Once registered as an I&AP, you will use the attached Registration Form, database and will receive regular inputs and comments from the public and stakeholders with regard to the potential impacts associated with the development are welcomed.

To comment on this project please use the attached Registration Form, attend the planned public meeting and/or submit written comment to Boland Environmental Consultants.

Once registered as an I&AP, you will have an opportunity to contribute to the process. You will also be able to ensure that your comments were considered and included in the draft and final assessments.

Please note that only registered I&APs will be captured onto the database and will receive regular project information and updates.

You are welcome to circulate this document to other persons and organizations that may be interested.

Boland Environmental Consultants
PO Box 250, Worcester, 6849
Tel: 023 347 0336
Fax: 023 347 5336
E-mail: comment@BolandEnviro.co.za
Web: www.bolandenviro.co.za / Project Documents

SanVal Energy proposes to construct a 70 Mega Watt (MW) Photo-Voltaic (PV) Solar Power Plant on Portion 6 of Farm 450 (Nuwerus), Worcester. The proposed site is located approximately 15km south-east of Worcester adjacent to the R60 on route to Robertson. The farm was identified from a suite of optional sites on the basis of low biodiversity, current vacant land use, tourism, market and transmission costs.

SanVal Energy proposes to develop renewable energy projects in South Africa with the mission of having “minimal environmental impacts, executed in an aesthetically pleasing manner, harmonious with the surrounding landscape and the receiving community”. South Africa has a high level of renewable energy potential and experiences some of the highest levels of solar radiation in the world. The proposed project, identified as Project Alpha, proposes to utilise this abundant solar energy readily available which will be converted directly into usable electricity using photo-voltaic (PV) cells. Generated electricity will be provided directly to Eskom via the national grid.

Boland Environmental Consultants were appointed to conduct the Environmental Impact Assessment (EIA) and associated Public Participation Process for the proposed development. The first phase of the EIA identified all potential environmental impacts (bio-physical, social and economic) through a Scoping Process, which includes input from stakeholders, interested or affected parties (I&APs). The second phase of the EIA assesses the identified potential impacts, and together with specialists, proposes suitable mitigation actions to reduce the impacts. Registered I&APs will be kept informed at each step of the EIA.

Figure 1: Location of the proposed PV Solar Power Plant near Worcester, Western Cape, South Africa. Sourced from 1 : 250 000 Government topo-cadastral map 3319.
**PROJECT DESCRIPTION AND ALTERNATIVE OPTIONS**

The facility will consist of 5 PV module zones, each having a number of stations with inverters and distribution boxes where generated direct current (DC) electricity will be converted to alternating current (AC). The process works as follows:

1. Generated electricity (DC) will run from the PV modules through underground cabling towards inverter stations.
2. The converter stations are smaller substations where DC current is converted to AC and the voltage is stepped up to either 22 or 33 kV (depending on final technology to be used).
3. AC electricity will be distributed from the inverter stations to an electricity substation through 22 or 33 kV underground cabling.
4. At the electrical substation the voltage is stepped-up or increased to 132KV (the same as the Eskom power line).
5. From the substation electricity will feed into the Eskom power line through an overhead transmission line (132 KV).

A perimeter fence will be erected around the development sections. Gravelled / earth roads will be constructed within the development area for maintenance purposes.

Two alternative development options are proposed that differ in terms technology:

(i) Polycrystalline PV modules (preferred alternative)
(ii) Thin Film PV modules (alternative option 2)

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**Figure 2:** Example of Polycrystalline PV solar modules fixed in an array.
These PV modules are more efficient than thin-film panels, but are more expensive.

**Figure 3:** Example of thin film PV solar modules (source: First Solar).
Thin film PV is more cost effective, but has a lower efficiency in terms of electricity generation.
The National Environmental Management Act (Act No. 107 of 1998) (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorization from the relevant authorities, based on the findings of an assessment. In terms of the Environmental Impact Assessment Regulations of the NEMA, SanVal Energy requires authorisation from the Department of Environmental Affairs (DEA) for the undertaking of the proposed project. In order to obtain authorisation for such activities a comprehensive independent environmental study must be undertaken in accordance with the EIA Regulations.

The proposed development is expected to entail the following activities:

<table>
<thead>
<tr>
<th>Activity Number</th>
<th>Basic Assessment Activities as per Listing Notice 1 (GN No. R544)</th>
<th>Description of Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>The construction of facilities or infrastructure for the transmission and distribution of electricity – (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts</td>
<td>The proposed development will require an overhead transmission line of 132 kV to connect the substation to the existing Eskom power line on the Property. The transmission line will be approximately 150 meters in length.</td>
</tr>
<tr>
<td>18</td>
<td>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from (i) a watercourse;</td>
<td>An existing farm dam is located within an ephemeral water course crossing the property. Earth works are required to strengthen the wall and create an adequate spillway in order to improve the dam’s safety. Underground cabling will be installed which may cross though the ephemeral water courses on the property.</td>
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<thead>
<tr>
<th>Activity Number</th>
<th>Scoping and EIA Activities as per Listing Notice 2 (GN No. R545)</th>
<th>Description of Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The construction of facilities or infrastructure for the generation of electricity where the electricity output is 20 megawatts or more.</td>
<td>The proposed development will generate up to 70 MW electricity.</td>
</tr>
<tr>
<td>15</td>
<td>Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply.</td>
<td>Approximately 116 ha of undeveloped land will be altered for the generation of electricity.</td>
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</table>

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<tr>
<th>Activity Number</th>
<th>Basic Assessment Activities as per Listing Notice 3 (GN No. R546)</th>
<th>Description of Activity</th>
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<tbody>
<tr>
<td>14</td>
<td>The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation..., (a) In Eastern Cape, Free State, KwaZulu-Natal, Gauteng, Limpopo, Mpumalanga, Northern Cape, Northwest and Western Cape: All areas outside urban areas.</td>
<td>The solar panel mountings will be driven directly into the earth without the removal of the natural vegetation. Taller shrubs will be cut back to a height of 50 cm within the PV areas. Some vegetation will be cleared for the roads and substation.</td>
</tr>
</tbody>
</table>

Specialist Studies undertaken as part of the EIA include:

- Heritage: Archaeological Impact Assessment
- Heritage: Palaeontological Impact Assessment
- Heritage: Visual Impact Assessment
- Botanical / Ecological Study
- Desktop Faunal Study
- Flood Line Assessment
THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The environmental study is following a three-phased approach consisting of the following phases:

- Phase 1: Application (completed)
- Phase 2: Environmental Scoping Study and Plan of Study (completed)
- Phase 3 Environmental Impact Assessment (currently undertaken)

GETTING INVOLVED IN THE PUBLIC PARTICIPATION PROCESS

Public consultation is a crucial part of the EIA process. It is therefore important that relevant stakeholders and Interested and Affected Parties (I&APs) are identified and involved in the Public Participation Process (PPP) from the outset of the proposed project. This process offers you the opportunity to learn about the project, raise issues and concerns and provide input for enhanced project benefits. The inputs received from I&APs form an integral part of the EIA process and will assist the relevant authorities with their decision-making process.

Please note that updates and further documentation regarding the project will only be distributed to registered I&APs.

To ensure effective public participation, the process includes the following steps:

STEP 1: Advertise the EIA process during various stages of the process, in the main body of the Worcester Standard.

STEP 2: Posting of registered letters including background information documents to neighbouring landowners and persons living close to the proposed development;

STEP 3: Erecting site notices on the terrain of the proposed site and at public places in the local community;

STEP 4: Register I&APs and key stakeholders (ongoing);

STEP 5: Consultation with, and sharing of information with I&APs through consultations, a public meeting, focus group meetings and key stakeholder workshops;

STEP 6: Invite I&AP comment and input on the draft and final Scoping and EIA reports.
### Particulars of the Interested and Affected Party

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Postal Address</td>
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<tr>
<td>Street Address</td>
<td>Postal Code</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Fax Number</td>
</tr>
<tr>
<td>Cell Phone Number</td>
<td>E-mail Address</td>
</tr>
</tbody>
</table>

**Please state your interest in the development**

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**Please write your comments and questions here** (you are welcome to put additional comments and queries on an additional page).

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**Number of additional pages:**  

**Will you attend a public meeting?**  

- Yes  
- No  

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Please return completed form to:  

Ms. Johlene Krige  
Boland Environmental Consultants  
PO Box 250, Worcester, 6849  
Tel: 023 347 0336  
Fax: 023 347 5336  
E-mail: comment@bolandenviro.co.za