

# ENVIRONMENTAL IMPACT ASSESSMENT PROCESS PROPOSED PHOTOVOLTAIC (SOLAR) ENERGY FACILITIES ON BADENHORST DAM FARM NEAR DE AAR, NORTHERN CAPE



30 APRIL 2013



## DEA AND NEAS REF. NO'S

PV2: 14/12/16/3/3/2/504; DEA/EIA/0001751/2013

PV3: 14/12/16/3/3/2/483; DEA/EIA/0001750/2013

PV4: 14/12/16/3/3/2/506; DEA/EIA/0001752/2013

PV5: 14/12/16/3/3/2/485; DEA/EIA/0001753/2013

## SUMMARY DOCUMENT: DRAFT SCOPING REPORT

### Purpose of this document

This document provides a summary of the Draft Scoping Report (DSR) and Plan of Study for EIA for the proposed photovoltaic (solar) energy facilities near De Aar, Northern Cape. It provides a brief background and overview of the proposed project, a description of the public participation process undertaken to date, the list of project alternatives and potential impacts, together with proposed specialist studies, that are proposed to be investigated in the Environmental Impact Assessment (EIA) phase.

Please review this Summary Document and, preferably, the full Scoping Report, and submit your comments on the proposed project by **10 June 2013**. To comment, write a letter, call, fax or e-mail the Aurecon South Africa (Pty) Ltd (Aurecon) EIA Team.

#### Aurecon EIA Team

Karen de Bruyn and Karen Versfeld | **Postal Address** | P O Box 494, Cape Town, 8000 | **Tel** 021 526 9400 | **Fax** 021 526 9500 |

**Email:** karen.debruyn@aurecongroup.com karen.versfeld@aurecongroup.com

### Background

Mulilo Renewable Energy (Pty) Ltd (Mulilo) proposes to construct four separate solar energy facilities, on Badenhorst Dam Farm (Portion 1 of Farm 180), near De Aar. Each of the four proposed facilities would have a maximum generation capacity of 75MW through photovoltaic (PV) technology.

In terms of the National Environmental Management Act (No. 107 of 1998) (as amended) (NEMA), the proposed development triggers listed activities, which require authorisation from the competent environmental authority, namely the Department of Environmental Affairs (DEA), before they can be undertaken. Aurecon has been appointed by Mulilo to undertake the requisite environmental process.

### Proposed project

The proposed project would consist of the following:

- **Technology:** A PV component comprising of numerous arrays of PV panels to generate up to 75MW per facility, through the photovoltaic effect.
- **Transmission lines and substations.**
- **Boundary fencing:** Each 75MW facility will be fenced for health, safety and security reasons.
- **Roads:** One access road and internal access roads for servicing and maintenance.
- **Water supply infrastructure.**
- **Storm water infrastructure**
- **Buildings:** Buildings would likely include onsite substations, a connection building, control building, guard cabin, an electrical substation and solar resource measuring substation.



## Need and Desirability

The need for renewable energy is well documented and reasons for the desirability include:

- South Africa has considerable solar resource potential which must be utilized.
- Climate change and on-going exploitation of non-renewable resources, is increasing international pressure on countries to increase their renewable energy generation.
- The proposed PV facilities would strengthen the existing electricity grid for the area.
- Skills development and the transfer thereof would be one of the top priorities of Mulilo and local community involvement would be enhanced as far as possible. Employment opportunities created by the construction phase equates to approximately 2,800 man months.
- Reducing pollution as the generation of energy from PV facilities produces far less pollution per MW/h than coal-fired facilities.

## Project alternatives

Based on the investigations and reasons provided earlier, it is proposed that the following alternatives be assessed:

- **Location alternative:** Badenhorst Dam Farm (Portion 1 of Farm 180).
- **Layout alternatives** as determined by scale and magnitude alternatives:
  - **Layout Alternative 1** consists of the four proposed 75MW PV referred to as PV2, PV3, PV4 and PV5.
  - **Layout Alternative 2** consists of three 150MW PV facilities referred to as extended PV2, PV3 and PV4.
- **Additional routing infrastructure:** One routing alternative for access roads and water pipeline.
- **Technology alternatives:**
  - Solar Panel alternative: CPV and conventional PV.
  - Mounting Alternatives: Fixed axis tracking system and single axis tracking system.
- **Transmission line routing:** One transmission corridor.
- **No-Go alternative.**

## Identified impacts

During this scoping exercise a shortlist of potentially significant environmental impacts was identified for investigation during the EIA Phase:

**Table 1: Impacts to be assessed during the EIA phase**

Construction phase impacts	Operational phase impacts
<ul style="list-style-type: none"> <li>• Disturbance of flora and fauna;</li> <li>• Sedimentation and erosion;</li> <li>• Impacts on palaeontology &amp; heritage resources;</li> <li>• Impacts on surface water resources;</li> <li>• Impact on agricultural resources;</li> <li>• Social impacts and increased traffic;</li> <li>• Visual Impacts;</li> <li>• Storage of hazardous substances on site; and</li> <li>• Noise pollution and dust.</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on the flora;</li> <li>• Impact on fauna (avifauna);</li> <li>• Sedimentation and erosion;</li> <li>• Impact on surface water resources;</li> <li>• Impact on hydrology;</li> <li>• Impact on local economy and social conditions;</li> <li>• Visual impacts; and</li> <li>• Impact on energy production.</li> </ul>

The following specialist studies will be commissioned during the EIA phase to provide more detailed information on those environmental impacts which have been identified, namely:

**Table 2: Specialist to be appointed**

Assessment	Company	Contact
Visual Impact Assessment (IA)	VRMA	Steve Stead
Palaeontological IA	Natura Viva	John Almond
Ecological IA	David Hoare Consulting	David Hoare
Avian IA	Avisense	Andrew Jenkins
Agricultural IA	SiVest	Kurt Barichiev
Heritage IA	ACO Associates	Tim Hart
Aquatic IA	Blue Science	Toni Belcher
Hydrology IA	SiVest	Richard Hirst

### Way forward

Public participation is a key component of this EIA process and enables Interested and Affected Parties (I&APs) (e.g. directly affected landowners; national-, provincial- and local authorities; environmental groups; civic associations; and communities), to identify their issues and concerns, relating to the proposed activities, which they feel should be addressed in the EIA process.

The public participation process to date entailed the following:

- Placement of advert in the *Die Volksblad*, on 30 April 2013, to notify the broader public.
- A site notice was placed at the entrance to the Badenhorst Dam Farm on 17 April 2013.
- The DSR were lodged in the De Aar Public Library (Station Street), the Emthanjeni Municipal buildings (Voortrekker Street) (contact person: Mrs C. Kloppers) and are also available for download from Aurecon's website (<http://www.aurecongroup.com>- indicate "Current Location" as "South Africa" and click on the "Public Participation" link).
- Potential I&AP's were notified of the availability of the report.

I&APs were afforded with 40 days, until **10 June 2013**, to submit their written comments on the DSR. All written comments can be submitted to Aurecon (a Response Form is attached, for your convenience). Cognisance will be taken of all comments in compiling the final report, and the comments, together with the project team and proponent's responses thereto, will be included in the final report as a Comments and Responses Report (CRR). Where appropriate, the report will be updated. Comments should be directed to the Aurecon EIA team (contact details provided on Page 1).

Once the Final Scoping Report (FSR) has been completed, including the CRR, it will be submitted to the DEA for review. DEA must, within 30 days of receipt of the FSR, or receipt the required information or comments or an amended scoping report, consider it, and in writing –

- Accept the report and advise the Environmental Assessment Practitioner (EAP) to proceed;
- Request the EAP to make amendments to the report as the competent authority may require; or
- Reject the Scoping Report if it:
  - Does not contain material information required in terms of these regulations, or
  - Has not taken into account guidelines applicable in respect of Scoping Reports and Plans of Study for EIA.

### List of Abbreviations

<b>DEA</b>	Department of DSR Environmental Affairs	<b>I&amp;AP</b>	Interested and Affected Party
<b>DSR</b>	Draft Scoping Report	<b>kV</b>	Kilovolt
<b>EIA</b>	Environmental Impact Assessment	<b>MW</b>	Megawatts
<b>FSR</b>	Final Scoping Report	<b>NEMA</b>	National Environmental Management Act

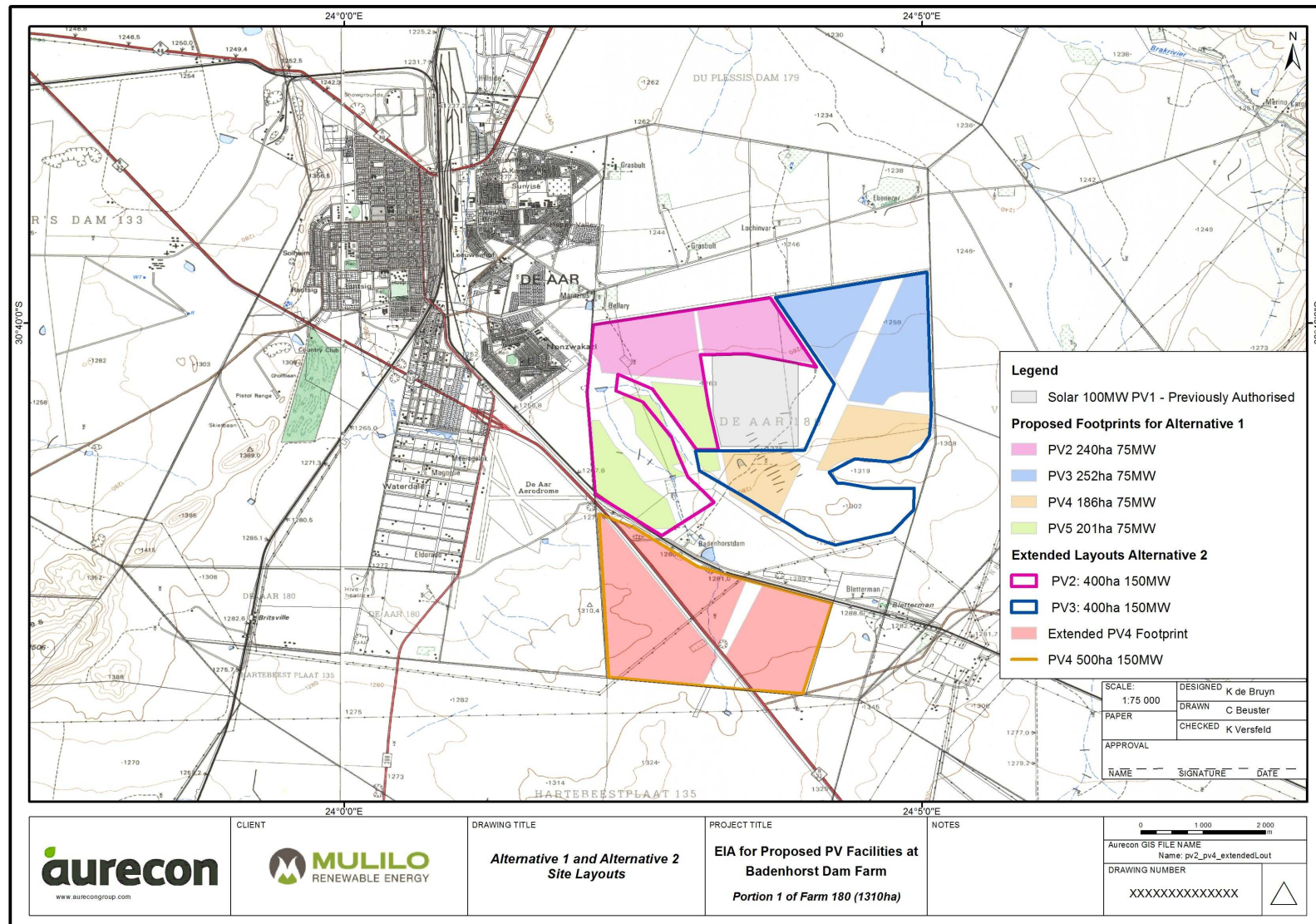


Figure 1: Location of the proposed PV energy facilities on Badenhorst Dam Farm near De Aar, Northern Cape