



**Photo Voltaic Centres / Farms,
De Aar – Hanover - Potfontein
NORTHERN CAPE**

**BACKGROUND INFORMATION DOCUMENT
FOR ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**

SEPTEMBER 2010

Background

An Environmental Impact Assessment (EIA) process has commenced in terms of R 544 and R 545 of the National Environmental Management Act (1998) relating to the proposed establishment of a “hub” or “farm” of concentrated photovoltaic panels to be used in the generation of between 5 MW and 50MW of power at each site. The applicant, a solar power production company, wishes to introduce power to the national grid under the control of Eskom, that would be procured by the national supplier, local authorities or private entities.

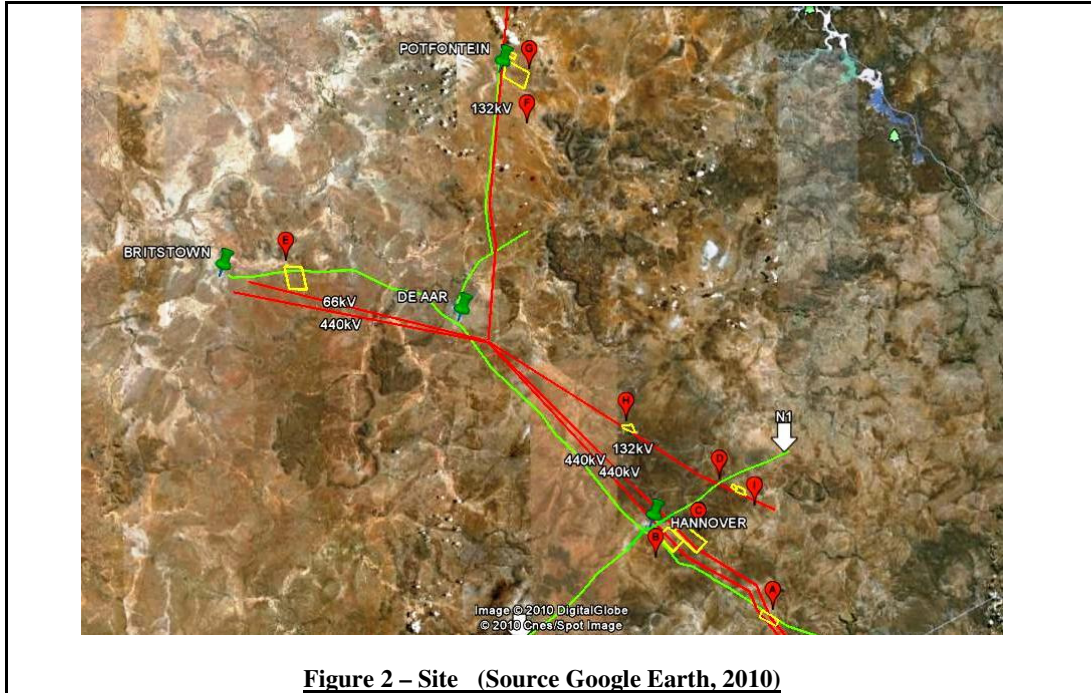
The application for authorisation requires the undertaking of an environmental impact assessment process, which entails a scoping of impacts at a preliminary level prior to the undertaking of an impact assessment process to gauge the nature and significance of those impacts identified under the scoping process. The Environmental Impact Report (EIR) would also suggest the level of impacts and options for mitigation or avoidance of such impacts. The Environmental Impact Assessment process (EIA) is to be undertaken in terms of Regulation 387 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

This document highlights pertinent information for all Interested and Affected Parties (I&APs) associated with the assessment and provides further information on technical issues related to the project.

Further to the above, the local authority and other role players in the power generation process require environmental information in order to consider the proposed development and to provide further management input. Other relevant authorities include The Department of Energy and the Northern Cape Department of Tourism, Environment and Conservation.







Nature of Sites

All sites are situated within the Northern Cape Province and lie in close proximity to the power lines that traverse the said properties. The lines vary from 66kV to 400kV in capacity. Table I identifies the sites and their locality and should be read in conjunction with Fig's 1 and 2 above. The general area can be described as follows

Climate : Mean Annual Precipitation (MAP) = 400mm approx. (180mm – 430mm) with mean maximum and minimum temperatures being 39°C (De Aar) and -7.2°C (Middelburg)

Insolation : the region can be described as receiving good solar irradiance throughout the year. By comparison, Middelburg receives 0.5kWh/m²/day more than Port Elizabeth.

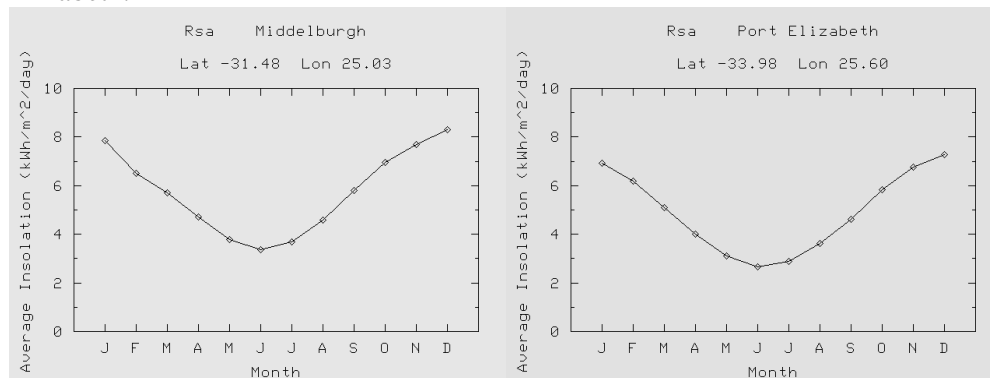


Fig. 3 Annual insolation – Middelburg vs Port Elizabeth (Source NASA)

Topography : All properties are considered “flat” with grades not exceeding 8°

Geology : The broader geology of the region generally appears to be underlain mostly by rocks and derived subsoils of Permian age – Adelaide formation (approximately 280 – 225 million years), capped by varying but relatively nominal thicknesses of recent unconsolidated Quaternary alluvial deposits. Intrusions of dolerite may also be encountered at each site.

Ecology : The sites fall within the Nama – Karoo Biome (Mucina and Rutherford 2007) and lie within one of two bio regions within this biome (see Table II).

Land Use : All of the identified properties fall within land zoned or utilised for agricultural purposes. Presently, all properties are utilised for grazing of sheep.

Historical Issues : the sites are not noted to impinge on any Cultural Heritage resource.

Other : With the exception of the identified powerlines, the sites selected are not associated with any water resources or related natural features.

Table 1 below, provides an over view of the sites under consideration.

Site name	Affected Property description	GPS co-ordinate	Current land use	Potential PV farm area	Municipal Area
Site A	Die Plaas Elandsheuwel No 146 (Hanover)	S 31°13'809" / E 24°42'163"	Agriculture – pasture	600ha	Umsobomvu
Site B	Plek Petrus Valley gemerk La. H & lot 317 (known as Vermeulens Application)	S 31°04'649" / E 24°28'992"	Agriculture – pasture	700ha	Emthanjeni
Site C	Rem of Vermeulens Application No 90. Hannover	S 31°06'984" / E 24°31'162"	Agriculture – pasture	400ha	Emthanjeni
Site D	Vanderlindeskraal No 79	S 31°01'019" / E 24°37'636"	Agriculture – pasture	200ha	Emthanjeni
Site E	Rem of the Farm Sweetfontein No 92 (Britstown) Portion 3 (Annex De Hoop) of the farm 94 (Britstown) Portion 2 (De Hoop) of the farm No 94 (Britstown)	S 30°36'821" / E 23°39'910"	Agriculture - pasture	300ha	Emthanjeni
Site F	Koensdraai no.36(Hopetown Erfpagte Boekdeel 5 nr. 12)	S 30°10'618" / E 24°07'517"	Agriculture - pasture	200ha	Philipstown (Renosterberg)
Site G	Erfpag seinde die plaas New Kalkbult No. 181	S 30°10'030" / E 24°08'861"	Agriculture - pasture	250ha	Philipstown (Renosterberg)
Site H	Restant van die plaasTaaiboschfontein nr. 41	S30 °52'590" / E24 °23'229"	Agriculture - pasture	200ha	Emthanjeni
Site I	Remainder of portion 1 of the Farm Van der Linderskraal No 79 Portion 3 (of 1) of the Farm Van der Linderskraal No 79 Remainder of the Farm Van der Linderskraal No 79	S 30°59'958" / E 24°38'289"	Agriculture - pasture	200ha	Emthanjeni

Table 2, below provides information relating to the habitat identified on the sites.

Site name	Affected Property description	Vegetation Unit Affected	Conservation Status
Site A	Die Plaas Elandsheuwel No 146 (Hanover)	Eastern Lower Karoo	Least threatened
Site B	Plek Petrus Valley gemerk La. H & lot 317 (known as Vermeulens Application)	Eastern Lower Karoo	Least threatened
Site C	Rem of Vermeulens Application No 90. Hannover	Eastern Lower Karoo	Least threatened
Site D	Vanderlindeskraal No 79	Eastern Lower Karoo	Least threatened
Site E	Rem of the Farm Sweetfontein No 92 (Britstown) Portion 3 (Annex De Hoop) of the farm 94 (Britstown) Portion 2 (De Hoop) of the farm No 94 (Britstown)	Northern Upper Karoo	Least threatened

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Site F	Koensdraai no.36(Hopetown Erfpagte Boekdeel 5 nr. 12)	Northern Upper Karoo	Least threatened
Site G	Erfpag seinde die plaas New Kalkbult No. 181	Northern Upper Karoo	Least threatened
Site H	Restant van die plaasTaaiboschfontein nr. 41	Eastern Lower Karoo	Least threatened
Site I	Remainder of portion 1 of the Farm Van der Linderskraal No 79 Portion 3 (of 1) of the Farm Van der Linderskraal No 79 Remainder of the Farm Van der Linderskraal No 79	Eastern Lower Karoo	Least threatened



Views of intended development sites		
Site A :	Site B :	Site C .



Site D:



Site E



Site F



Site G



Site H



Site I

Applicant

The applicant is Scatec SA (Pty) Ltd, represented by Mr. J Borrill. The applicant is a BEE company with an international component (Scatec Solar) specialising in solar power with offices in Germany and Norway and operating plants in 8 countries world wide. These companies have over a decade of experience in sustainable energy, operating under ISO 14001 / ISO 9001 and a triple ISO certified solar system company . For further information please log on to www.scatecsolar.com

Environmental Assessment Practitioner

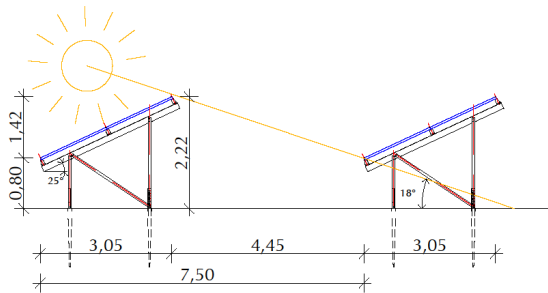
Sustainable Development Projects cc has been appointed by the developer as the independent environmental consultant to undertake the environmental authorization process. For further information on Sustainable Development Projects cc please log on to www.ecocoast.co.za

The Development

The proposed development entails the establishment of panels of solar cells that are situated on raised aluminium, stainless steel or wooden frames. Such frames are approximately 3.0m in width, with a height of 2.2m. The panels are established at an angle of approximately 25° from the horizontal. (see fig's 3 a, b and c). The frames are founded into the ground by means of small concrete plinths. Some electrical wiring and power lines are positioned below ground with switch boxes established on the frames. The approximate yield of power from 10 000m² of solar panels is 1.5MW, requiring that areas approximating 100ha or more are placed within the solar farm.



3a



3b



3c

The structures are effectively temporary in nature and may be relocated with ease. Other activities may be undertaken in conjunction with such structures, as indicated in Fig 3a, where sheep are run on land occupied by the solar panel frameworks, enhancing the farming operation.

The solar panels consist of Selenium based cells that are laminated onto a Perspex sheet. The panels are connected to a collector which in turn provides an electrical current to a step up transformer that is positioned at a point in close proximity to the solar panels. The transformer provides power to the nearest sub station / transmission line at a compatible current by means of an inverter.

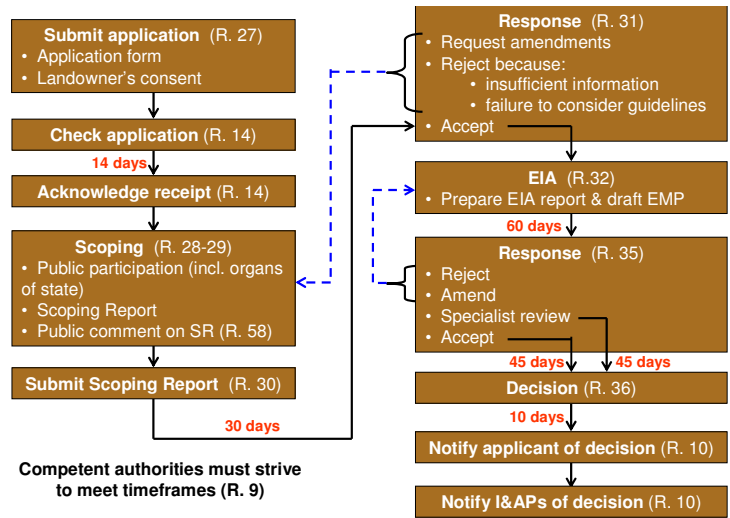
Specialist Investigations

General evaluations relating to the geology and ecology of the sites, climatics and visual aspects will be undertaken and incorporated into the scoping phase. **Alternative sites** arising from those mentioned above, will be considered and narrowed to specific sites based on the information that arises from such investigations.

Role of Interested and Affected Parties

Interested and Affected Parties are invited to comment on the above proposal, and all such comment will be included in the scoping report that is submitted to DTEC for evaluation.

A public meeting will be held at Hanover Hotel on 22 October 2010 at 17h00. The environmental assessment process entails the following :



Please forward all comments or for further information, please contact the address below;

Sustainable Development Projects cc
 P O Box 1016, Ballito, 4420
 Tel 032 – 946 0685 Fax 032-9460784
simon@ecocoast.co.za

RESPONSE FORM

Photo Voltaic Centre, Northern Cape

Ihave been informed of the proposed development on the above mentioned property. My response and comments on the proposed development are contained below.

Details:

Postal address.....

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Tel. number:

Fax. number:

E-mail:

1. Are you a resident of adjacent properties? **Y** **N**

If no, then please specify

Issues that are of concern to me emanating from this development are:

Issue and Description of Issue		Level of significance / concern		
		Low	Medium	High
Ecological	Issues relating to plant and animal life, destruction of habitat, destruction of estuarine habitat, runoff into water courses, etc.			
Traffic	Issues relating to possible increase in heavy traffic in the area, degrading of roads, etc.			
Other (please				

describe)				
Other (please describe)				

The following opportunities for mitigation are proposed

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Additional Comments

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Please attach any further correspondence or submission you may wish to make on this matter to this response form

**Please return to P O Box 1016, Ballito, 4420 or fax to 032-946 0784
E-mail simon@ecocoast.co.za /**