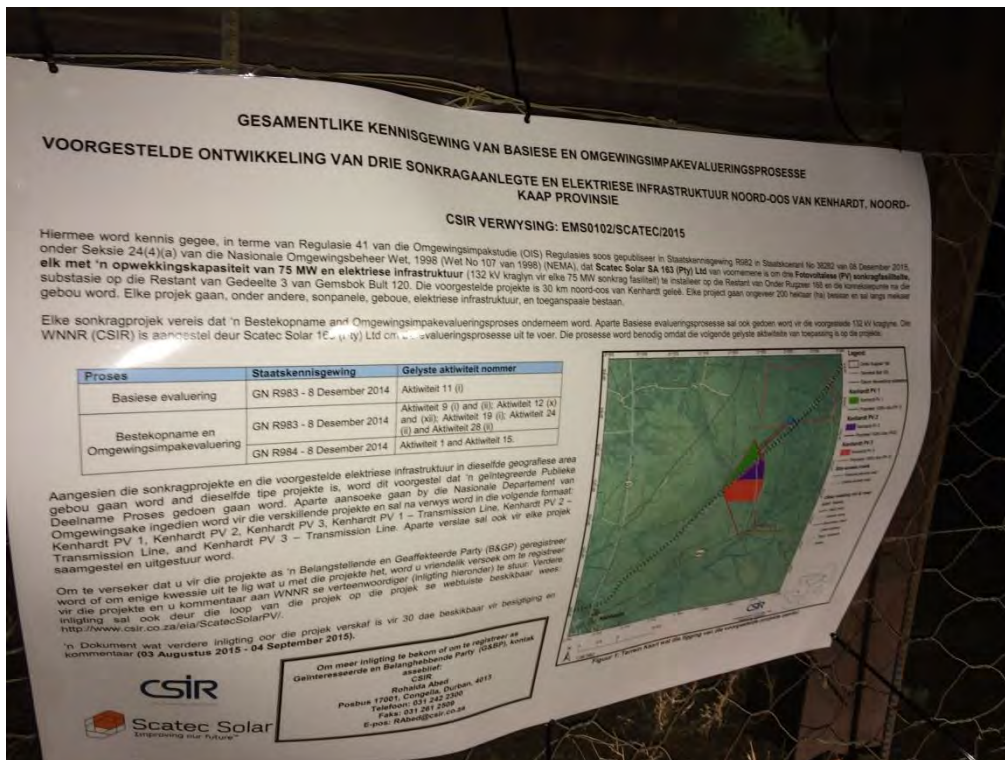


Figuur 1: Terrein Kaart wat die ligging van die voorgestelde projekte aandui

**Proof of Placement of Site Notice Boards: 3 August 2015**

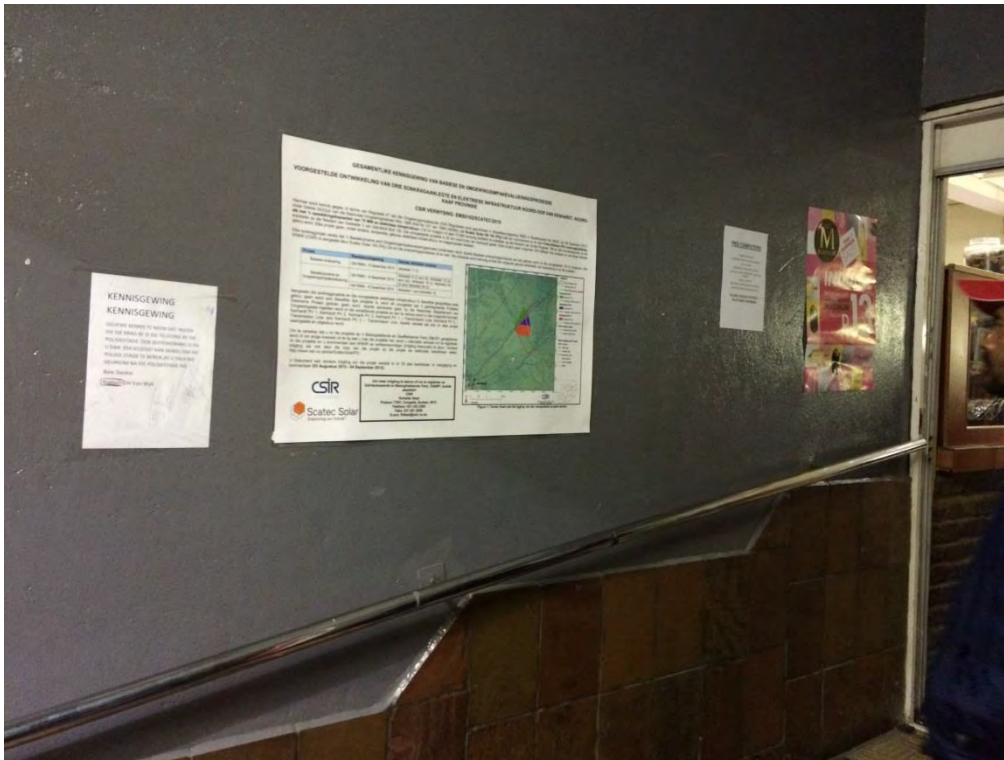


Site Notice Board (Afrikaans) placed at the entrance to the Transnet Service Road, which serves as one of the access routes to the (preferred and alternative) project sites.

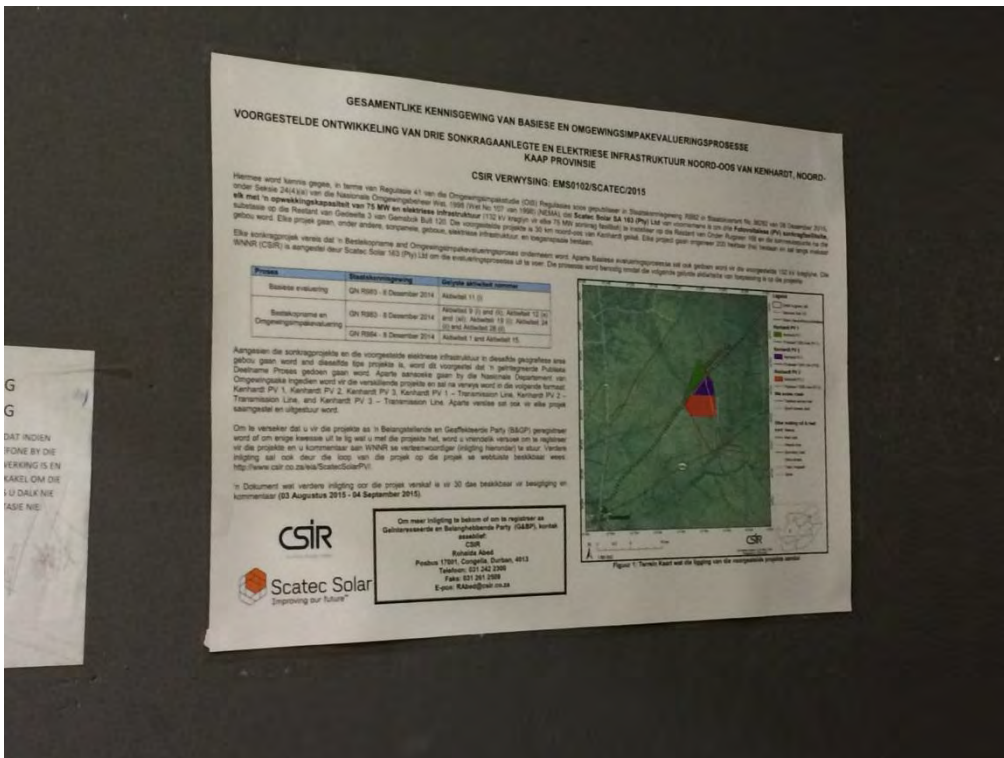


Close up image of the Site Notice Board (Afrikaans) placed at the entrance to the Transnet Service Road, which serves as one of the access routes to the (preferred and alternative) project sites.

Scoping and Environmental Impact Assessment for the proposed Development of a 75 MW Solar Photovoltaic Facility (KENHARDT PV 1) on the remaining extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province



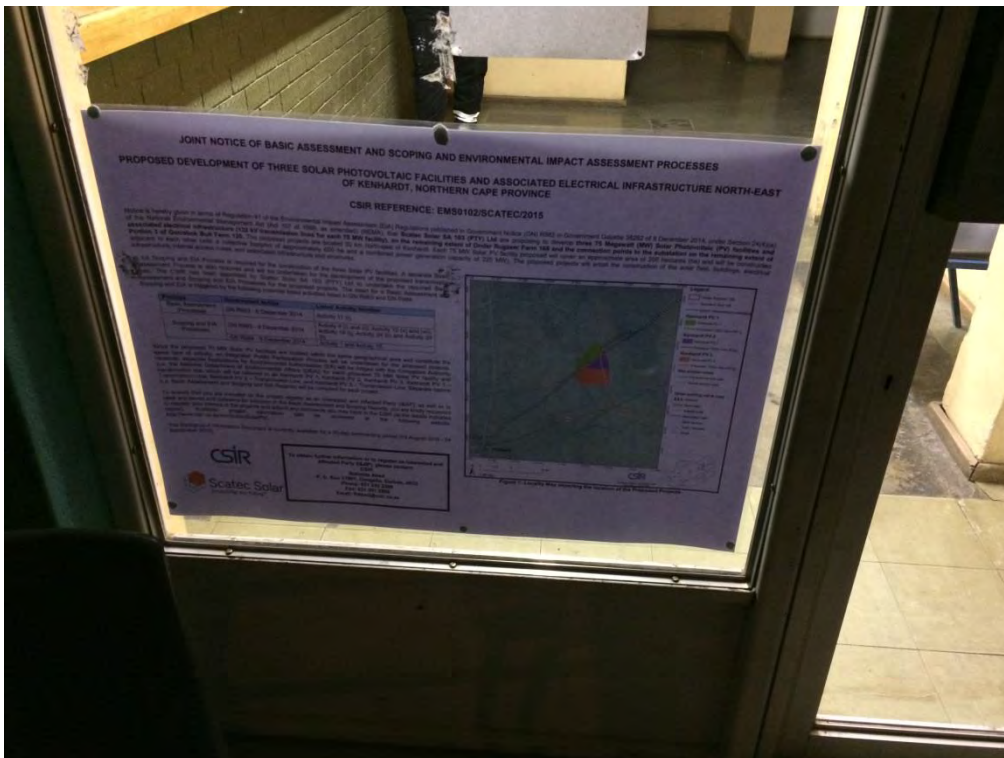
Site Notice Board (Afrikaans) placed at the Kenhardt Petrol Station.



Close up image of the Site Notice Board (Afrikaans) placed at the Kenhardt Petrol Station.



Site Notice Board (English) placed at the Kai !Garib Municipality Offices in Kenhardt.



Close up image of the Site Notice Board (English) placed at the Kai !Garib Municipality Offices in Kenhardt.

**Proof of Placement of Site Notice Boards: 10 September 2015**



**Site Notice Board (English) placed at the entrance to the Unnamed Farm Road, which serves as one of the access routes to the (preferred and alternative) project sites.**