

AUGUST 2013

BASIC ASSESSMENT PROCESS

PROPOSED

**PPC SLURRY SOLAR ENERGY FACILITY**

**NORTH WEST PROVINCE**

DEA REF: 14/12/16/3/3/1/997

**BACKGROUND INFORMATION DOCUMENT**



PPC Limited is proposing to establish a 10 MW photovoltaic solar energy facility as well as associated infrastructure on a site located in the Mahikeng Local Municipality approximately 20 km east of Mahikeng, North West Province. The following farms within the PPC mining area are being investigated for the siting of the PV facility:

- » Portion 8 of the Farm Rietvallei 102,
- » Portion 3 of the Farm Slurry 96,
- » Portion 2, 3 and 4 of the Farm Behadeplaats 93, and
- » Portion 4 of the Farm Bultfontein 92.

The proposed PV facility will have an export capacity of up to 10 MW and will be known as the PPC Slurry Solar Energy Facility. The energy generated from this solar energy facility is intended to be utilised by the Slurry Cement Factory as a means of reducing total carbon emissions, diversifying electricity supply to the factory, and reducing cost risk. Based on a pre-feasibility analysis undertaken by PPC Limited, four technically feasible areas have been identified as alternative sites for consideration and evaluation through a Basic Assessment Process. By undertaking a technical feasibility study which considered favourable climatic conditions (solar renewable energy facilities are directly reliant on average solar radiation values for a particular area), accessibility to and capacity of the electricity grid, accessibility of the study site, as well as local site topography, the four alternative sites are considered by the project proponent to be technically feasible for the establishment of the solar energy facility.

#### AIM OF THIS BACKGROUND INFORMATION DOCUMENT

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

- » An overview of the proposed PPC Slurry Solar Energy Facility
- » An overview of the Basic Assessment process and studies being undertaken to assess the potential impacts, both positive and negative, associated with the proposed facility.
- » Details of how you can become involved in the process, receive information, or raise issues, which may concern and/or interest you.

#### PROJECT COMPONENTS

The 10 MW PV Solar plant is proposed to accommodate the following infrastructure:

- » Arrays of photovoltaic (PV) panels
- » Mounting structures to support the PV panels.
- » Cabling between project components, to be laid underground where practical.
- » A new on-site substation to evacuate the power from the facility into the proposed power line
- » A new overhead power line to evacuate the power to an existing 66kV substation on the PPC site.
- » Internal access roads and fencing.
- » Workshop area for maintenance, storage, and offices.

The overall aim of the design and layout of the facility is to maximise electricity production through exposure to the solar radiation, while minimising infrastructure, operation and maintenance costs, and social and environmental impacts. The use of solar energy for power generation can be described as a non-consumptive use of natural resources which

emits zero greenhouse gas emissions.

### RENEWABLE ENERGY TECHNOLOGY PROPOSED

A solar energy facility (PV) uses the 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 Energy Facility will comprise of the following components:

**The Photovoltaic Cell:** A photovoltaic (PV) cell can consist of a thin film technology or polycrystalline silicon cell which acts as a semiconductor used to produce the photovoltaic effect. Individual PV cells are linked and placed behind a protective glass sheet to form a photovoltaic panel.

**The Inverter:** The photovoltaic effect produces electricity in direct current. Therefore an inverter must be used to change it to alternating current.

**The Support Structure:** The PV panels will be attached to a support structure set at an angle so to receive the maximum amount of solar radiation.

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



Figure 1: Illustration of a photovoltaic solar facility ([www.pv-magazine.com](http://www.pv-magazine.com))

### THE NEED FOR A BASIC ASSESSMENT

In terms of the EIA Regulations (as amended) published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), PPC Limited requires authorisation from the National Department of Environmental Affairs (DEA) for the construction and operation of the proposed infrastructure. In terms of sections 24 and 24D of NEMA, as read with the EIA Regulations of GN R543, R544, R545 and R546 (as amended), a Basic Assessment process is required to be undertaken for this proposed project. This process involves the identification and assessment of environmental impacts through

specialist studies, as well as public participation.

A Basic Assessment is an effective planning and decision-making tool. It allows the potential environmental consequences resulting from a technical facility during its establishment and its operation to be identified and appropriately managed. It provides the opportunity for the developer to be fore-warned of potential environmental issues, and allows for resolution of the issue(s) reported on in the as well as dialogue with affected parties.

In order to obtain authorisation for the project, comprehensive, independent environmental studies must be undertaken in accordance with the EIA Regulations of June 2010. PPC Limited has appointed Savannah Environmental, as the independent environmental consultant, to undertake the required environmental assessments to identify and assess all the potential environmental impacts associated with the proposed projects, and proposes appropriate mitigation and management measures in an Environmental Management Programme. As part of these environmental studies, I&APs will be actively involved through the public involvement process also being undertaken by Savannah Environmental.

### **PUBLIC INVOLVEMENT PROCESS**

The sharing of information forms the basis of the public involvement process and offers you the opportunity to become actively involved in the EIA process from the outset. Comments and inputs from I&APs during the EIA process are encouraged in order to ensure that potential impacts are considered within the ambit of the study.

The public involvement process aims to ensure that:

- » Information that contains all the 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 a reasonable opportunity to comment on the proposed project.
- » Adequate review periods are provided for I&APs to comment on the findings of draft reports.

On-going communication with registered parties will ensure that you will be kept informed of the progress of the BA process, informed of details of public consultation meetings which are planned, and be advised when documentation is available for review and comment.

### **YOUR RESPONSIBILITIES AS AN I&AP**

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

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

## HOW TO BECOME INVOLVED

1. By responding (by phone, fax or e-mail) to our invitation for your involvement which has been advertised in local and regional newspapers.
2. By returning the attached Reply Form to the relevant contact person.
3. By attending the meetings to be held during the course of the project. As a registered I&AP you will automatically be invited to attend these meetings. Dates for public meetings will also be advertised in local newspapers.
4. By contacting the consultants with queries or comments.
5. By reviewing and commenting on the draft reports within the stipulated 30-day public review periods.

If you consider yourself an I&AP for the proposed project, we urge you to make use of the opportunities created by the public involvement process to provide comment, or raise those issues and concerns which affect and/or interest you, and about which you would like more information. Your input into these processes 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 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:

Gabriele Wood of Savannah Environmental  
PO Box 148, Sunninghill, Johannesburg, 2157  
Phone: 011 656 3237  
Fax: 086 684 0547  
E-mail: [gabriele@savannahsa.co.za](mailto:gabriele@savannahsa.co.za)










To view project documentation, visit

[www.savannahSA.com](http://www.savannahSA.com)



Slurry Solar Energy Facility  
Locality Map

**Legend**

-  Eskom substation
-  Railway line
-  Existing power line
-  Regional road
-  SEF farm portions
- Slurry site alternatives:**
-  Slurry 1
-  Slurry 2
-  Slurry 3
-  Slurry 4 (preferred site)

