

Background Information Document

3 MW Solar Power Farm



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PROJECT DESCRIPTION

This project is for putting up a 3 MW solar power farm in Mapleton, Boksburg area using Sun as the principal source of energy.

Photovoltaic's is the field of technology related to the application of solar cells which convert solar energy (sunlight, including ultra violet radiation) directly into electricity. They are best known as a method for generating electric power by using solar cells to convert energy from the sun into electricity.

The photovoltaic effect refers to photons of light knocking electrons into a higher state of energy to create electricity. Solar cells produce direct current electricity from light, which can be used to power equipment or to recharge a battery.

The first practical application of photovoltaic's was to power orbiting satellites and other spacecraft, but today the majority of photovoltaic modules are used for grid connected power generation. An inverter is required in this case to convert the DC to AC.



Background to project

The Integrated Resource Plan (IRP 2010) is aimed at achieving an affordable electricity price to meet the global energy requirements competitively. Apart from reducing carbon emissions, it aims to provide employment and a sustainable economy. Energy security assumes a critical position to achieve global competitiveness.

In this context, BNM Friul Renergy takes pride to come forward to contribute to the green energy revolution by developing solar power plants in South Africa.

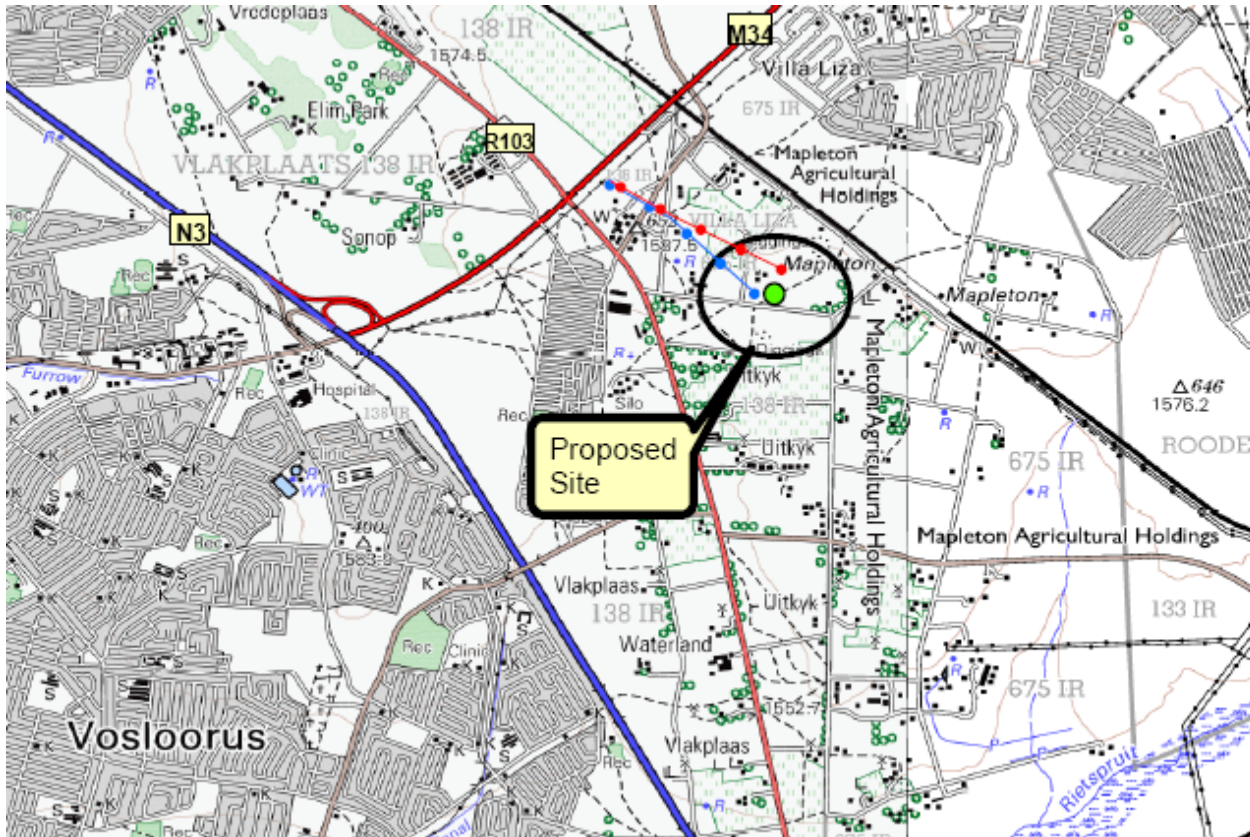
BNM Friul Renergy intends to develop a 3 MW solar power farm that will be grid integrated (FIT based).

Solar power is the conversion of sunlight into electricity, either directly using photovoltaics (PV), or indirectly using concentrated solar power (CSP)

The main purpose of the Background Information Document (BID) is to:

Purpose of document

- Provide Interested and Affected Parties (I&APs) with information regarding the proposed development.
- Describe the environmental process being undertaken.
- Provide I&APs with the opportunity to register and/raise issues or concerns about the project. Comments raised will be included in reports sent to Department of Environmental Affairs (DEA) and considered in the decision making process for Environmental Authorization.



Location of the project

The proposed 3 MW PV Solar Power Farm is to be established on a piece of a farming land on plots 12 & 13 of farm Villa Liza 675 IR.

The area falls under the Ekurhuleni Metropolitan Municipality of the Gauteng Province.

The coordinates of the site are as follows:

26°20'7.68" S, 28°14'30.07" E

Public participation process

The public participation process forms part of the Environmental Impact Assessment Process and involves the following:

- Identifying key Interested and Affected Parties (“I&AP’s”);
- Distribution of the BID, explaining the process and project briefly (**This Document**);
- Advertising the project in a local newspaper
- Putting up site notices to inform the general public of the intention to undertake the project and invitation to register and participate;
- Hold meetings where necessary to discuss issues of concern
- Reviewing and commenting on reports compiled for the proposed development.

Concentrated solar power systems use lenses or mirrors and tracking systems to focus a large area of sunlight into a small beam

Potential environmental impacts

Some of the potential environmental impacts of the project include:

- Bio-diversity impacts
- Visual impacts
- Disturbance of cultural heritage
- Land use change
- Socio-economic impacts

The Environmental Impact Assessment Report will be the main tool used by the competent authority the Department of Environmental Affairs (DEA) to come up with a decision on the application for environmental authorization.

The Basic Assessment Report (**BAR**) will discuss the potential environmental impacts and mitigation measures to prevent, reduce, control and monitor impacts in detail.

A copy of the draft basic assessment is ready and will be made available to *Registered Interested and Affected Parties* (I&APs) on written request.

Legal listing

The project falls under a listed activity 1 (i) and 10 of regulation R. 544 of Environmental Impact Assessment Regulations of 18 June 2010.

Therefore a Basic Impact Assessment process will be conducted for this application.

1(i) — The construction of a solar PV power farm for the generation of electricity where the electricity output is 3 megawatts

10 — The construction of facilities or infrastructure for the transmission and distribution of electricity from the solar farm to the grid through Mapleton area with a capacity of 138 kilovolts

How and why you should get involved

In the event that you have an interest in the proposed project, or feel that you may be affected by what is proposed, you are invited to **register** as an I&AP. Public participation is considered a vital part of the EIA process as it provides stakeholders with the opportunity to better understand what the proposed activity entails. It is an important platform to raise environmental and social issues for consideration by the decision making body. In order to do so, any interested and/or affected party **must register**.

How to register as I&AP in the EIA process

To register, you must forward your full **contact details** (name, postal address, email address, fax and telephone numbers) and any written comment & issues/concerns you may have to Phaki Phakanani Environmental Consultants **within** the registration period. Registration will be open for 40 days after receipt of this document and adjoining letter, after which the platform is closed for comments & registration.

More about solar power

Solar Photovoltaic power generator is the arrangement of all modules in series and parallel connections. In order to achieve a higher system voltage, modules are installed in a row arrangement, called a string. A higher system voltage has the advantage of lesser installation work, higher efficiency of the entire plant and usage of smaller cross section cables.

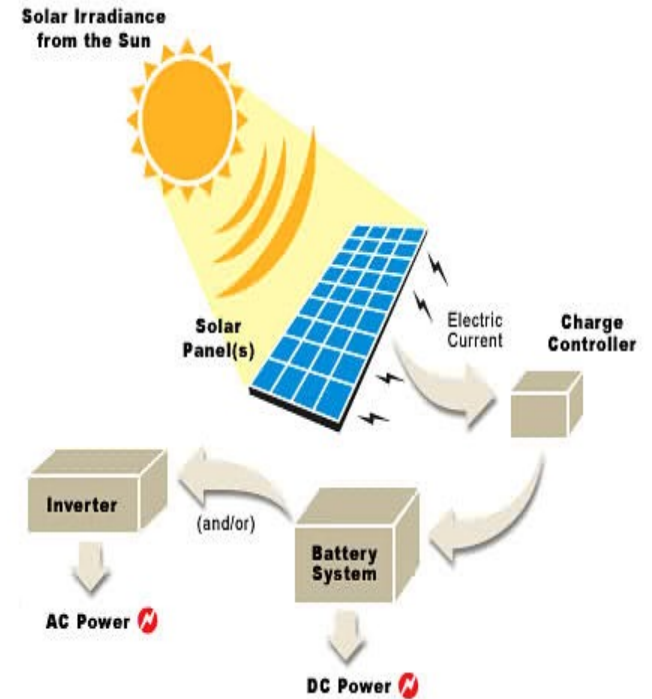
The calculated number of strings is connected in parallel in the generator junction boxes. These junction boxes not only act as a junction point but also can monitor each string output which will be fed to the central monitoring and analysis system. Outputs from many such junction boxes are connected in

parallel in the Main Combiner Box (MCB). This MCB output is fed to the central inverters/ Power Control Unit (PCU) to convert solar generated DC power into conventional 3 phase AC power. A photovoltaic module is a packaged interconnected assembly of photovoltaic cells, which converts sunlight into electricity.

Benefits:

- Solar facility produces zero emissions with benign environmental impacts
- Will provide significant benefits in reducing carbon use as its generating facility uses no fuel of any type.

- Each new solar facility put into service provides workers with a variety of skill sets to benefit from the economic activity created by manufacturing, testing, designing, installation, and commissioning activities.
- During construction full-time positions will be required. This activity will last for a one to one and a half year period.
- The development will therefore create jobs during the construction and operational phase.



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