JULY 2020

BASIC ASSESSMENT
AND
PUBLIC PARTICIPATION PROCESS

DEVELOPMENT OF

GEELSTERT 1 AND GEELSTERT 2 SOLAR PV FACILITIES AND ASSOCIATED GRID CONNECTION SOLUTION

NEAR AGGENEYS, NORTHERN CAPE

savannah environmental

BACKGROUND INFORMATION DOCUMENT

The development of two separate solar photovoltaic (PV) facilities of up to 125MW and associated infrastructure is proposed on a site located approximately 11km south-east of the town of Aggeneys in the Northern Cape Province. The two solar PV facilities are to be known as Geelstert 1 and Geelstert 2. The grid connection solution will be known as Geelstert Grid Connection. The projects are situated within the Khâi-Ma Local Municipality, in the greater Namakwa District Municipality.

The two solar PV facilities are located on the Remaining Extent of the Farm Bloemhoek 61. Both solar PV facilities will be connected to the grid by a single grid connection solution, which consists of a collector substation and a single-circuit power line of up to 220kV. The power line will connect the facilities to the national grid via the existing Aggeneis Main Transmission Substation (MTS) which is located 14.5km west of the study area. The development of the grid connection infrastructure will be assessed as part of a separate Basic Assessment process. The assessment of the grid connection infrastructure will consider a corridor with a width of up to 1km (extending to 2km at the Aggeneis MTS) and a length of up to 17.5km. The following six properties may be impacted by the development of the Geelstert grid connection solution:

Remaining Extent of the Farm Bloemhoek 61	Remaining Extent of the Farm Aggeneys 56
Portion 1 of the Farm Aggeneys 56	Portion 2 of the Farm Aggeneys 56
Portion 12 of the Farm Aggeneys 56	Portion 13 of the Farm Aggeneys 56

The study area is located within Zone 8 of the Renewable Energy Development Zones (REDZ) (also known as the Springbok REDZ), and within the Northern Transmission Corridor. As Geelstert 1 and Geelstert 2 are located within one of the eight REDZ areas, the projects are subject to a Basic Assessment (BA) process, as well as a shortened timeframe of 57 days for the processing of an Application for Environmental Authorisation. The grid connection solution will also be subject to a BA process and will be in-line with the timeframes in accordance with the EIA Regulations, 2014 (as amended).

The nature and extent of the three (3) projects is explored in more detail in this document. The public participation processes for the projects will be undertaken concurrently, providing the public with an opportunity to understand and comment on each of the projects. Each solar PV facility and the grid connection solution will be constructed as separate stand-alone projects, each with a separate project development company or Special Purpose Vehicle (SPV) as the Applicant for each project:

Project Name:	***Applicant:***	***Capacity:***
Geelstert 1 (solar PV facility)	Geelstert Solar Facility 1 (Pty) Ltd	Up to 125MW (contracted capacity)
Geelstert 2 (solar PV facility)	Geelstert Solar Facility 2 (Pty) Ltd	Up to 125MW (contracted capacity)
Geelstert Grid Connection	ABO Wind renewable energies (Pty) Ltd	Up to 220kV

It is the Developer's intention to bid each solar PV facility under the Department of Mineral Resources and Energy's (DMRE) Renewable Energy Independent Power Producer Procurement (REIPPP) Programme. The power generated from each solar PV facility is intended to be sold to Eskom and fed into the national electricity grid. The development of the facilities and grid connection infrastructure will also assist with achieving the energy mix as set out in the Integrated Resources Plan (IRP).

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, grid connection solution and associated infrastructure.
- An overview of the Basic Assessment (BA) processes and specialist studies being undertaken to assess the projects.
- Details of how you can become involved in the BA processes, receive information, or raise comments that may concern and/or interest you.

OVERVIEW OF THE PROJECTS

In response to the growing electricity demand 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 solar PV facilities of up to 125MW is proposed within the Springbok REDZ. The development of the facilities will add new capacity and transmission infrastructure to the national electricity grid network. The development area for each solar PV facility will be ~550ha in extent. The development footprint of the facility will be located within the development area and will be designed to avoid sensitive environmental areas and features.

Infrastructure associated with each solar PV facility will include:

- Solar PV panels.
- Centralised inverter stations or string inverters.
- Mounting structures to support the PV panels.
- Cabling between the project components, to be laid underground where practical.
- On-site inverters to convert the power from a direct current (DC) to an alternating current (AC).
- An on-site facility substation to facilitate the connection between the solar PV facility and the Eskom electricity grid.
- Site offices and maintenance buildings, including workshop areas for maintenance and storage.
- Temporary laydown areas.
- Internal access roads and fencing around the development area.

The grid connection will include a collector substation and an overhead power line with a capacity of up to 220kV connecting the facilities to the Aggeneis Main Transmission Substation (MTS).

Site-specific studies and assessments will be undertaken through the BA processes in order to delineate areas of potential sensitivity within the surrounding areas, the identified study area and grid connection corridor. Once constraining factors have been determined, the layout of the solar PV facilities and the grid connection solution can be planned to minimise social

and environmental impacts.

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 Geelstert 1 and Geelstert 2 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)).

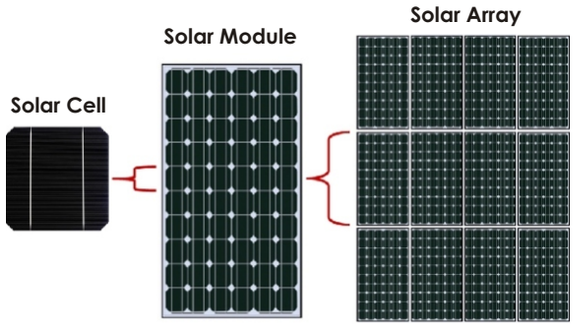

Figure 1: *Overview of a PV cell, module and array/panel (Source: pveducation.com)*

A solar PV module is made up of individual solar PV cells connected together, whereas a solar PV array is a system made up of a group of individual solar PV modules 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. Numerous inverters will be arranged in several arrays to collect and convert 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 National 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 (as amended), the Government Notice (R114) and Listing Notices (GNR 327, GNR 325, and GNR 324), the three applications for EA are subject to the completion of Basic Assessment (BA) processes (Geelstert 1 and Geelstert 2 are located within the Springbok REDZ). Each application 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, and allows for the resolution of issue(s) identified and reported on as part of the BA process, 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 process 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). Generic EMPrs in accordance with GNR435 will be compiled for the grid connection solution.

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

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

- Biodiversity - includes ecology, freshwater features, fauna and flora and assess 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 features.
- Soils, Land Use, and Agricultural Potential - 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 the solar PV facilities and the grid connection solution on the aesthetics within the area.

» Social - which assesses the positive and negative social impacts.

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. Comments and inputs from I&APs are encouraged in order to ensure that potential impacts are considered throughout the BA processes.

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, and recording details within a database.
» Notifying registered I&APs of the commencement of the BA processes and distributing the Background Information Document (BID).
» Providing access to registered parties to an online stakeholder engagement platform, which centralises project information and stakeholder input in a single digital platform.
» Providing an opportunity for I&APs to engage with the EIA project team.
» Placing site notices at the affected property/ies.
» Placing an advertisement in a local newspaper.
» Notifying I&APs of the release of the BA Reports for a 30-day review and comment period.

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 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 engaging with the project team on the online stakeholder engagement platform during the BA processes.
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:

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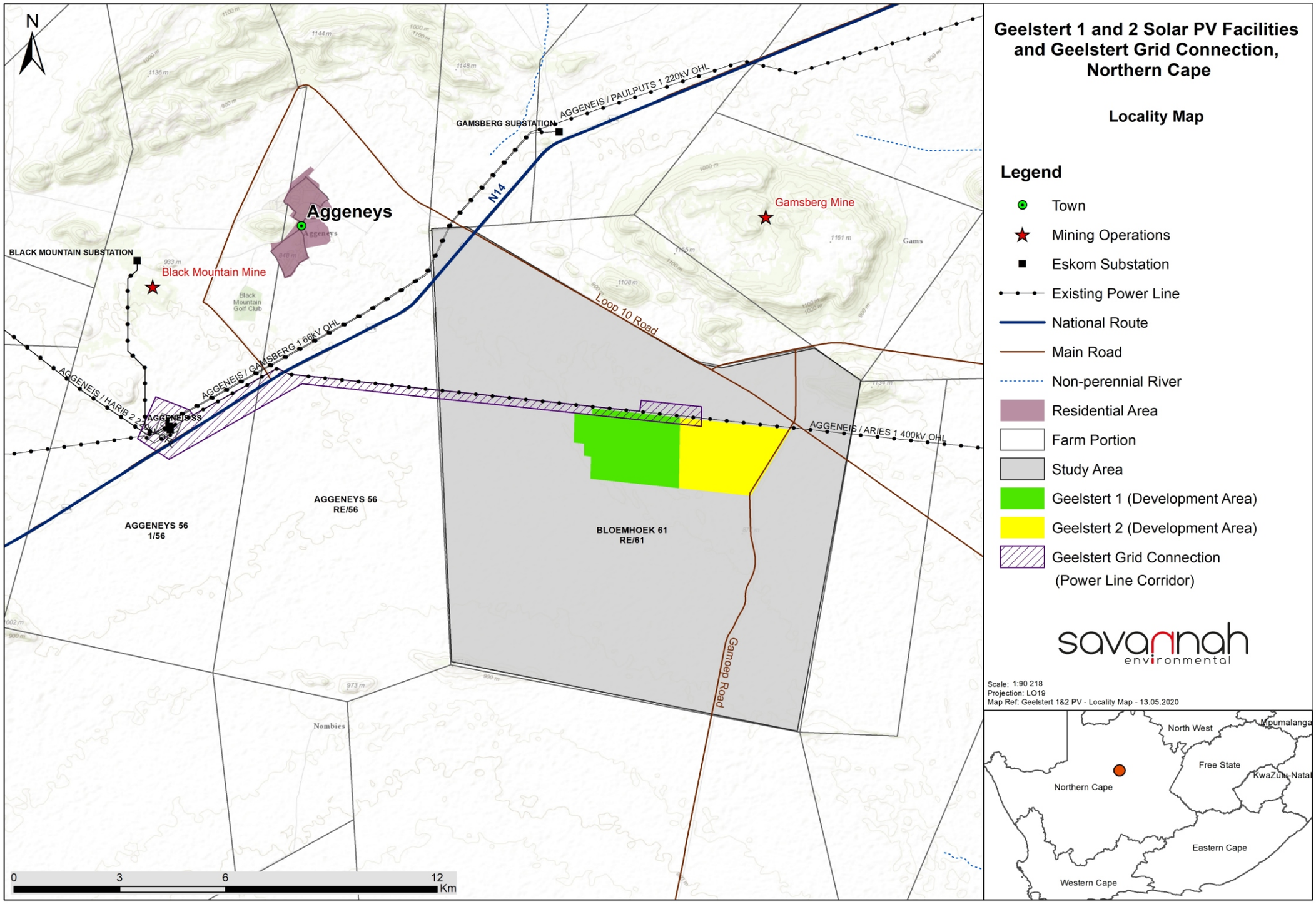
Fax: 086 684 0547
E-mail: publicprocess@savannahsa.com

To visit the online stakeholder engagement platform and view project documentation, visit
www.savannahSA.com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Aggeneys
GAMSBERG SUBSTATION
AGGENEIS / PAULPUTS 1 220kV OHL
N14
Gamsberg Mine
BLACK MOUNTAIN SUBSTATION
Black Mountain Mine
Black Mountain Golf Club
Loop 10 Road
AGGENEIS / GAMSBERG 1 66kV OHL
AGGENEIS / HARIB 2 220kV OHL
AGGENEIS SS
AGGENEIS / ARIES 1 400kV OHL
AGGENEYS 56 RE/56
AGGENEYS 56 1/56
BLOEMHOEK 61 RE/61
Gamoep Road
Nombies
0 3 6 12 Km
Geelstert 1 and 2 Solar PV Facilities and Geelstert Grid Connection, Northern Cape
Locality Map
Legend
Town
Mining Operations
Eskom Substation
Existing Power Line
National Route
Main Road
Non-perennial River
Residential Area
Farm Portion
Study Area
Geelstert 1 (Development Area)
Geelstert 2 (Development Area)
Geelstert Grid Connection (Power Line Corridor)
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Scale: 1:90 218
Projection: LO19
Map Ref: Geelstert 1&2 PV - Locality Map - 13.05.2020
North West
Mpumalanga
Free State
KwaZulu-Natal
Northern Cape
Eastern Cape
Western Cape