

JULY 2020

ENVIRONMENTAL IMPACT ASSESSMENT
AND
PUBLIC PARTICIPATION PROCESS

NALEDI PV AND NGWEDI PV,
NORTHERN CAPE

savannah
environmental

BACKGROUND INFORMATION DOCUMENT



The development of two (2) 100MW solar photovoltaic (PV) facilities is proposed on a study area consisting of two properties, Portion 3 of the Farm McTaggart's Camp 453 and Portion 12, Portion of Portion 3 of the Farm Klip Punt 452, located 21km south-west of Upington in the Northern Cape Province. The two solar PV facilities are known as Ngwedi PV and Naledi PV, and are located to the north of the existing Khi Solar One CSP facility. The two facilities are located within the Kai !Garib Local Municipality, and border the Dawid Kruiper Local Municipality located directly to the east, within the ZF Mgcawu District Municipality.

The study area for the two projects is located within Focus Area 7 of the Renewable Energy Development Zones (REDZs) which is also known as the Upington REDZ, therefore, a Basic Assessment (BA) process will be undertaken and a BA Report compiled for each project in accordance with the EIA Regulations, 2014 (as amended), as well as, GNR 114 as formally gazetted on 16 February 2018.

The nature and extent of the two solar PV facilities are explored further in this Background Information Document (BID). The public participation process for the projects will be undertaken concurrently, providing the public with an opportunity to comment on both projects simultaneously. Each solar PV facility will be constructed as a separate stand-alone project, with a separate project development company, or Special Purpose Vehicle (SPV) as the applicant for each project. The Special Purpose Vehicle (SPV) for Naledi PV is Naledi PV (Pty) Ltd, and the SPV for Ngwedi PV is Ngwedi PV (Pty) Ltd.

It is the Developer's intention to bid each solar PV facility under the Department of Mineral Resources and Energy's¹ Renewable Energy Independent Power Producer Procurement (REIPPP) Programme. The power generated from each solar PV facility will be sold to Eskom and fed into the national electricity grid through a proposed grid connection solution. The grid connection solution to connect the Naledi and Ngwedi solar PV facilities to the national grid has been assessed as part of a separate BA process. The development of the facilities will assist with the achievement of the electricity goals as set out in the Integrated Resources Plan (IRP), 2019.

AIM OF THIS BACKGROUND INFORMATION DOCUMENT

This document aims to provide you, as an interested and/or affected party (I&AP), with:

- » An overview of the proposed solar PV facilities and the associated infrastructure.
- » An overview of the BA process and independent specialist studies being undertaken to assess each project.
- » Details of how you can become involved in the BA processes, receive information, or raise issues, which may concern and/or interest you.

OVERVIEW OF THE PROJECTS

In response to the electricity demand and supply within South Africa, the need to promote renewable energy and sustainability within the Northern Cape Province, as well as the country's targets for renewable energy, the development of two 100MW solar PV facilities is proposed within the Upington REDZ area. The development of the solar PV facilities will add new capacity to the national electricity grid network. Each solar PV facility will have a development footprint in excess of 200ha, but less than 250ha in extent.

Infrastructure associated with each solar PV facility will include:

- » Solar PV panels.
- » Centralised inverter stations or string inverters.
- » Cabling between the panels, to be laid underground where practical.
- » An on-site facility substation to facilitate the connection between the solar PV facility to the electricity grid.
- » External and internal access roads.
- » A permanent laydown area.
- » Operation and maintenance buildings, including a gate and security house, control centre, offices, warehouses, a workshop and visitors centre.

Site-specific studies and assessments will be undertaken through the BA processes in order to delineate areas of potential sensitivity within the study area. Once constraining factors have been determined, the layout of each solar PV facility can be planned to minimise social and environmental impacts through appropriate avoidance.

MORE ABOUT SOLAR PV TECHNOLOGY

Solar energy facilities (such as those that utilise PV technology) use energy from the sun to generate electricity through a process known as the **Photovoltaic Effect**. This effect refers to photons of light colliding with electrons, and therefore placing the electrons into a higher state of energy to create electricity. The solar fields of Naledi PV and Ngwedi PV will comprise the following components:

Photovoltaic Cells

A photovoltaic (PV) cell is made of silicone that acts as a semiconductor used to produce the photovoltaic effect. PV cells are arranged in multiples / arrays and placed behind a protective glass sheet to form a PV panel. Each PV cell is positively charged on one side and negatively charged on the opposite side, with electrical conductors attached to either side to form a circuit. This circuit captures the released electrons in the form of an electric current (i.e. Direct Current (DC)).

² ¹The Department of Mineral Resources and Energy is a merge between the Department of Mineral Resources (DMR) and the Department of Energy (DoE).

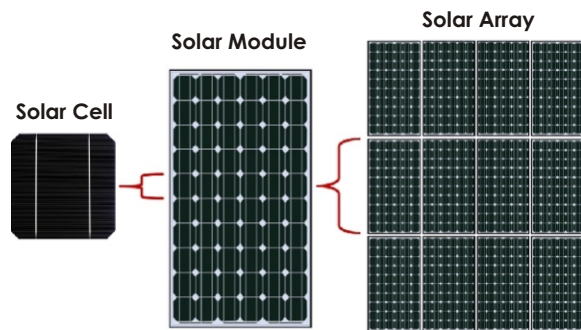


Figure 1: Overview of a PV cell, module and array/panel (Source: pveducation.com)

A PV solar panel is made up of individual PV cells connected together, whereas a solar PV array is a system made up of a group of individual solar PV panels electrically wired together to form a much larger PV installation.

The PV panels will be fixed to support structures and will either utilise fixed/static support structures, or alternatively, they can utilise single or double axis tracking support structures.

Inverters

Inverters are used to convert electricity produced by the PV cells from Direct Current (DC) into Alternating Current (AC), to enable the facility to be connected to the national electricity grid. In order to connect large solar facilities, such as the ones being proposed, to the national electricity grid, numerous inverters will be arranged in several arrays to collect and convert the power produced by the facilities.

PV panels are designed to operate continuously for more than 20 years, mostly unattended and with low maintenance.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

In accordance with the EIA Regulations, 2014 (as amended) published in terms of Section 24(5) of the National Environmental Management Act (No. 107 of 1998) (NEMA), the applicants require Environmental Authorisation (EA) from the Department of Environmental Affairs (DEA) in consultation with the Northern Cape Department of Environment and Nature Conservation (DENC) for the development of the proposed projects. In terms of Section 24(5) of NEMA, the EIA Regulations, 2014 (GNR 326), GNR 114 and Listing Notices (GNR 327, GNR 325, and GNR 324), the applications for EAs for Ngwedi PV and Naledi PV are subject to the completion of BA processes, as the entire extent of the study area for the projects is located within the Upington REDZ. Each application is required to be supported by comprehensive, independent environmental specialist studies undertaken in accordance with the EIA Regulations, 2014 (as amended).

A BA is an effective planning and decision-making tool. It allows for potential environmental consequences resulting from a proposed activity to be identified and appropriately managed during the construction, operation, and decommissioning phases of development. It also provides an opportunity for the project applicants to be forewarned of potential environmental issues, and allows for the resolution of issue(s) identified and reported on as part of the BA processes, as well as provides opportunity for dialogue with key stakeholders and Interested and Affected Parties (I&APs).

Savannah Environmental has been appointed as the independent environmental consultant responsible for managing the separate applications for EA and undertaking the supporting BA processes required to identify and assess potential environmental impacts associated with the projects, as well as propose appropriate mitigation and management measures to be contained within the Environmental Management Programmes (EMPrs). I&APs will be actively involved in the BA processes through the public participation process.

WHAT ARE THE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECTS?

The study area will be assessed by independent specialists to identify the potential for environmental impacts and environmental sensitivities. Specialist studies that are proposed as part of the BA processes include the following:

- » Biodiversity - which includes ecology, freshwater features, fauna and flora and assesses the potential impact and the associated disturbance of vegetation on the biodiversity (including critical biodiversity areas and broad-scale processes).
- » Avifauna - includes an assessment of impacts on avifaunal habitats and sensitive species.
- » Soils, Land Use, and Agricultural Potential - which includes land types and assesses the significance of loss of agricultural land and soil degradation and/or erosion.
- » Heritage (Archaeology and Palaeontology) - which includes archaeology and palaeontology and assesses the potential of disturbance to or destruction of heritage sites and fossils during the construction phase through excavation activities.
- » Visual - which includes the visual quality of the area and assesses the impact of a solar PV facility on the aesthetics within the area.
- » Social - which assesses the positive and negative social impacts.

The independent specialist studies will be undertaken wherein the potentially significant impacts will be identified, assessed and ground-truthed. Practical and achievable mitigation measures will be recommended in order to minimise the significance of the potential impacts identified. These recommendations will be included within an EMPr compiled for each project.

Specialist studies will be informed by existing information, previous experience in the area, field observations and input from the public participation process. As an I&AP, your input is



considered as an important part of the process, and we urge you to become involved.

PUBLIC PARTICIPATION PROCESS

The sharing of information forms the basis of the public participation process and offers I&APs the opportunity to become actively involved in the BA processes being undertaken for the respective projects. Comments and inputs from I&APs are encouraged in order to ensure that potential impacts are considered throughout. The public participation process aims to ensure that:

- » Information containing all relevant facts in respect of the applications are made available to I&APs for review.
- » I&AP participation is facilitated in such a manner that they are provided with reasonable opportunity to comment on the proposed projects.
- » Adequate review periods are provided for I&APs to comment on the findings of the BA Reports.

In order to ensure effective participation, the public participation processes include the following:

- » Identifying I&APs, including affected and adjacent landowners and occupiers of land, and relevant Organs of State.
- » Placing site notices at the affected properties.
- » Placing an advertisement in a local newspaper.
- » Compiling and maintaining a database of I&APs throughout the BA processes.
- » Notifying I&APs of the commencement of the BA processes and distributing the Background Information Document (BID).
- » Notifying I&APs of relevant milestones throughout the BA processes.
- » Notifying I&APs of the release of the BA Reports for a 30-day review and comment period.
- » Providing an opportunity for I&APs to engage with the BA project team.
- » Notifying I&APs of DEA's final decision on whether to grant or refuse EAs, and the manner in which such a decision may be appealed.

YOUR RESPONSIBILITIES AS AN I&AP

In terms of the EIA Regulations, 2014 (as amended), your attention is drawn to your responsibilities as an I&AP:

- » In order to participate in the BA processes, you must register yourself on the I&AP database.
- » You must ensure that any comments regarding the proposed projects are submitted within the stipulated timeframes.
- » You are required to disclose any direct business, financial, personal, or other interest that you may have in the approval or refusal of the applications.

HOW TO BECOME INVOLVED

1. By responding by phone, fax, or e-mail, to the invitation for your involvement.
2. By returning the reply form to the relevant contact person.
3. By taking up the opportunities provided to engage with the project team.
4. By contacting the environmental consultant with queries or comments.
5. By reviewing and commenting on the BA Reports within the stipulated 30-day review and comment periods. Registered I&APs will automatically be notified of the release of the BA Reports for comment, and the closing dates by which comments must be received.

If you consider yourself an I&AP for the proposed projects, we urge you to make use of the opportunities created by the public participation process to provide comment, raise issues and concerns which affect and / or interest you, or request further information. Your input forms a key element of the BA processes.

By completing and submitting the accompanying reply form, you automatically register yourself as an I&AP for the proposed projects, and are ensured that your comments, concerns, or queries raised regarding the projects will be noted.

COMMENTS AND QUERIES

Direct all comments, queries, or responses to:

Ronald Baloyi

Savannah Environmental (Pty) Ltd

PO Box 148, Sunninghill, Johannesburg, 2157

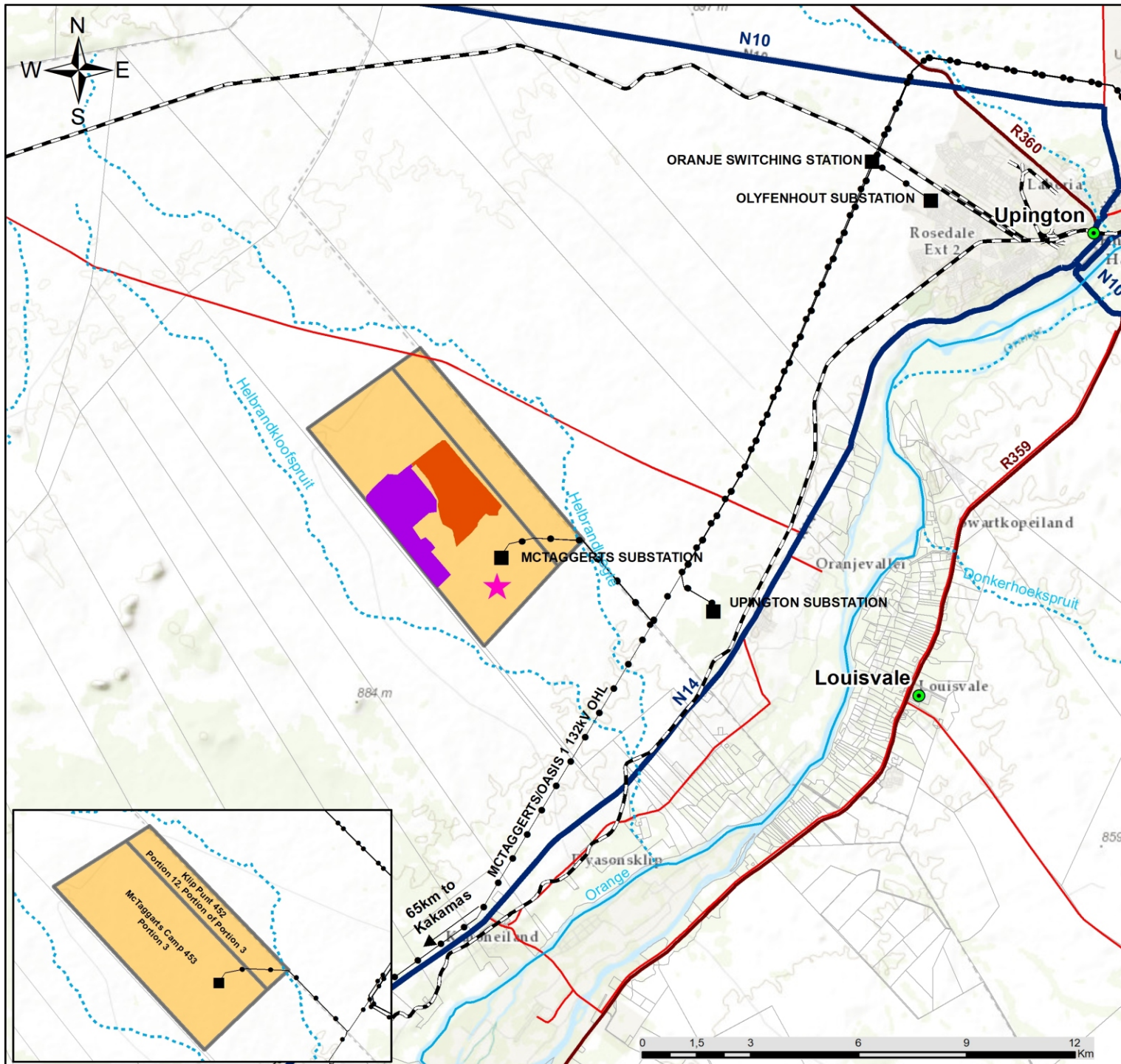
Tel: 011 656 3237

Fax: 086 684 0547

E-mail: publicprocess@savannahsa.com

**To visit the online stakeholder engagement platform
and view project documentation, visit**

www.savannahSA.com



Ngwedi PV and Naledi PV, Northern Cape

Locality Map

Legend

- Town
- ★ Khi Solar 1 CSP Facility (existing)
- Eskom Substations
- Eskom power line
- Railway Line
- Perennial River
- Non-perennial River
- National Route
- Regional Road
- Main Road
- Farm Portions
- Study Area
- Naledi PV Development Area (~330ha)
- Ngwedi PV Development Area (~304ha)

Scale: 1:150 000
 Projection: LO21
 Ref: Naledi and Ngwedi PVs - BID Locality Map 20.03.2020

