

APRIL 2012

ENVIRONMENTAL BASIC ASSESSMENT PROCESS

PROPOSED ESTABLISHMENT OF THE

**AMANDLA WELANGA
AND
DIDA SOLAR ENERGY FACILITIES**

NEAR NOUPOORT, NORTHERN CAPE

DEA Ref No.

14/12/16/3/3/1/530 (Amandla Welanga)

14/12/16/3/3/1/529 (Dida)



BACKGROUND INFORMATION DOCUMENT



Amandla Welanga Solar Energy (Pty) Ltd and Dida Solar Energy (Pty) Ltd are each proposing the establishment of a photovoltaic (PV) solar energy facility for the purpose of electricity generation. Each facility will be established over an area of less than 20 ha on separate sites which are located ~26 km north of Noupoort, Northern Cape. The Amandla Welanga facility is proposed on the Remaining extent of Farm Rietfontein 140 and the Dida facility is proposed on Portion 3 of Farm Rietfontein 140 (the two farms are located next to each other; refer to the attached locality maps).

Each project will have a maximum generating capacity of up to 20 MW, which will be evacuated into the national electricity grid as part of a power purchase agreement with Eskom and South African Treasury. As per the requirements of EIA Regulations of June 2010, the potential environmental impacts of the proposed projects must be assessed as part of an Environmental Basic Assessment Process. Two separate Basic Assessment Processes are being undertaken, i.e. one for each project under consideration. As the two sites are located adjacent to one another, a consolidated public participation process is being undertaken for the two projects.

This Background Information Document aims to provide you, as an interested and/or affected party (I&AP), with an overview of the proposed projects, the Basic Assessment processes, and the public participation process.

AIM OF THIS BACKGROUND INFORMATION DOCUMENT

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

- » An overview of the proposed solar energy facilities and their associated infrastructure.
- » An overview of the environmental process and the specialist studies being undertaken to assess the potential impacts associated with the proposed projects.
- » Details of how you can become involved in the process, receive information, or raise issues which may concern or interest you.

OVERVIEW OF THE PROPOSED PROJECT

The purpose of the two PV solar energy facilities is to add new capacity for generation of renewable energy to the national electricity mix. The power generated at these facilities will feed into the Eskom electricity grid via the existing Fontein Substation, which is located on the Amandla Welanga site.

Each proposed facility would have a generating capacity of up to 20MW and would comprise:

- » Arrays of photovoltaic panels with a generation capacity of up to 20 MW;
- » Cabling between the project components, to be laid underground where practical;

- » An overhead power line feeding into the Eskom electricity network at Fontein Substation which is located on the Amandla Welanga site;
- » Internal access roads; and
- » Workshop area for maintenance and storage.

The developers will be required to apply for a generation license from the National Energy Regulator of South Africa (NERSA), as well as a power purchase agreement from Eskom (i.e. typically for a period of 20 - 25 years) in order to build and operate each of the proposed facilities. As part of the agreement, they will be remunerated per kWh by Eskom who will be financially backed by government. Depending on the economic conditions following the lapse of this period, the facility can either be decommissioned or the power purchase agreement may be renegotiated and extended.

PHOTOVOLTAIC TECHNOLOGY

Photovoltaic technology uses the energy from the sun to generate electricity through a process known as the *Photovoltaic Effect*. Simply speaking, this refers to light knocking electrons into a higher state of energy to create electricity, best illustrated by the small photovoltaic cell on hand held solar calculators or watches. A photovoltaic panel typically consists of the following components:

Photovoltaic Cells - silicon wafers which are the building blocks, act as semiconductors and when struck by light, produce electricity. Individual photovoltaic cells are linked in circuit and placed behind a protective transparent cover sheet to collectively form a photovoltaic panel/array. Photovoltaic cells are highly sensitive to shading, and the output of an entire circuit can be significantly decreased when even a small portion of a cell, panel, or array is shaded, while the remainder is in sunlight. Dust or dirt can also affect the efficiency, and therefore these panels require maintenance, the regularity of which depends on the characteristics of the site (i.e. predominant wind direction and dusty conditions).

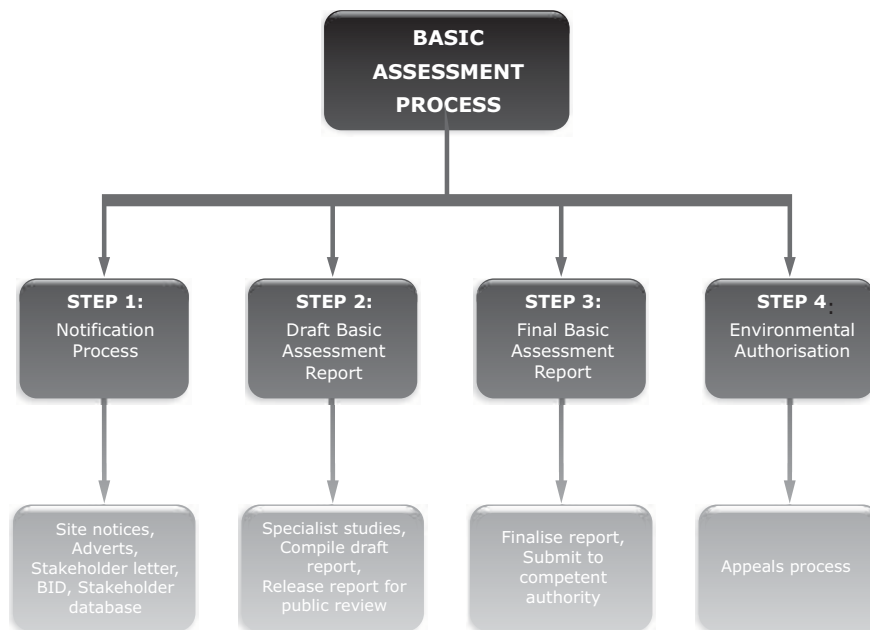
The Support Structure - the photovoltaic panels are fixed to support structures which are either bolted directly into the ground or fixed by means of concrete foundations. These structures can be adjusted in terms of their angle relative to the sun. Depending on the latitude of the proposed facility, the angle of the support structures may be adjusted to optimise for summer / winter solar radiation characteristics.

Inverter - the photovoltaic effect produces electricity in direct current. However, in order to transmit this power within the Eskom grid it must be converted to alternating current which requires an inverter. When the photovoltaic panels are connected as separate strings, each string can be allocated its own inverter thereby ensuring the continued operation of the facility should one or more strings be comprised or require maintenance.

ENVIRONMENTAL BASIC ASSESSMENT PROCESS

In terms of sections 24 and 24D of the National Environmental Management Act (NEMA; Act No. 107 of 1998), as read with the Environmental Impact Assessment (EIA) Regulations of Government Notice R543 – R546, a Basic Assessment process is required to be undertaken for each of the proposed projects. Two separate applications and projects have been registered with the National Department of Environmental Affairs as the competent authority under application reference numbers **14/12/16/3/3/1/530 (Amandla Welanga)** and **14/12/16/3/3/1/529 (Dida)**.

In order to obtain authorisation, comprehensive and independent environmental studies must be undertaken in accordance with these regulations. As such, Savannah Environmental has been appointed, as the independent environmental consultants, to undertake the required Basic Assessment processes to identify and assess the potential environmental impacts, and to propose appropriate mitigation and management measures in draft Environmental Management Programmes (EMP) for each facility. The process that will be followed for each project as required by the EIA Regulations is summarised as follows.



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

Specialist studies are required to be undertaken to determine the significance of potential impacts. Specialist studies will be informed by existing information, field observations and input from the public participation process. These studies will include site specific management and mitigation measures to be included as part of the EMP. Through Savannah Environmental's experience with solar energy facilities, a number of potential environmental impacts associated with the proposed projects have already been identified.

- **Ecology, fauna, and flora** - the construction of the facility and the associated disturbance of vegetation may affect the ecology and biodiversity of the site.
- **Geology and soil erosion** - the underlying geology may be affected in terms of soil degradation and/or erosion.
- **Agricultural potential** - solar facilities typically result in whole-scale disturbance of the development footprint and therefore the agricultural potential of the identified site (i.e. which is zoned as agricultural) needs to be determined.
- **Heritage sites and palaeontology** - disturbance to or destruction of heritage sites and fossils may result during the construction phase through excavation activities.
- **Visual aesthetics** - the establishment of an industrial facility of this nature has the potential to affect the visual aesthetics within the area.
- **Social** - the construction and operation of the facility may result in positive socio-economic opportunities in terms of local employment as well as negative impacts in terms of safety and security and land use characteristics.

PUBLIC PARTICIPATION PROCESS

The sharing of information forms the basis of the public participation process and offers you the opportunity to become actively involved from the outset. Comments and inputs from I&APs are encouraged to ensure that all potential impacts are considered within the ambit of the studies. The public participation process aims to ensure that:

- » Information that contains all the relevant facts in respect of an application is made available to

I&APs for review.

- » I&AP participation is facilitated in such a manner that stakeholders are provided with a reasonable opportunity to comment on a proposed project.
- » An adequate review period is provided for I&APs to comment on the findings of the draft Basic Assessment Reports, and draft EMPs.

YOUR RESPONSIBILITIES AS AN I&AP & HOW TO BECOME INVOLVED

Your attention is drawn to your responsibilities as an I&AP:

- » In order to participate in this process, you must register yourself on the project database.
- » You must ensure that any comments/queries regarding the proposed projects are submitted within the stipulated timeframes.
- » You are required to disclose any direct business, financial, personal or other interest which that you may have in the approval or refusal of the application for the proposed projects.
- » By responding by phone, fax or e-mail to the invitation for your involvement which has been advertised in local newspapers.
- » By attending the public meeting to be held during the course of the review period. As a registered I&AP you will automatically be invited to attend this meeting.
- » By contacting the environmental consultants with queries or comments.
- » By reviewing and commenting on the draft Basic Assessment Reports within the stipulated review period.

Your input forms a key element of the process. If you consider yourself an I&AP for these 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. Please indicate which project your comments relate to by including the reference numbers in your correspondence.

COMMENTS AND QUERIES

Direct all comments, queries or responses to:












Shawn Johnston of Sustainable Futures ZA
PO Box 749, Rondebosch, CAPE TOWN, 7701
Phone: 083 325 9965
Fax: 086 510 2537
E-mail: swjohnston@mweb.co.za

To view project documentation, visit
www.savannahSA.com

Amandla Welanga Solar Energy Facility

Locality Map

Legend

-  National Road
-  Regional Road
-  Secondary Road
-  Railway Line
-  Perennial River
-  Non-perennial River
-  Power Line
-  Distribution Substation
-  Transmission Substation
-  Site Location
-  Farm portion

