

APPENDIX E3:  
Background Information Document

JULY  
2021



BASIC ASSESSMENT AND PUBLIC PARTICIPATION PROCESS

**PROPOSED DEVELOPMENT OF THE 10MW NORTHAM PHOTOVOLTAIC (PV) SOLAR  
FACILITY AND ASSOCIATED INFRASTRUCTURE**

NEAR THABAZIMBI, LIMPOPO PROVINCE

Northam Platinum Limited (NHM) proposes the development of a solar PV facility and associated infrastructure on Portion 2 of the Farm Zondereinde 384 (Survey General ID: TOKQ00000000038400002), ~35km south of Thabazimbi and 18km northwest of Northam, between the R510 in the west and R511 in the east. The project site falls within the jurisdiction of the Thabazimbi Local Municipality, which forms part of the Waterberg District in the Limpopo Province.

#### **Aim of this background information document**

The nature and extent of the solar PV facility and associated infrastructure are included in this Background Information Document (BID). This document therefore aims to provide you, as an interested and/or affected party (I&AP), with:

- » an overview of the proposed solar PV facility and associated infrastructure;
- » an overview of the Basic Assessment (BA) process and specialist studies being undertaken to assess the solar PV facility, and its associated infrastructure; and
- » details of how you can become involved in the BA process, receive information, or raise comments that may concern and/or interest you.

#### **Overview of the proposed project:**

The proposed project will entail the development of a 10MW solar PV facility to be located within NHM's Zondereinde mine area (Figure 1).

The purpose of the proposed project is to generate electricity for exclusive use by the Zondereinde Mine, following which any excess power produced will be distributed to the national grid, if applicable. The construction of the PV facility aims to reduce the Zondereinde Mine's dependency on direct supply from the Eskom's national grid for operation activities, while simultaneously decreasing the mine's carbon footprint.

In order to evacuate the generated power to the Zondereinde Mine, a grid connection needs to be established. An overhead power line will be established to connect the on-site substation on the Northam solar PV facility site to the existing substation at the Zondereinde Metallurgical Complex. The overhead power line will run for 500m from the PV site to the side of the Eskom yard and will be at a minimum height of 5.5m. The power line is designed to have a capacity of 33kV but will be operated at 6.6kV.

Infrastructure associated with the solar PV Facility will occupy up to 20ha and include the following:

- » solar PV array comprising PV modules and mounting structures;
- » inverters and transformers;
- » cabling between the project components;
- » on-site substation to facilitate the connection between the Solar PV Facility and the mine electrical distribution system as needed;
- » combined gatehouse, site offices and storage facility;
- » a 33kV over-head power line for the distribution of the generated power which will be connected to the existing substation at the Zondereinde Metallurgical Complex;
- » temporary laydown areas; and
- » access paved road, internal roads and fencing around the development area.

Fixed-tilt, single-axis tracking, and/or double-axis tracking PV technology will be used for the project. Monofacial or bifacial panels are both also considered.

The project will comprise solar panels which, once installed, will stand approximately 3.5m above ground level. The solar panels will include centralised inverter stations, or string inverters mounted above ground. If centralised inverter stations are used, mega volt (MV) distribution transformers are located internally, whereas string inverters are containerised with switchgear. The main transformer capacity varies according to detailed design and project-specific requirements.



Site-specific studies and assessments will delineate areas of potential sensitivity within the identified development area for the proposed solar PV facility. Once constraining factors have been confirmed, the solar PV facility's layout will be planned to minimise environmental impacts.

### Overview of Solar PV Technology

Solar energy facilities, such as those which utilise PV technology, use the energy from the sun to generate electricity through a process known as the **Photovoltaic Effect**. Generating electricity using the Photovoltaic Effect is achieved by using the following components:

#### Photovoltaic Modules

PV cells are made of crystalline silicon, the commercially predominant PV technology, that includes materials such as polycrystalline and monocrystalline silicon or thin film modules manufactured from a chemical ink compound. They are arranged in multiples / arrays and placed behind a protective glass sheet to form a PV module (Solar 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)). When sunlight hits the PV panels free electrons are released and flow through the panels to produce DC. DC then needs to be converted to Alternating Current (AC), using an inverter, before it can be directly fed into the electrical grid.

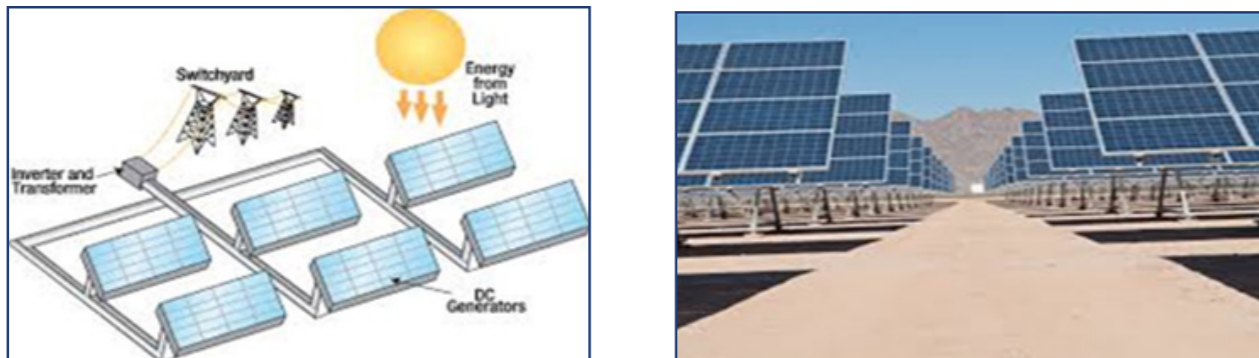


Figure 2: Overview of a PV cell, module and array / panel (Source: pveducation.com).

#### Inverters

Inverters are used to convert electricity produced by the PV panels from DC into AC, to enable the facility to be connected to the mine electrical distribution system. Numerous inverters will be arranged in several arrays to collect and convert power produced by the facility.

#### Support Structures

PV panels will be fixed to a support structure. They can either utilise fixed / static support structures, or alternatively single or double axis tracking support structures. PV panels which utilise fixed / static support structures are set at an angle (fixed-tilt PV system), to optimise the amount of solar irradiation. With fixed / static support structures, the angle of the PV panel is dependent on the latitude of the proposed development and may be adjusted to optimise for summer and winter solar radiation characteristics. PV panels which utilise tracking support structures track the movement of the sun throughout the day, to receive the maximum amount of solar irradiation.

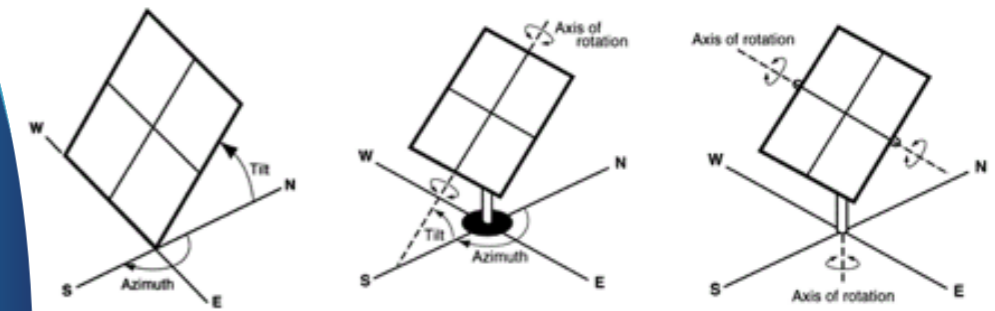


Figure 3: Overview of different PV tracking systems (from left to right: fixed-tilt, single-axis tracking, and double-axis tracking (Source: pveducation.com)).

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

### Basic assessment process

According to the 2014 EIA Regulations (GN R982), published under Section 24(5) of the National Environmental Management Act (No. 107 of 1998) (NEMA) (as amended), NEM:EA requires Environmental Authorisation (EA) from the Limpopo Department of Economic Development, Environment and Tourism (LDEDET) for the development and operation of the proposed project. In terms of Section 24(5) of the NEMA, EIA Regulations 2014 (as amended) and Listing Notice 1 (GNR 327), the application for Environmental Authorisation (EA) for the solar PV facility is subject to the completion of a Basic Assessment (BA) process. The application for EA is required to be supported by comprehensive, independent environmental 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 applicant to be forewarned of potential environmental issues; the resolution of issue(s) identified and reported on as part of the BA processes; and dialogue with key stakeholders and Interested and Affected Parties (I&APs).



Savannah Environmental has been appointed as the independent environmental consultants responsible for managing the application for EA and undertaking the supporting BA process, required to identify and assess potential environmental impacts associated with the project. Appropriate mitigation and management measures for identified impacts will be recommended and included within the Environmental Management Programme (EMPr) for the facility. I&APs will be actively involved through the public participation process.

### What are the potential environmental impacts associated with the proposed project?

Based on the nature and extent of the proposed project; the nature of the affected area; and experience of the consultants on similar projects, various potential environmental impacts associated with the proposed project have been identified at this stage. Specialist studies that are being undertaken as part of the BA process to assess the following potential impacts that may result from the proposed project's construction and operation and associated infrastructure:

- » **Ecology (terrestrial and freshwater ecology) and Avifauna:** disturbance to fauna, flora, drainage lines, rivers, wet lands, avifaunal habitats and sensitive features.
- » **Soils, Land Use, Land Capability, and Agricultural Potential:** loss of agricultural land, soil degradation and/or erosion.
- » **Heritage (Archaeology and Palaeontology):** disturbance to or destruction of heritage sites and fossils due to excavation activities.

Independent specialist studies will be undertaken, wherein potentially significant impacts will be identified, assessed and ground-truthed. Practical and achievable mitigation measures will be recommended, to minimise the significance of the potential impacts identified. These recommendations will be included within an EMPr compiled for the 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 process. Comments and inputs from I&APs are encouraged, to ensure that potential impacts are considered throughout the BA process. The public participation process aims to ensure that:

- » information containing all relevant facts in respect of the application is 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 project; and
- » an adequate review period is provided for I&APs to comment on the findings of the Basic Assessment Report.

To ensure effective participation, the public participation process includes the following:

- » identifying I&APs, including affected and adjacent landowners and occupiers of land, and relevant Organs of State;
- » compiling and maintaining a database of I&APs throughout the BA process;
- » notifying I&APs of the commencement of the BA process and distributing the BID (this document);
- » making information available on the project, via a dedicated webpage;
- » providing an opportunity for I&APs to engage with the project team;
- » placing site notices at the affected properties;
- » placing an advertisement in a newspaper;
- » notifying I&APs of the release of the BA Report for a 30-day review and comment period; and
- » notifying I&APs of LEDET's decision on whether to grant or refuse the EA, 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) and the Public Participation Guidelines, 2014, your attention is drawn to your responsibilities as an I&AP:

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

### How to become involved

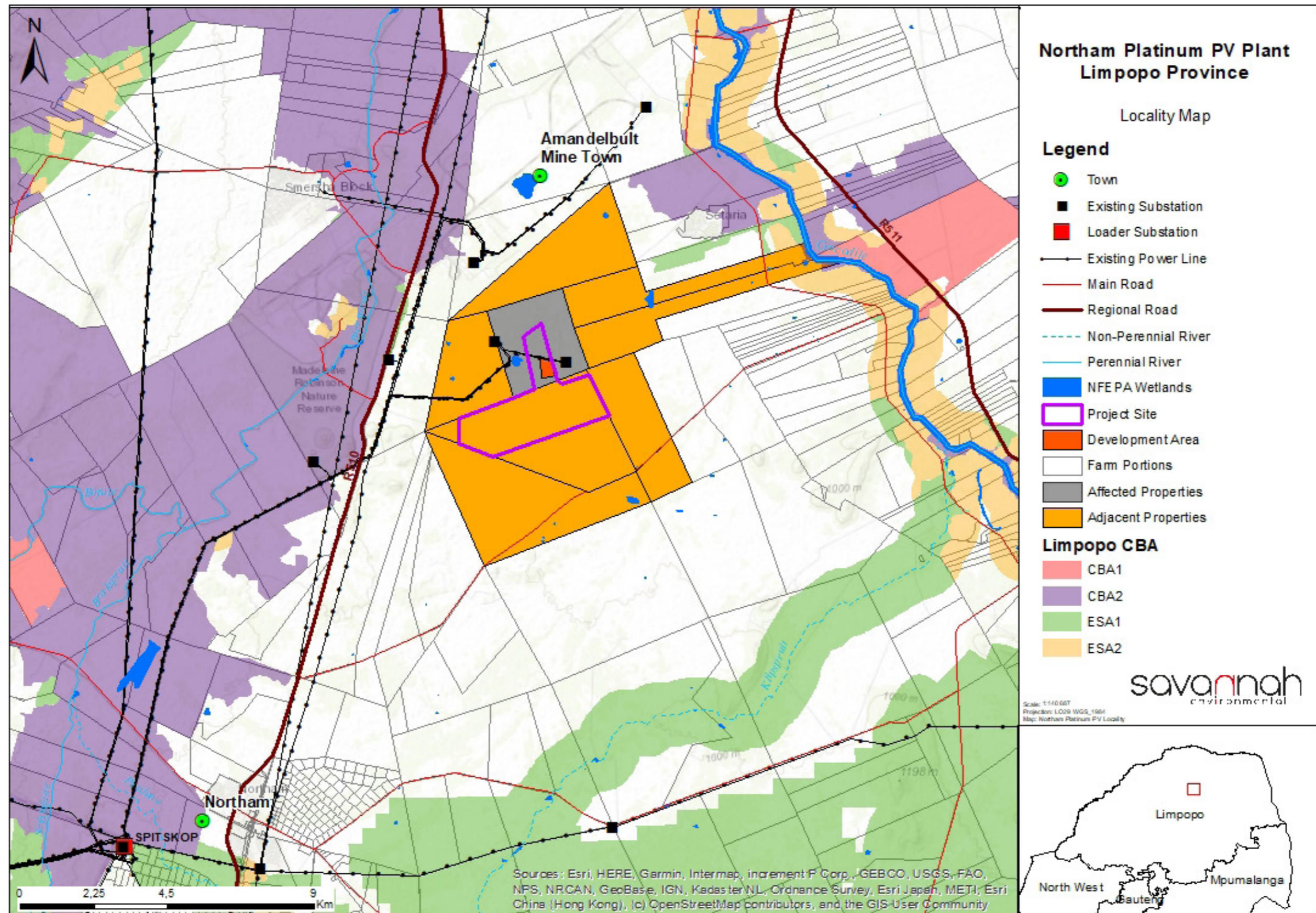
1. By responding by phone, fax, or e-mail, to the invitation for your involvement.
2. By returning the reply form to the relevant contact person.
3. By engaging with the project team on the online stakeholder engagement platform during the BA process.
4. By contacting the environmental consultant with queries or comments.
5. By reviewing and commenting on the BA Report within the stipulated 30-day review and comment period. Registered I&APs will automatically be notified of the release of the BA Report for comment, and the closing date by which comments must be received.

If you consider yourself an I&AP for the proposed project, 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 process.

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



Figure 1: Locality Map of the proposed 10MW Northam solar PV facility.





## COMMENTS AND QUERIES

Direct all comments, queries or responses to:

*Savannah Environmental*

*Nicolene Venter*

P.O. Box 148, Sunninghill, 2157

Tel: 011 656 3237

PP mobile number: 060 978 8396

Fax: 086 684 0547

Email: [publicprocess@savannahsa.com](mailto:publicprocess@savannahsa.com)

To view project documentation, visit  
[www.savannahSA.com](http://www.savannahSA.com)



**BASIC ASSESSMENT AND PUBLIC PARTICIPATION PROCESS**

**PROPOSED 10MW NORTHAM SOLAR PV FACILITY NEAR THABAZIMBI, LIMPOPO PROVINCE  
(LEDET Ref. No.: To be issued)**

**Registration & Comment Form**

July 2021

Return completed registration and comment form to: **Nicolene Venter** of **Savannah Environmental**

**Phone:** 011 656 3237 / **Mobile (incl. 'please call me'):** 060 978 8396 / **Fax:** 086 684 0547

**E-mail:** publicprocess@savannahsa.com

**Postal Address:** PO Box 148, Sunninghill, 2157

**Your registration as an interested and/or affected party will be applicable for this project only and your contact details provided are protected by the PoPI Act of 2013**

**Please provide your complete contact details:**

Name & Surname:			
Organisation:			
Designation:			
Postal Address:			
Telephone:		Fax:	
Mobile:			
E-mail:			

**I would you like to register as an interested and affected party (I&AP) on the project's database** (please tick the relevant box)

Northam Solar PV	<input type="checkbox"/>
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**In terms of EIA Regulations, 2014, as amended, Regulation 43(1), you are required to register as an I&AP to receive further correspondence regarding the BA process for the projects and to disclose any direct business, financial, personal or other interest which you may have in the approval or refusal of the application** (add additional pages if necessary):

**Please list your comments regarding your project selection above** (add additional pages if necessary):

**Please provide contact details of any other persons who you regard as a potential interested or affected party:**

Name & Surname:			
Postal Address:			
Telephone:			
Mobile:			
E-mail:			