

# ENVIRONMENTAL IMPACT ASSESSMENT: PROPOSED WIND AND SOLAR (PHOTOVOLTAIC) ENERGY FACILITIES NEAR SPRINGBOK, NORTHERN CAPE

WIND: DEA REF. NO.14/12/16/3/3/2/346 / NEAS REF. NO. DEA/EIA/0001222/2012  
PV: DEA REF. NO.14/12/16/3/3/2/342 / NEAS REF. NO. DEAT/EIA/0001217/2012  
WIND SUBSTATION & GRIDLINE: DEA REF. NO.14/12/16/3/3/2/386 / NEAS REF. NO. DEA/EIA/0001344/2012  
SOLAR SUBSTATION & GRIDLINE: DEA REF. NO.TBC / NEAS REF. NO. TBC



NOVEMBER 2012

**aurecon**

## SUMMARY DOCUMENT: DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

### *Background*

South Africa Mainstream Renewable Power Developments (Pty) Ltd (Mainstream) proposes to construct a 560 MW wind energy facility and a 225 MW solar photovoltaic energy facility, each with an associated substation, on farms near Springbok in the Northern Cape. Originally the proposed project consisted of a 750 MW and 250 MW wind and solar energy facility respectively, but this was reduced due to the incorporation of buffers recommended by specialists around sensitive environmental features. Aurecon South Africa (Pty) Ltd (Aurecon) has been appointed to undertake the requisite environmental process as required in terms of the National Environmental Management Act (No. 107 of 1998), as amended, on behalf of Mainstream.

The proposed project would take place on the farms Kangnas (Farm No. 77 Portion 3 and the Remainder), Koeris (Farm No. 78 Portion 1), Areb (Farm No. 75 Portion 0) and Smorgenschaduwé (Farm No. 127 Portion 0) in the Northern Cape (see **Figure 1**). These farms are located approximately 48 km east of Springbok and are accessed via the N14. The five farms cover an area of approximately 46 535 ha.

### *Proposed Projects*

The proposed projects entail the generation of electricity from wind and solar resources. The construction period would be approximately 12 - 18 months for the proposed wind energy facility and 24 months for the proposed solar photovoltaic energy facility. The proposed wind energy facility would consist of 180 turbines of 4 MW capacity. The proposed solar energy facility (225 MW of photovoltaic (PV) and/or Concentrated PV (CPV)) may include tracking systems and would have an approximate footprint of 793 hectares (ha). An onsite connection is proposed via an existing 220 kilovolt Eskom line. It is proposed to

### **Purpose of this document**

This document provides a summary of the Draft Environmental Impact Assessment Report (EIR) for the proposed wind and solar energy facilities as well as the associated substations and grid connections near Springbok, Northern Cape. It provides a brief background and overview of the proposed projects, a description of the public participation process undertaken thus far, the list of project alternatives and potential impacts that have been assessed.

Please review this Summary Document and, preferably, the full EIR, and submit your comments on the proposed projects by **14 January 2013**. All EIA documents will be available on Aurecon's website ([www.aurecongroup.com](http://www.aurecongroup.com) change "Current Location" to "South Africa" and follow the Public Participation link), the Springbok and Pofadder Public Libraries from **27 November 2012** until **14 January 2013**. All Interested and Affected Parties (I&APs) are invited to attend a public meeting on 12 December 2012 at the Springbok Exhibition Hall from 17h00 to 19h00. I&APs are requested to RSVP to Corlie Steyn or Louise Corbett (details below). Should an insufficient number of I&APs RSVP, the meeting will be cancelled and I&APs will be invited to submit any comments in writing.

#### **Aurecon**

Corlie Steyn or Louise Corbett  
PO BOX 509, George, 6530  
Tel: (044) 805 5421  
Fax: (044) 805 5454

Email: [cornelia.steyn@aurecongroup.com](mailto:cornelia.steyn@aurecongroup.com) / [louise.corbett@aurecongroup.com](mailto:louise.corbett@aurecongroup.com)

construct two main substations linking each of the proposed energy facilities and the Eskom line.

Wind turbines can rotate about either a horizontal or a vertical axis. Turbines used in wind farms for commercial production of electricity are usually horizontal axis, three-bladed and pointed into the wind by computer-controlled motors. Horizontal axis machines have high efficiency, and low torque ripple, which contribute to good reliability. The blades are usually coloured light grey and range in length from 20 – 60 m. The tubular steel towers range from 60 - 120 m tall. The blades rotate at 10 - 22 revolutions per minute. A gear box is commonly used for stepping up the speed of the generator. Some models operate at constant speed, but more energy can be collected by variable-speed turbines. All turbines are equipped with protective features to avoid damage at high wind speeds, by feathering (turning) the blades into the wind which ceases their rotation, supplemented by brakes.

Horizontal axis wind turbines have the main rotor shaft and electrical generator at the top of a tower in a nacelle. Conventional horizontal axis turbines can be divided into three components.

- The rotor component, which includes the blades for converting wind energy to low speed rotational energy.
- The generator component, which includes the electrical generator, the control electronics, and most likely a gearbox component for converting the low speed incoming rotation to high speed rotation suitable for generating electricity.
- The structural support component, which includes the tower and rotor yaw mechanism (which turns the rotor into the wind).

The final foundation design of turbines is dependent on geotechnical investigation, however it is likely that for the proposed project foundations would be made of reinforced concrete. The foundations would be approximately 20 m x 20 m and an average of 3 m deep. The foundation would be cast *in situ* and could be covered with top soil to allow vegetation growth around the approximately 6 m diameter steel tower. A flat prepared hard standing for a crane will be compacted in gravel and approximately 20 m x 40 m would be constructed adjacent to each turbine. Access roads of 6 – 10 m would also be required between each turbine.

The proposed wind project could connect to the grid via two satellite substations (100 x 100 m) that would link sectors of the facilities to the main proposed Kangnas wind energy facility substation which would connect to the double circuit overhead line. The satellite substations would consist of medium (22 – 66 kV) to high voltage transformation (132 – 400 kV) with the associated Eskom required switchgear, telecommunications, storage, control room, access road, bus bars, overhead gantries, fencing and all other generic substation infrastructure. There would be a single track gravel access road for maintenance purpose to the substation. At the proposed Kangnas substation the voltage would be increased and evacuated via the existing 220 kV Eskom (or future 132 – 400 kV) power line crossing the northern portion of the site. The main substation would consist of medium (22 - 66 kV) to high voltage transformation (132 – 400 kV) with the associated Eskom required switchgear, telecommunications, storage, control room, access road, bus bars, overhead gantries, fencing and all other generic substation infrastructure. There would be a single track gravel access road for maintenance purpose to the substation. The total main substation size is expected to be a maximum of 200 x 200 m or 4 ha.

PV systems convert sunlight into energy. The smallest unit of a PV installation is a cell. A number of solar cells electrically connected to each other and mounted in a support structure or frame is called a PV module. A number of cells form a module, and finally a number of modules form an array. Modules are arranged in section sizes of approximately 40 x 5 m called tables and are installed on racks which are made of aluminum or steel. Modules are designed to supply electricity at a certain voltage. The current produced is directly dependent on how much light strikes the module. The arrays are arranged into rows that form the solar field. The arrays and racks are founded into the ground through either concrete, screw or pile foundations. The arrays are wired to inverters that convert direct current (DC) into alternate current (AC) that can be fed into a national grid system.

The fundamental difference between PV and CPV technology is that CPV uses optics such as lenses to concentrate a large amount of sunlight onto a small area of solar PV materials to generate electricity. The basic components are similar as described above for PV.

Panels can be mounted on tracking systems which follow the path of the sun to maximize the benefit of each ray of sunlight and allowing for the land underneath being utilized as well.

The electricity distribution infrastructure would comprise of one transmission line (132, 220 or 400 kV) traversing the site. The proposed solar project would connect to the grid via an onsite substation. The proposed route to the substation is approximately 1 km long. At the substation the voltage would be increased and evacuated via the existing 220 kV Eskom power line (or future 132 – 400 kV) crossing the northern portion of the site. The onsite Nama Aggeneys 220 kV line would be turned into the main solar substation. The substation would consist of medium (22 - 66 kV) to high (220 – 400 kV) voltage transformation with the associated Eskom required switchgear, telecommunications, storage, control room, access road, bus bars, overhead gantries, fencing and all other generic substation infrastructure. There would be a single track gravel access road for maintenance purpose to the substation. The total substation size is expected to be a maximum of 200 x 200 m or 4 ha.

A summary of the two proposed facilities is as follows:

Proposed wind energy facility:

- Construction of between 180 wind turbines of 4 MW capacity;
- Associated infrastructure including:
  - Hard standings of 20 m x 40 m alongside turbines;
  - Access roads of 4 – 10 m wide between turbines;
  - Overhead transmission lines connecting turbines;
  - One main substation connecting the proposed energy facilities to the Eskom line; and
  - Two satellite substations that would link sectors of the facility to a main substation with overhead lines.

Proposed solar energy facility:

- Construction of 225 MW of PV and/or CPV;
- Associated infrastructure including:
  - Access roads of 4 – 10 m wide to the PV plant; and
  - One main substation that would link the facility with overhead lines.

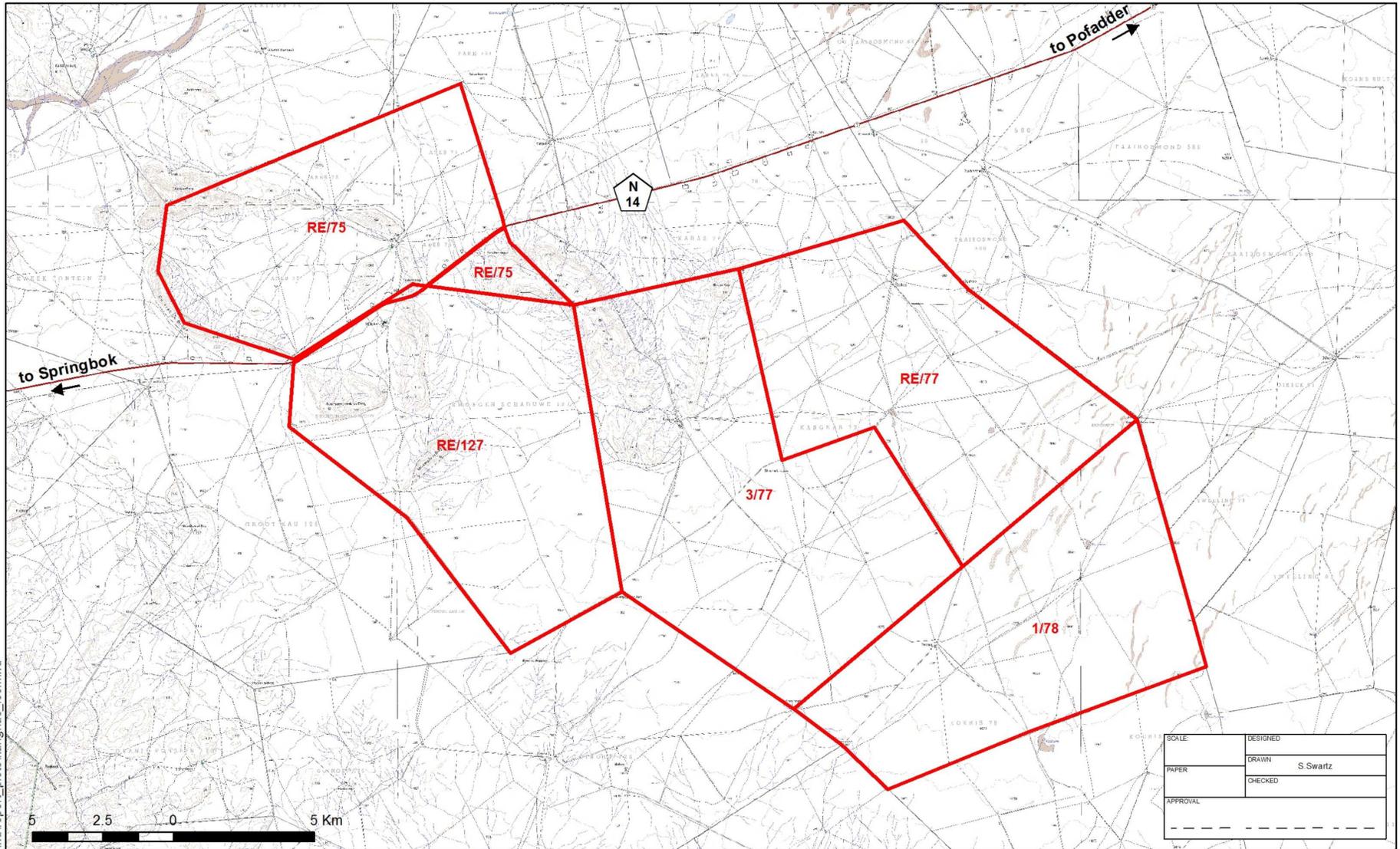


Figure 1: Location of proposed wind and solar (PV) energy facilities near Springbok in the Northern Cape

## ***EIA Process***

EIA Regulations (Regulations 544, 545 and 546) promulgated in terms of NEMA, identify certain activities, which “could have a substantial detrimental effect on the environment”. These listed activities require environmental authorisation from the competent environmental authority, i.e. the Department of Environmental Affairs (DEA) in the case of energy applications, prior to commencing.

The proposed projects trigger a number of listed activities in terms of NEMA and accordingly requires environmental authorisation from DEA via the EIA process outlined in Regulation 543 of NEMA.

Aurecon has been appointed to undertake the required environmental authorisation and licencing processes on Mainstream’s behalf.

The EIA process consists of an Initial Application Phase, a Scoping Phase and an EIA Phase. The purpose of the Initial Application Phase is to commence the project *via* the submission of the relevant department’s application forms. The purpose of the Scoping Phase is to identify and describe potential positive and negative environmental impacts, (both social and biophysical), associated with the proposed project and to screen feasible alternatives to consider in further detail.

The purpose of the EIA Phase, the current phase, is to comprehensively investigate and assess those alternatives and impacts identified in the Scoping Report and propose mitigation to minimise negative impacts.

## ***How you can get involved***

Public participation is a key component of this EIA process and has taken place at various stages throughout the project. The public participation process to date has involved the following aspects:

- Distribution of the Background Information Document on 24 May 2012 to inform Interested and Affected Parties (I&APs) of the project and to invite I&APs to register on the database;
- Advertisements were placed in a local newspaper, the Plattelander, notifying the broader public of the initiation of the EIA and inviting them to register as I&APs from 25 May November 2012 to 15 June 2012;
- A site notice was erected at the entrance to Smorgenschaduwe Farm, Kangnas Farm and Springbok Library on 28 May 2012;
- I&APs were invited to a public meeting on 3 July 2012 and were requested to RSVP. No RSVP’s were received and subsequently this meeting was cancelled;
- Holding a Focus Group Meeting on 3 July 2012 to present and discuss the findings of the DSR at the Exhibition Hall in Springbok and was attended by 15 people, which included relevant authorities (Namakwa District Municipality, Namakhoi Municipality and the Department of Environment and Nature Conservation), landowners and neighbours of the site;.
- I&APs had 40 days, until the 19 June 2012 to submit their written comments on the DSR. Cognisance was taken of all comments when compiling the final report, and the comments, together with the project team and proponent’s responses thereto, were included in final report;
- The Final Scoping Report (FSR) was made available to the public for review and comment at the same locations as the DSR until 24 August 2012. All registered I&APs were informed of the lodging of the FSR by means of a letter posted on 30 July 2012. The FSR outlined the full range of potential environmental impacts and feasible project alternatives and how these were derived. Moreover, it included a Plan of Study for EIA, which outlined the proposed approach to the current EIA Phase, including the requisite specialist investigations to be undertaken;
- The FSR and associated Plan of Study for EIA was submitted to DEA on 1 August 2012 and accepted on 8 October 2012.

All written comments received on the FSR were included as an annexure to the Draft EIR. All issues raised via written correspondence have been summarised into a Comments and Response Report with responses from the project team and are included as an annexure to the Draft EIR.

The current EIA Phase aims to present the Draft EIR to registered I&APs. This phase comprises:

- Lodging the Draft EIR at the Springbok (Namakwa Street) and the Pofadder (Main Street) Public Libraries and on Aurecon's website ([www.aurecongroup.com](http://www.aurecongroup.com) change "Current Location" to "South Africa" and follow the Public Participation link) from **27 November 2012** until **14 January 2013**;
- Finalising the EIR by incorporating all public comment received into a Comments and Responses Report and making changes to the report, where relevant; and
- Submitting the Final EIR to DEA for decision-making.

Following the issuing of the Environmental Authorisations, DEA's decision will be communicated by means of a letter to all registered I&APs and the appeal process will commence, during which any party concerned will have the opportunity to appeal the decision to the Minister of Environmental Affairs in terms of NEMA.

### *Project alternatives*

The following feasible alternatives have been identified for further consideration in the Environmental Impact Assessment Report (EIR):

Proposed wind energy facility:

Location alternatives:

- One location for the proposed wind energy facility;

Activity alternatives:

- Wind energy generation via wind turbines; and
- "No-go" alternative to wind energy production.

Site layout alternatives:

- One layout alternative per site (560 MW with 180 turbines);
- One main substation location, with two satellite substations.

Technology alternatives:

- A minimum and maximum tipheight of 100 – 180m

Proposed solar energy facility:

Location alternatives:

- One location for the proposed PV plant.

Activity alternatives:

- Solar energy generation via a PV plant; and
- "No-go" alternative to solar energy production.

Site layout alternatives:

- One layout alternative (225 MW with 793 ha footprint)

Technology alternatives:

- Two technology alternatives in terms of the solar panel type (PV vs CPV); and
- Mounting system: trackers vs fixed mount.

It should be noted that the two proposed main substations and grid connections, the subject of the third and fourth EIA applications within this EIA process, forms part of both the wind and solar energy facilities respectively. No alternatives to the substations were identified as they form part of the two larger projects proposed. The separate application is simply a requirement from Eskom such that they can construct it themselves, if necessary.

## Identified impacts

The EIR has provided a comprehensive assessment of the potential environmental impacts, identified by the EIA team and I&APs, associated with the proposed wind and solar energy facility.

The following specialist studies and specialists were undertaken to provide more detailed information on those environmental impacts which had been identified as potentially being of most concern, and/or where insufficient information is available, namely:

- *Botanical assessment:* Dr Dave MacDonald, *Bergwind Botanical Tours and Surveys*;
- *Avifauna assessment:* Mr Doug Harebottle, Private Consultant;
- *Bat assessment:* Mr Werner Marais, *Animalia Zoological and Ecological Consultation*;
- *Heritage Impact Assessment:* Mr Jayson Orton, *ACO Associates* (archaeology component) and Dr John Almond, *Natura Viva cc* (palaeontology component); and
- *Visual Impact Assessment:* Mr Stephen Stead, *Visual Resource Management Africa*
- *Socio-economic Impact Assessment:* Ms Alex Kempthorne, *Urban-Econ Development Economists*
- *Noise Impact Assessment:* Mr Morne de Jager, *M2 Environmental Consulting*
- *Agricultural Potential Assessment:* Mr Kurt Barichievy, *SiVEST*
- *Aquatic Ecology Impact Assessment:* Ms Antony Belcher, Private Consultant
- *Meteorite Impact Assessment:* Dr Chris Harris, University of Cape Town

The significance of the potential environmental (biophysical and socio-economic) impacts associated with the proposed project are summarised in **Table 1**.

## Operational phase impacts

### Proposed wind energy facility

With reference to **Table 1**, the most significant (**medium-high (-)**) operational phase impacts on the biophysical and socio-economic environment, without mitigation was for the potential impacts of the proposed wind energy facility on avifauna and visual aesthetics. With the implementation of mitigation measures impacts on avifauna would decrease to **medium (-)** and visual impacts would decrease to **low (-)**. It should be noted that three potential positive impacts on energy production, on climate change, and on the local economy (employment) and social conditions would result and these would be of **low-medium (+)** significance, with and without mitigation measures.

There was no difference in the significance of the potential impacts resulting from the feasible alternatives, including the turbine alternatives. However, Mainstream has chosen their preferred option as per the revised layouts based on sensitivity buffers from the specialists along with technical and financial considerations. The potential impacts of the proposed wind energy facility main substation for the proposed wind energy facility were assessed within the impacts of the proposed wind energy facility and were considered to be acceptable.

### Proposed solar energy facility

With reference to **Table 1**, the most significant (medium (-)) operational phase impacts on the biophysical and socio-economic environment, without mitigation was for the potential impacts of the proposed solar energy facility on visual aesthetics. With the implementation of mitigation measures the impacts on visual aesthetics would remain medium (-). It should be noted that three potential positive impacts on energy production and local economy (employment), climate change and social conditions would result and these would be of low (+) significance, with and without mitigation measures.

There was no difference in the significance of the potential impacts resulting from the feasible alternatives, including the heights of the panels and CPV vs PV alternatives. However Mainstream has chosen their preferred option as per the revised layouts based on sensitivity buffers from the specialists along with consideration of technical and financial considerations. The potential impacts of the proposed

main PV substation for the proposed solar energy facility were assessed within the impacts of the proposed solar energy facility and were considered to be acceptable.

### ***Cumulative impacts***

The potential cumulative impacts were also considered, for the proposed wind and solar energy projects together as well as for other similar project in the area as well as any other proposed renewable energy facilities, where applicable. The significance of these were considered to be of low to high (-) significance and low to medium (+), without mitigation. These potential cumulative impacts would decrease, with implementation of mitigation measures for the proposed projects as well as other proposed projects in the area, and are considered to be acceptable. However, it should be noted that it is not possible to assess these cumulative impacts in a project specific EIA, not least because not all the proposed projects in the area may be approved or constructed. As such it would be necessary for DEA, or a similar body, to undertake a strategic assessment in this regard.

### ***Construction phase impacts***

#### **Proposed wind energy facility**

With reference to **Table 1**, the most significant (**medium - high (-)** and **high (-)**) construction phase impacts on the biophysical and socio-economic environment, without mitigation was for the potential impacts of the proposed wind energy facility on botany, sedimentation and erosion, and transport. With the implementation of mitigation measures the significance of these potential impacts would be **very low - low (-)** for botany and sedimentation and erosion, and transport would remain **high (-)**. This is deemed to be acceptable based on the short duration of the construction period. The remaining negative construction phase impacts were not deemed to have a significant impact on the environment, given their duration (approximately 18-36 months) and localised extent. The remaining construction impacts were assessed to be of **low (-)** or lower significance, with and without mitigation measures. It should be noted that a potential positive impact on the socio-economic environment would result and would be of **low (+)** significance, with and without mitigation measures. No difference in significance would result from the proposed wind alternatives.

#### **Proposed solar energy facility**

With reference to **Table 1**, the most significant (**medium (-)** and **high (-)**) construction phase impacts on the biophysical and socio-economic environment, without mitigation was for the potential impacts of the proposed solar energy facility on sedimentation and erosion, visual and transport. With the implementation of mitigation measures the significance of these potential impacts would be very **low (-)** for sedimentation and erosion, **low (-)** for visual and transport would remain **high (-)**. This is deemed to be acceptable based on the short duration of the construction period. The remaining negative construction phase impacts were not deemed to have a significant impact on the environment, given their duration (approximately 24 months) and localised extent. The remaining construction impacts were assessed to be of **low (-)** or lower significance, without mitigation measures. It should be noted that a potential positive impact on the socio-economic environment would result and would be of **low (+)** significance, with and without mitigation measures. No difference in significance would result from the proposed solar alternatives.

IMPACT			Preferred Layout solar site		Preferred Layout wind site	
			No Mit	With Mit	No Mit	With Mit
<b>OPERATIONAL PHASE IMPACTS</b>						
1.1	Impact on Flora:	Preferred layout	M	L	H	L
1.2		No-go alternative	L	L	L	L
2	Impact on Fauna		L	VL	L	VL
2	Impact on birds		L-M	L	M-H	M
3	Impact on bats		N	N	L	L
4	Impact on climate change		L+	L+	L+	L+
5	Visual aesthetics		M	M	M-H	L
6	Impact on Fresh Water		VL	VL	VL	VL
7	Impact on energy production		I+	I+	I+	I+
8	Impact on local economy (employment) and social conditions		VL+	L-M+	VL+	L-M+
9	Impact of noise		N	N	L	L
10	Impact on agricultural land		VL	VL	VL	VL
<b>CONSTRUCTION PHASE IMPACTS</b>						
11	Impacts on flora, avifauna, fauna and bats		L-M	L	H	L
12	Sedimentation and erosion		M	VL	M-H	VL
13.1	Impact on heritage resources: Archaeology		L	VL	M	L
13.2		Palaeontology	L	L	L	L
13.3		Cultural heritage	L	VL	L	VL
14	Visual aesthetics		M	L	M	L
15	Impact on local economy (employment) and social conditions		M+	M+	M+	M+
16	Impact on transport		H	H	H	H
17	Noise pollution		L-M	L	L	L
18	Storage of hazardous substances on site		L	L	L	L
19	Impact of dust		L	VL	L	VL

**Table 1: Summary of significance of the potential impacts associated with the potential developments**

<b>KEY</b>	<b>H</b>	High Significance	<b>VL</b>	Very Low Significance
	<b>M-H</b>	Medium to High Significance	<b>N</b>	Neutral Significance
	<b>M</b>	Medium Significance	<b>H+</b>	High positive significance
	<b>L-M</b>	Low to Medium Significance	<b>M+</b>	Medium positive significance
	<b>VL-M</b>	Very Low to Medium Significance	<b>L+</b>	Low positive significance
	<b>L</b>	Low Significance		
	<b>VL-L</b>	Very Low to Low Significance		
	<b>VL</b>	Very Low Significance		
	<b>N</b>	Neutral Significance		
	<b>H+</b>	High positive significance		
	<b>M+</b>	Medium positive significance		
	<b>L+</b>	Low positive significance		

### ***Conclusions and recommendations***

The impacts associated with the proposed projects would result in regional impacts (both biophysical and socio-economic) that would negatively affect the area. The significance of these impacts **without mitigation** is deemed to be of **high or lower** significance. However, with the implementation of the recommended mitigation measures the significance of the negative impacts would be minimized and would be **medium or lower**, for all but one impact, transport but is deemed to be acceptable based on the short duration of the construction period. Associated with the proposed projects are positive impacts on energy production, on climate change, and on the local economy (employment) and social conditions, which are of **Low (+)** significance.

Based on the above, the EAP is of the opinion that both the proposed wind energy and solar energy facilities and associated infrastructure, including alternatives, being applied for be authorised as the benefits outweigh the negative environmental impacts.

The significance of negative impacts can be reduced with effective and appropriate mitigation through a Life-Cycle Environmental Management Programme (EMP), as described in the EIR. If authorised, the implementation of an EMP should be included as a condition of approval.

With regards to the alternatives considered, there is no difference in significance of impacts between technological alternatives. As such there is no preference of alternatives from an environmental perspective.

### **Way forward**

The Draft EIR has been lodged at the Springbok and Pofadder Public Libraries and on Aurecon's website ([www.aurecongroup.com](http://www.aurecongroup.com) change "Current Location" to "South Africa" and follow the Public Participation link). All registered I&APs have been notified of the availability of the Draft EIR by means of a letter which includes a copy of the Draft EIR Executive Summary. The public will have until **14 January 2013** to submit written comment on the Draft EIR to Aurecon.

I&APs have been invited to a public meeting on **12 December 2012** to present and discuss the findings of the Draft EIR at Springbok Exhibition Hall (Skousaal) at 11h00-13h00. I&APs are requested to RSVP by **7 December 2012** and should the number of RSVP's be insufficient the meeting would be cancelled

and I&APs would instead be contacted telephonically/electronically to discuss any issues and concerns they may have.

The Final EIR will be completed with the addition of any I&AP comments received. The Final EIR will then be submitted to the Northern Cape DEANC and DEA for their review and decision-making, respectively.

Once DEA has reviewed the Final EIR, they will need to ascertain whether the EIA process undertaken met the legal requirements and whether there is adequate information to make an informed decision. Should the above requirements be met, they will then need to decide on the environmental acceptability of the proposed project. Their decision will be documented in an Environmental Authorisation, which will detail the decision, the reasons therefore, and any related conditions. Following the issuing of the Environmental Authorisation, DEA's decision will be communicated by means of a letter to all registered I&APs and the appeal process will commence, during which any party concerned will have the opportunity to appeal the decision to the Minister of Environmental Affairs in terms of NEMA.

### List of Acronyms

DEA	Department of Environmental Affairs
DSR	Draft Scoping Report
EIA	Environmental Impact Assessment
EIR	Environmental Impact Assessment Report
EMP	Environmental Management Programme
FSR	Final Scoping Report
Ha	Hectare
I&AP	Interested and Affected Party
Km	Kilometer
Kv	Kilovolt
MW	Megawatts
NEMA	National Environmental Management Act

### Contact Details

Corlie Steyn / Louise Corbett  
Tel: (044) 805 5421  
Fax: (044) 805 5454

Email: [cornelia.steyn@arecongroup.com](mailto:cornelia.steyn@arecongroup.com) /  
[louise.corbett@arecongroup.com](mailto:louise.corbett@arecongroup.com)

PO Box 509  
George  
6530