APPENDIX C3

Background Information Document

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BACKGROUND INFORMATION DOCUMENT (BID)

MAY
2022

ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESS

PROPOSED DEVELOPMENT OF POORTJIE WES CLUSTER OF SOLAR ENERGY FACILITIES, CENTRAL KAROO DISTRICT MUNICIPALITY,

WESTERN CAPE PROVINCE

The development of a cluster of solar energy facilities is proposed to be developed on various project sites approximately 15km north-west of Nelspoort and 60km south-west of Beaufort West in the Central Karoo District Municipality in the Western Cape Province. The project is known as the Poortjie Wes Cluster (the "Cluster") and entails the development of six (6) solar energy facilities. All six (6) solar energy facilities will connect to the proposed 132kV Belvedere Collector Switching Station (the "Collector Switching Station") via 132kV Overhead Lines ("OHLs"). The proposed Collector Switching Station will connect to the new Poortjie Wes 400/132kV LILO WMTS ("Poortjie Wes LILO MTS") via a 132kV OHL, or will connect directly to the Poortjie Wes LILO MTS. The Project site is located within the Beaufort West Renewable Energy Development Zone ("REDZ 11") and the Central Transmission Corridor.

Each solar energy facility will be constructed as a separate stand-alone project and therefore, a separate Basic Assessment (BA) processes will be undertaken for each facility. Similarly, the grid connection solution will be subjected to a separate Basic Assessment (BA) process.

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 solar energy facilities which form part of the cluster, and their associated grid connection solutions.
- An overview of the Basic Assessment (BA) processes and specialist studies being undertaken to assess the solar energy facilities and their associated grid connection solutions.
- 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

The Poortjie Wes Cluster of solar energy facilities, including the project names, infrastructure details, properties affected by the proposed facilities, grid connection solution and associated infrastructure are shown in the Table below:

SOLAR ENERGY FACILITIES:

Project Name	Installed capacity	Farm Name	Portion Number	Development Area
Belvedere Solar Energy Facility	190MW	Farm Belvedere Nr. 73	Portion 2	To be confirmed.
Brakpan 1 Solar Energy Facility	220MW	The Farm Poortjie 76	Portion 0	A technically suitable project site of ~450ha has been identified by Brakpan 1 Solar Energy Facility (Pty) Ltd for the establishment of the PV facility.
Brakpan 2 Solar Energy Facility	185MW	The Farm Louws Baken 77	Portion 0	To be confirmed
Montana 1 Solar Energy Facility	210MW	Farm Montana No. 123	Portion 4	A technically suitable project site of +/- 450ha has been identified by Montana 1 Solar Energy Facility (Pty) Ltd for the establishment of the PV facility.

Project Name	Installed capacity	Farm Name	Portion Number	Development Area
Montana 2 Solar Energy Facility	160MW	Farm Montana No 123	The Remainder Portion 3	A technically suitable project site of ~415ha has been identified by Montana 2 Solar Energy Facility (Pty) Ltd for the establishment of the PV facility.
Montana 3 Solar Energy Facility	230MW	Farm Belvedere Nr. 73	Portion 1	A technically suitable project site of ~440ha has been identified by Montana 3 Solar Energy Facility (Pty) Ltd for the establishment of the PV facility.

Solar facility Infrastructure

Solar facilities

- PV modules (mono or bifacial);
- Single or dual axis tracking structures, Fixed Axis Tracking, or Fixed Panels;
- Fixed tilt mounting structure (to be considered during the design phase of the facility);
- Galvanised steel and/or aluminium solar module mounting structures;
- Solar module substructure foundations. These will likely be drilled into the ground, filled with concrete, and then have posts fixed inside them. Alternately, ramming may be used; and
- 50 to 65 Central Inverter stations.

GRID CONNECTION INFRASTRUCTURE

Details of the proposed grid connection infrastructure and alternatives are provided in the table below. The proposed Collector Switching Station will connect to the new Poortjie Wes 400/132kV LILO MTS via a 132kV OHL (approximately 6km). This OHL will cross the 400kV Droërivier/Hydra OHL traversing the Project site. The MTS will connect to either of the existing 400kV Droërivier/Hydra OHL) traversing the property via a Loop-in Loop-out ("LILO") connection. The 2 x 400kV LILO OHLs will be +/- 1km in length. It is unclear at this stage which of the two OHLs will be approved by Eskom.

Development footprint of the MTS	=/-36Ha
Capacity of the MTS	400kV
Development footprint of the Collector Substation	+/-16ha
Capacity of the Collector Substation	132kV
Affected properties	Portion 2 of the Farm Belvedere Nr. 73 Portion 1 of the Farm Belvedere Nr. 73

Corridor width (for assessment purposes)	» The proposed Collector Switching Station will connect to the new Poortjie Wes 400/132kV LILO MTS ("Poortjie Wes LILO MTS") via a 132kV OHL (approximately 6km). This OHL will cross the 400kV Droërivier/Hydra OHL. A corridor of 300m is being considered in the BA process, within which the 32m servitude for this power line will be located. » The MTS will connect to either of the existing 400kV Droërivier/Hydra OHL) traversing the property via a Loop-in Loop-out ("LILO") connection. The 2 x 400kV LILO OHLs will be +/- 1km in length. It is unclear at this stage which of the two OHLs will be approved by Eskom. A corridor of 500m is being considered in the BA process, within which the two 55m servitudes for these power lines will be located.
Power line capacity	» Collector to MTS: 132kV (single- or double-circuit) » LILO: 400kV
Tower height	Up to 32m
Power line servitude width	» 132kV line: Up to 40m per line » 400kV line: 55m per line

The projects are intended to assist in addressing South Africa's energy challenge and to align with the Department of Mineral Resources and Energy ("DMRE") 's Integrated Resource Plan ("IRP) 2019, to pursue a diversified energy mix that reduces reliance on a single or a few primary energy resources. It is the Developer's intention to bid each solar energy facility under the Renewable Energy Independent Power Producer Procurement (REIPPP) Programme, or similar programme. The power generated from each solar energy facility will be sold to Eskom (or a private off-taker) and be fed into the national electricity grid through the proposed grid connection solution.

Due to the proximity of these proposed renewable energy facilities and their associated grid connection solution to one another, the public participation processes for the projects will be undertaken concurrently, providing the public with an opportunity to understand and provide comment on all the projects.

OVERVIEW OF SOLAR PV TECHNOLOGY

Solar energy facilities 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 the PV facilities 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").

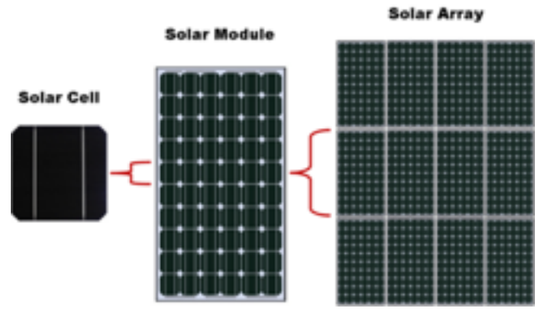

Figure 2: Overview of a PV cell, module and array/panel (Source: pveducation.com).

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 to maximise exposure to the sun.

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.

Support Structures

PV panels will be fixed to support structures. PV panels can either utilise fixed / static support structures, or alternatively they can utilise single or double axis tracking support structures. PV panels which utilise fixed / static support structures are set at an angle (fixed-tilt PV system) so as to optimise the amount of solar irradiation received. 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 so as to receive the maximum amount of solar irradiation.

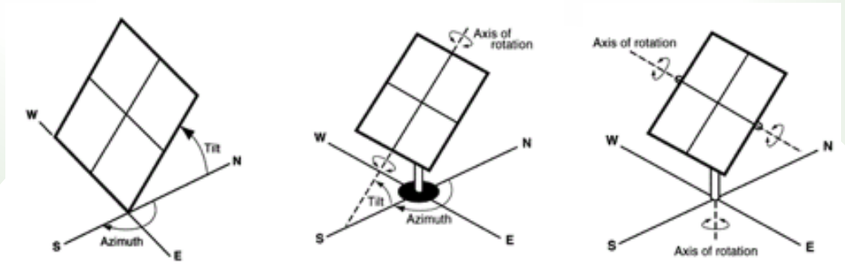

Figure 3: Overview of different PV tracking systems (from left to right: fixed-tilt, single-axis tracking, and double-axis tracking (Source: pveducation.com).

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

Battery Energy Storage System (BESS)

The need for a BESS stems from the fact that electricity is only produced by the Renewable Energy Facility while the sun is shining, while the peak demand may not necessarily occur during the daytime. Therefore, the storage of electricity and supply thereof during peak-demand will mean that the facility is more efficient, reliable and electricity supply more constant.

The BESS will:

- Store and integrate some of the renewable energy from the Solar PV Facilities into the electricity grid.
- assist with the generation of electricity and stabilisation of the grid to allow for more renewable energy to be fed into the National Grid. The energy will be procured under either the Renewable Energy Independent Power Producer Procurement Programme ("REIPPPP") and/or other government run procurement programmes and/or by private entities, if required.
- Proposed footprint of battery storage area: 2 – 10ha.
- Proposed capacity of battery storage: 500MW/500MWh per facility.
- Proposed technology to be used: Lithium-ion batteries (LFP/NMC or others) (Li-Ion), Lithium capacitors/Electrochemical capacitors (LiC), and/or Redox-flow batteries (RFB)
- Battery types to be considered: Solid State Batteries and Redox Flow Batteries.

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 applicant requires Environmental Authorisation (EA) from the National Department of Forestry, Fisheries and the Environment (DFFE), in consultation with the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP), for the development of the proposed projects. In terms of Section 24(5) of NEMA, the EIA Regulations 2014 (as amended) and Listing Notices (GNR 327, GNR 325, and GNR 324). As the project sites are located within a REDZ and a Strategic Corridor, the applications for EA are subject to the completion of a Basic Assessment (BA) process. Each application is required to be supported by comprehensive, independent environmental studies undertaken in accordance with the EIA Regulations, 2014 (as amended).

An EIA 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 EIA 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 processes required to identify and assess potential environmental impacts associated with the projects detailed above, as well as propose appropriate mitigation and management measures to be contained within the Environmental Management Programmes (EMPrs).

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

The development areas for each solar facility and the grid connection corridors will be assessed by independent environmental specialists to identify the potential for environmental impacts. Specialist studies that are proposed as part of the EIA processes include the following:

- Biodiversity Impact Assessment – includes ecology, fauna and flora and assesses the potential impact and the associated disturbance of vegetation on the biodiversity of the area (including critical biodiversity areas and broad-scale processes).
- Wetland and Freshwater Impact Assessment – includes an assessment of impacts and associated disturbance to drainage lines, rivers, and wetlands at a broad and fine scale.
- Avifauna Impact Assessment – includes pre-construction monitoring in terms of the relevant guidelines and assesses the impact on avifaunal habitats and sensitive species.
- Soils and Agricultural Potential Assessment – includes determination of land types and assesses the significance of loss of agricultural land and soil degradation and/or erosion.
- Heritage Impact Assessment (Archaeology and Palaeontology) – which includes consideration of archaeology, palaeontology and cultural landscape resources, and assesses the potential of disturbance to or destruction of heritage sites and fossils during the construction phase through excavation activities.
- Visual Impact Assessment – which includes consideration of 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 Impact Assessment – which assesses the positive and negative social impacts associated with the projects.
- Traffic Impact Assessment – assesses the impact of the developments on traffic and road networks in the area.

Site-specific studies will be undertaken to assess the potential impact of the proposed development, in order to delineate areas of sensitivity within the affected farm portions, assess impacts associated with the projects and make recommendations regarding avoidance, management and mitigation of impacts. Studies will be informed by available information and detailed field investigations undertaken in accordance with the relevant guidelines and protocols. Once the constraining environmental factors have been determined, the layouts for the proposed facilities can be determined and presented in the BA reporting.

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 EIA processes. Comments and inputs from I&APs are encouraged in order to ensure that potential impacts are considered throughout the EIA processes. The public participation process aims to ensure that:

- Information containing all relevant facts in respect of the projects 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 Basic Assessment 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 project team.
- Placing site notices at the affected properties and in the study area.
- Placing an advertisement in a local newspaper.
- Notifying I&APs of the release of the BA Reports for review and comment, meetings to be held and the closing dates by which comments must be received.
- Providing an opportunity to engage with the project team via appropriate virtual platform, face-to-face meetings or telephone.

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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:

» To participate in the EIA processes, you must register yourself on the I&AP database.
» 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.
» You must ensure that any comments regarding the proposed projects are submitted within the stipulated timeframes.

HOW TO BECOME INVOLVED

» By responding by phone, fax, or e-mail to the invitation for your involvement.
» By returning the reply form to the relevant contact person.
» By engaging with the project team during the BA processes.
» By contacting the environmental consultant with queries or comments.
» By reviewing and commenting on the Reports within the stipulated review and comment periods.

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. Please note that all comments received will be included in the project documentation. This may include personal information.

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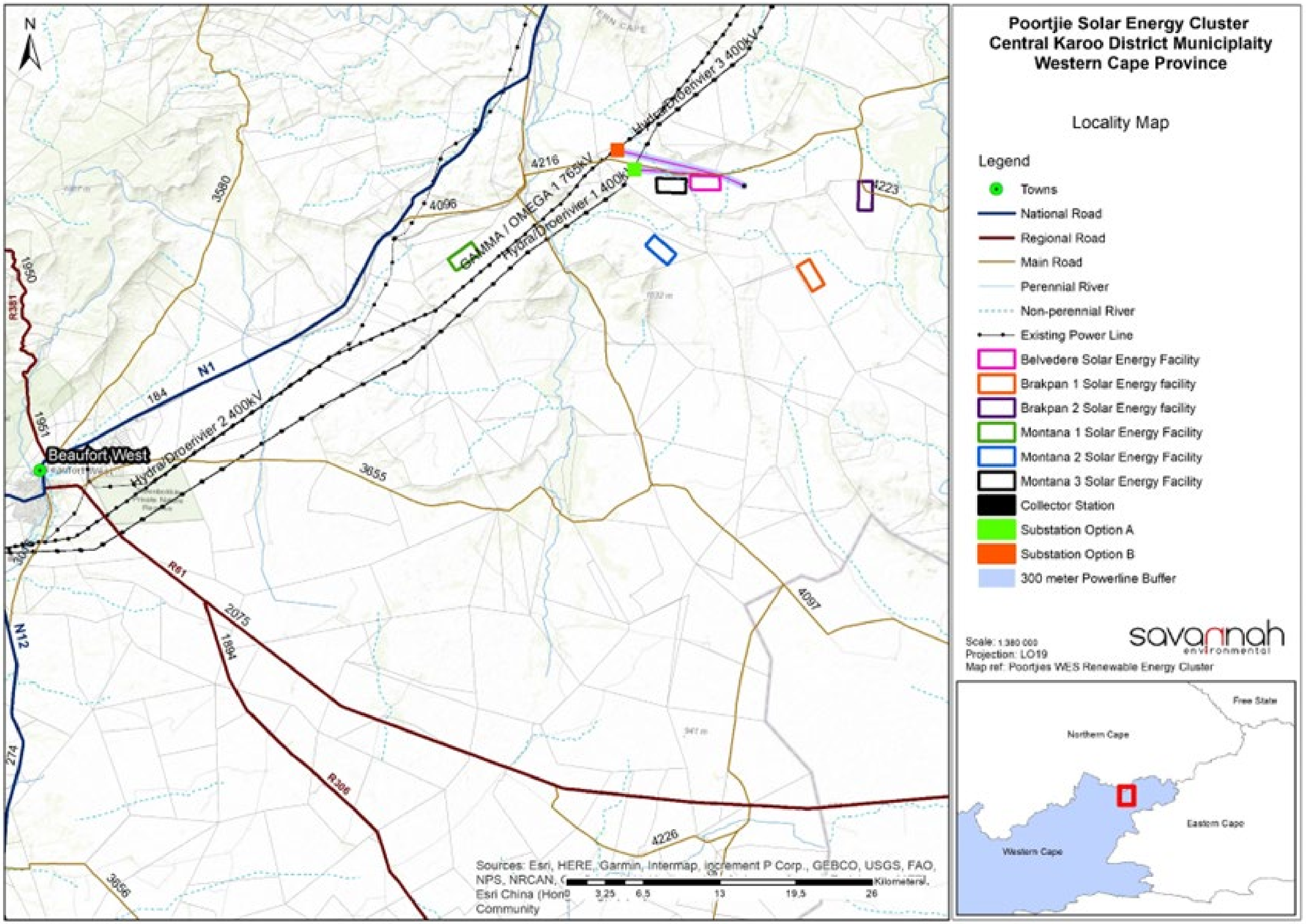
Figure 1: Locality map of the Poortjie Wes Cluster



COMMENTS AND QUERIES

Direct all comments, queries or responses to:

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To visit the online stakeholder engagement platform and view project documentation, visit
www.savannahSA.com