

# ENVIRONMENTAL IMPACT ASSESSMENTS (EIAs) FOR THE PROPOSED DEVELOPMENT OF THE TWO (2) TLISITSENG 75MW SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITIES AND BASIC ASSESSMENTS (BAs) FOR THE ASSOCIATED 132kV POWER LINES NEAR LICHTENBURG, NORTH WEST PROVINCE

- TLISITSENG SOLAR 1 – DEA Ref No: To be announced
- TLISITSENG SOLAR 2 – DEA Ref No: To be announced
- TLISITSENG 1 POWER LINE – DEA Ref No: To be announced
- TLISITSENG 2 POWER LINE – DEA Ref No: To be announced

## INTRODUCTION

BioTherm Energy (Pty) Ltd (hereafter referred to as BioTherm) are proposing to develop two (2) Tlisitseng solar photovoltaic (PV) energy facilities (hereafter referred to as the “proposed development”) near Lichtenburg within the Ngaka Modiri Molema District of the North West Province. The proposed development will consist of two (2) 75MW solar PV energy facilities, namely Tlisitseng 1 and Tlisitseng 2. In addition, BioTherm are proposing to construct two 132kV power lines in order to connect the proposed solar PV energy facilities to the existing Watershed Main Transmission substation (MTS). The overall objective of the project is to generate electricity to feed into the national Eskom grid.

Each PV energy facility will be developed under a separate Special Purpose Vehicle (SPV) and therefore each requires a separate Environmental Authorisation. Each 132kV power line will also require a separate Environmental Authorisation.

The EIAs and BAs will be conducted in terms of the 2014 EIA Regulations promulgated in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), which came into effect on the 8th of December 2014. In terms of these regulations, Environmental Impact Assessments (EIAs) will be required for the proposed solar PV energy facilities and Basic Assessments (BAs) will be required for the associated power lines. As such, two (2) EIAs will be undertaken, one for each proposed Tlisitseng solar PV energy facility. In addition, two (2) BAs will be undertaken, one for each associated 132kV power line. Although each PV energy facility and the electrical infrastructure will be assessed separately, a single public participation process is being undertaken for all four (4) proposed projects. The potential environmental impacts associated with all four (4) projects will be assessed during the EIAs and BAs as part of a cumulative impact assessment.

All relevant legislations and guidelines (including Equator Principles) will be consulted during the EIA and BA processes and will be complied with at all times. BioTherm has therefore appointed SiVEST SA (Pty) Ltd (hereafter referred to as SiVEST) as the independent environmental assessment practitioner (EAP), to undertake the required EIA and BA processes in terms of the NEMA.

## PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to inform Interested and/or Affected Parties (I&APs) about the EIA and BA processes that are being conducted for the proposed development.

In addition to supplying information about the proposed project and the environmental processes, this BID will also provide I&APs with the opportunity to:

- Better understand the proposed development in order to provide comments and raise issues of concern;
- Understand the EIA and BA process in order to participate effectively;
- Make suggestions to enhance the proposed development;
- Comment on the specialist studies that will be conducted; and
- Contribute local knowledge.

## BACKGROUND TO THE PROPOSED PROJECT

In support of, the need to find solutions for the current electricity shortages, the increasing demand for energy, as well as the need to find more sustainable and environmentally friendly energy resources, South Africa has embarked on an infrastructure growth programme supported by various government initiatives. In response to this goal; BioTherm are proposing to establish two (2) 75MW export capacity solar PV energy facilities near Lichtenburg in the North West Province. The overall objective of the project is to generate electricity to feed into the national electricity grid by means of renewable energy technologies.

## WHY USE SOLAR ENERGY?

The benefits of using solar energy include:

- Solar PV facilities have the capability of delivering large-scale utility power;
- Solar energy is renewable, clean and non-polluting (greenhouse gases etc.), and does not produce by-products (atmospheric contaminants or thermal pollution) that could be harmful to the environment;
- Solar PV facilities are generally well suited to rural areas and therefore

have a reduced impact on agriculture compared to other electricity generating options;

- Solar PV plants can also contribute to economic growth in these regions;
- Solar energy is one of the lowest-cost producers of electricity;
- Localised production of energy reduces transmission line losses associated with transmitting electricity over long distances; and
- Solar PV facilities improve energy security for South Africa, reducing dependency on fossil fuels.

## PROJECT LOCATION

The proposed project is located within the North West Province approximately 8km north-west of Lichtenburg. It falls within the Ditsobotla Local Municipality that forms part of the Ngaka Modiri Molema District Municipality. The application site for the proposed PV energy facilities is approximately 1000 ha however the buildable area will be significantly smaller than this and will be determined by sensitive areas identified during the Scoping Phase of the EIA. The project includes the following farms:

- Portion 25 of the farm Houthaalboom No. 31 (PV energy facility)
- Remainder of Portion 1 of the farm Lichtenburg Town and Townlands No. 27 (Power Lines)
- Portion 10 of the farm Lichtenburg Town and Townlands No. 27 (Power Lines)

The project site near Lichtenburg has been identified through pre-feasibility studies conducted by BioTherm based on an estimation of the solar energy resource as well as weather, dust, dirt, and surface albedo. Grid connection and land availability were also important initial considerations.

The application site for the two (2) proposed Tlisitseng solar PV energy facilities are shown on the locality map (**Figure 1**).

The route corridor alternatives for the associated 132kV power lines will be provided during the BA process.

## EIA/BA PROCESSES

### What is an EIA?

An EIA is a process of collecting, organising, analysing, interpreting and communicating information that is relevant to consider a particular environmental application. EIAs are used by planning authorities/developers to obtain an independent and objective view of the potential environmental (biophysical and social) impacts that could arise during the construction and operation of the proposed development. This information needs to provide the Competent Authority with a sound basis for their decision-making.

### What is a BA?

A BA is a similar process to an EIA, but is undertaken where the impacts are less likely to have significant impacts on the receiving environment. Like EIAs, BAs identify potential environmental impacts and provide the Competent Authority with a sound basis for their decision-making.

### Legal requirements

According to the NEMA as amended, an EIA process is required for the proposed solar energy facilities as several listed notice 2 activities (GN R. 984) are triggered by each proposed project. A BA process is required for the associated power lines as several listed notice 1 activities (GN R. 983) are triggered by each proposed project.

The EIA and BA processes that will be followed are illustrated in Figure 2 and Figure 3 below.

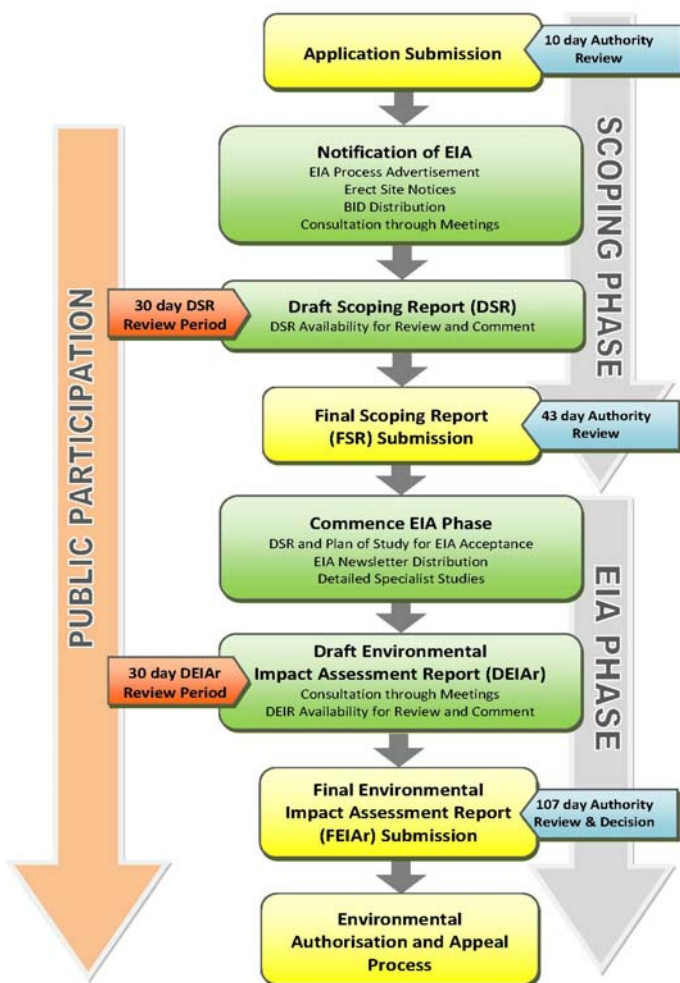


Figure 2: EIA process diagram

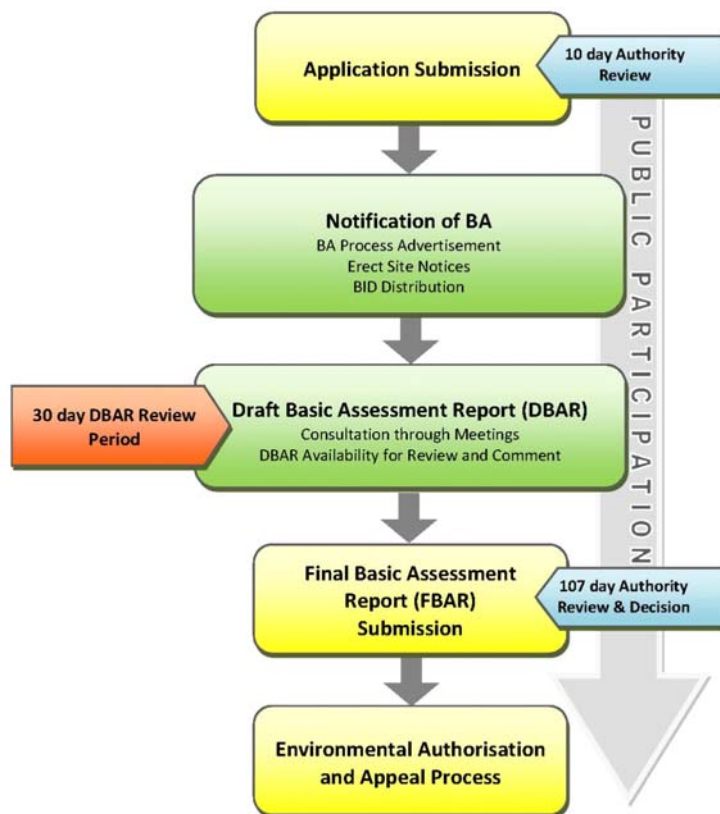


Figure 3: BA process diagram

### Competent authority

The Competent Authority for this proposed projects is the DEA. However, the provincial authority will also be consulted (i.e. the North West Department of Rural, Environment and Agricultural Development).

### Environmental issues to be investigated during the EIA and BA

Various environmental parameters have been identified that will require investigation for the proposed development. These are listed in Table 1 below.

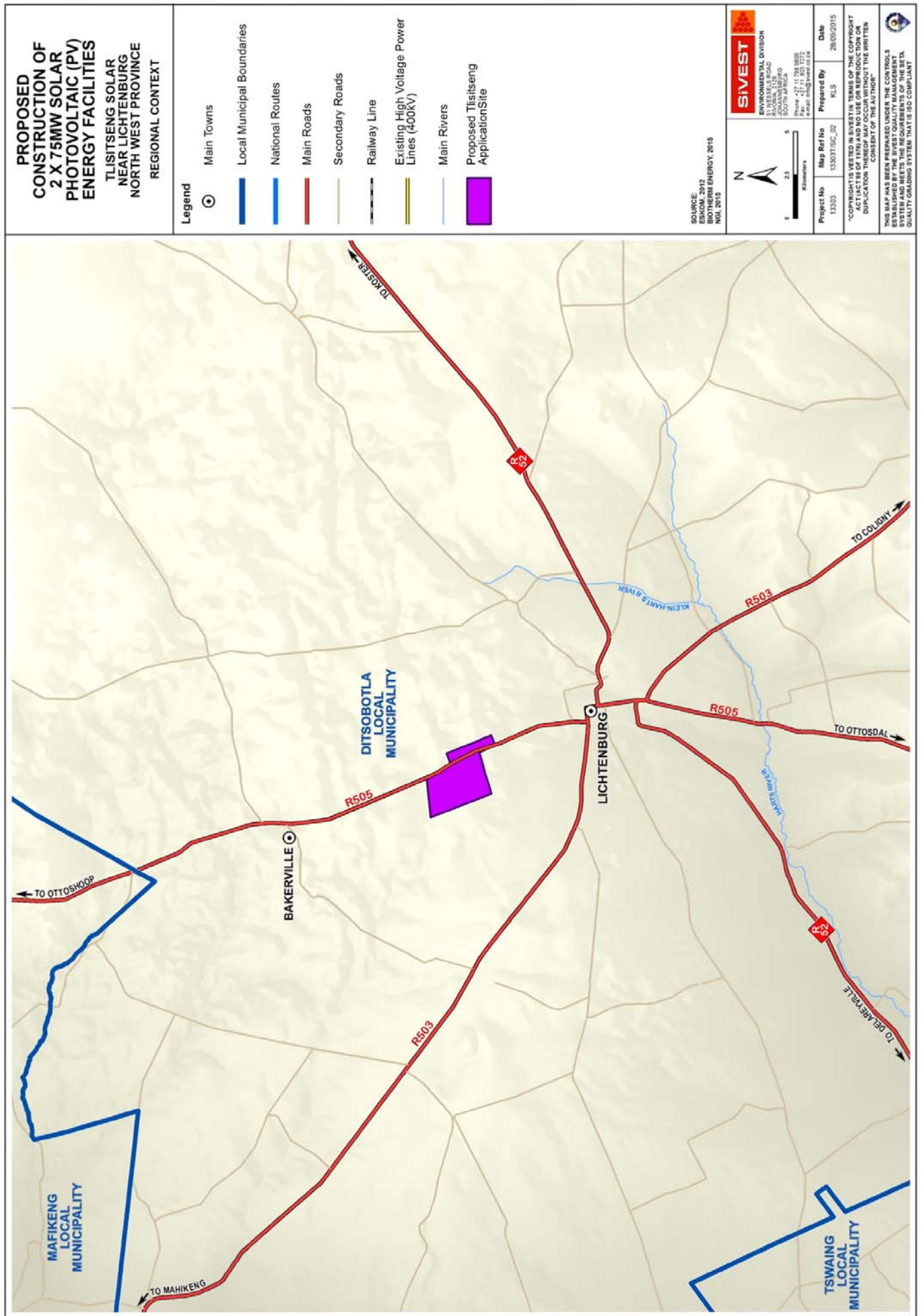
Table 1. List of specialists and specialist studies to be undertaken for the proposed development

| SKILL                            | NAME  |
|----------------------------------|---|
| Biodiversity                     | David Hoare Consulting – David Hoare  |
| Avifauna                         | Chris van Rooyen Consulting – Chris van Rooyen  |
| Surface Water                    | SiVEST – Shaun Taylor   |
| Agricultural Potential and Soils | Agricultural Research Council (ARC): Institute for Soil, Climate and Water – Garry Paterson |
| Heritage and Palaeontology       | PGS – Wouter Fourie, Jessica Angel  |
| Visual                           | SiVEST – Andrea Gibb, Stephan Jacobs  |
| Socio-Economic                   | Urban Econ – Elena Broughton  |
| Traffic                          | Aurecon – Hermanus Steyn  |
| Geotechnical                     | Geopractica – Colin Dalton, Thanduxolo Msen-gana  |
| Public Participation             | Zitholele Consulting - Nicolene Venter  |

### THE PUBLIC PARTICIPATION PROCESS

Public participation is the cornerstone of any EIA or BA, as it will be for this proposed projects. The principles of NEMA govern many aspects of an EIA or BA, including public participation. The key objective of public participation during the EIA and BA will be to provide I&APs with sufficient and relevant information and to conduct a transparent consultation process on an on-going basis, in order to ensure effective participation throughout the

Figure 1: Locality Map



The map displays the proposed solar application site (purple rectangle) located near Lichtenburg in the Ditsobotla Local Municipality. Major roads shown include R503 and R505. Rivers shown include Klein-Karri's River and Makgale River. Other municipalities shown are Mafikeng and Tswaing. Directional arrows point towards various locations: TO MAHIKENG, TO OTTOSHOOP, TO LICHTENBURG, TO COLONY, TO OTTOSDAL, and TO BAKERVILLE.



EIA and BA processes. As part of this public participation process you will also be provided with the opportunity to comment on the environmental findings as per the EIA and BA reports (Scoping, Impact Assessment and Basic Assessment), which will be made available for public review and comment during the processes.

It is important that relevant I&APs and Stakeholders are identified and involved in the public participation process from the outset of the proposed projects. As a registered I&AP, you will receive personal notifications, via e-mail, post, fax, and/or sms (where applicable), notifying you of all documents available for comment, the comment periods and the upcoming meetings.

### Your responsibilities as an I&AP

In terms of the EIA Regulations, your attention is drawn to your responsibilities as an I&AP, which are to:

- Participate in the EIA and BA processes, register yourself on the project database;
- Inform any other parties (neighbours, friends, colleagues, etc.) who may be interested and/or affected by the proposed project about the EIA and BA processes and encourage them to become involved; and
- Ensure that any comments regarding the proposed projects are submitted within the legislated timeframes which will be communicated to you.

### Our responsibilities as the independent EAP

In terms of the EIA Regulations, our responsibilities in the public consultation process include:

- Ensuring that sufficient information regarding the proposed project is made available to you, either through the BID or providing information as and when requested;
- Ensuring that you have an understanding of the proposed project to be able to comment informatively, and to enable you to submit any concern in an informed manner; and

- Ensuring that the following actions are taken upon receiving any comments/queries/issues:
  - The contact details provided by you will be entered into the project database;
  - You will be sent all further information releases; and
  - If you send us queries or comments, we will respond in writing (either via e-mail or within the comments and response report).

### How to become involved

If you wish to register as an I&AP, you can do so by the following methods:

- Respond (by phone, fax, post or e-mail) to our invitation for your participation, which has been advertised in the printed media;
- Post, fax or e-mail the attached Registration and Comment Form to SiVEST;
- Contact us telephonically should you have a query, comment or require further project information; and
- Submit comments on the draft Scoping Report (DSR) and/or the draft Environmental Impact Assessment Report (DEIAR) and/or the draft Basic Assessment Report within the review periods that will be stipulated.

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 become actively involved in the process and provide comment or concerns which affect and/or interest you, or about which you would like more information. Your input into this process forms a key part of the environmental studies and we would like to hear from you to obtain your views on the proposed project.

By completing and submitting the accompanying Registration and Comment Form, you automatically register yourself as an I&AP for this proposed projects, ensuring that your comments and/or concerns raised regarding will be noted and addressed. The environmental consultants will respond to all comments and queries received during the course of the EIA or BA.

Please be informed that all relevant public documents can be downloaded from the SiVEST's website



**We look forward to your contributions**

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## LIST OF ACRONYMS

|                 |                                       |
|-----------------|---------------------------------------|
| <b>BA</b>       | Basic Assessment                      |
| <b>BID</b>      | Background Information Document       |
| <b>DBAR</b>     | Draft Basic Assessment Report         |
| <b>DEA</b>      | Department of Environmental Affairs   |
| <b>DEIAR</b>    | Draft Environmental Impact Report     |
| <b>DSR</b>      | Draft Scoping Report                  |
| <b>EAP</b>      | Environmental Assessment Practitioner |
| <b>EMPr</b>     | Environmental Management Programme    |
| <b>EIA</b>      | Environmental Impact Assessment       |
| <b>FBAR</b>     | Final Basic Assessment Report         |
| <b>FEIAR</b>    | Final Environmental Impact Report     |
| <b>Ha</b>       | Hectares                              |
| <b>I&amp;AP</b> | Interested and/or Affected Party      |
| <b>Km</b>       | Kilometre                             |
| <b>kV</b>       | Kilovolt                              |