

JANUARY 2016

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS



CONSTRUCTION OF THE PROPOSED ILANGA CSP 7, 8 AND 9 FACILITIES AND ASSOCIATED INFRASTRUCTURE WITHIN KAROSHOK SOLAR VALLEY DEVELOPMENT NEAR UPINGTON, NORTHERN CAPE PROVINCE

BACKGROUND INFORMATION DOCUMENT



Emvelo Eco Projects (Pty) Ltd ("Emvelo"), an independent developer of concentrating solar power (CSP) plants, is in the process of investigating **three new CSP facilities** of up to 150MW each and **associated infrastructures** (power line and access roads) to form part of the Karoshoek Solar Valley Development located approximately 30 km east of Upington within the Khara Hais and Kheis Local Municipality in the Northern Cape. The facilities are proposed on the following farm portions (refer to map attached).

- » Lot 944 Karos Settlement;
- » Portion 2 of Matjiesrivier 41;
- » Portion 3 of Matjiesrivier (Annashoek) 41;
- » Portion 4 of Trooilaps Pan 53; and
- » Portion 20 of Trooilaps Pan 53.

The purpose of the proposed CSP facilities will be to evacuate the generated power into the Eskom electricity grid. The projects are proposed to be bid into the Department of Energy's (DoE) Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Ultimately, the project will be a part of the renewable energy projects portfolio in South Africa. The nature and extent of the CSP facilities are explored in more detail in this Background Information Document (BID).

PURPOSE OF A BACKGROUND INFORMATION DOCUMENT

This document aims to provide you, as an interested and/or affected party (I&AP), with:

- » An overview of the proposed new CSP facilities to form part of the Karoshoek Solar Valley Park.
- » An overview of the Environmental Impact Assessment (EIA) process and specialist studies being undertaken to assess the potential impacts (i.e. positive and negative; as well as direct, indirect, and cumulative) of the proposed CSP facilities.
- » Details of how you can become involved in the EIA and public participation process, receive information, or raise issues, which may concern and/or interest you.

OVERVIEW OF THE PROPOSED PROJECTS

The three proposed projects are to be developed as stand-alone projects by Emvelo and will form part of the Karoshoek Solar Valley Development. The projects are planned to utilise tower technology (Sites 7 and 8 on the attached map) and trough technology (Site 9 on the attached map), and are proposed to be located on Lot 944 Karos Settlement, Portion 2 of Matjiesrivier 41, Portion 3 of Matjiesrivier (Annashoek) 41, Portion 4 of Trooilaps Pan 53 and Portion 20 of Trooilaps Pan 53. The site is located approximately 30 km east of Upington in the Khara Hais and Kheis Local Municipality (ZF Mgcau District Municipality) in the Northern Cape. The proposed site is technically preferred by virtue of climatic conditions, relief and aspect, the availability of land, and proximity to a viable point of connection to the National grid. In addition, the site is located within the Solar Development Corridor defined by the Northern Cape Provincial Government and is therefore considered to be suitably located for the proposed development.

Ilanga 7 and 8: Tower

Both Site 7 and 8 will comprise of heliostats and a molten salt tower system each with a generation capacity of ~150MW. An area of approximately 1000 ha is required for each facility. Infrastructure associated with the project includes¹:

- » Molten salt tower (MTS) up to 270m in height with surrounding heliostat field.
- » Waste management infrastructure including evaporation dams and a wastewater treatment facility.

¹Note that the associated power line infrastructure will be assessed through a separate Basic Assessment process.

- » On-site substation and associated 132kV power line linking the facility to the national electricity grid.
- » Access roads and internal access roads.
- » A water supply pipeline from the Orange River (including water treatment, storage reservoirs and evaporation ponds).

Ilanga 9: Trough

The proposed CSP project on Site 9 will comprise parabolic trough technology with a heat transfer fluid (HTF), and a generation capacity of up to 150MW. An area of approximately 800ha is required for this facility. Infrastructure associated with the facility includes:

- » Parabolic troughs utilising a heat transfer fluid (HTF).
- » Power Plant/Power Island: Power Island with steam turbine generator, auxiliary boilers, dry cooling and molten salt storage.
- » Associated infrastructure: access roads, plant substation, power line², water abstraction point and supply pipeline, water storage tanks, packaged water treatment plant, lined evaporation ponds, and workshop and office buildings.

Site-specific studies will be undertaken to assess the impact of the proposed development, and in order to delineate areas of sensitivity within mentioned farm portions. Once the constraining environmental factors have been determined, the layout for each proposed CSP facility can be finalised, and assessed in detail in the EIA Phase.

Each CSP plant will take approximately 2-3 years to construct. The construction of the entire Karoshoek Solar Valley development is expected to take approximately 5 years, taking into consideration that the construction phase for Ilanga CSP 1 has already commenced in October 2015.

CONCENTRATING SOLAR POWER (CSP) AS THE RENEWABLE ENERGY TECHNOLOGY FOR THE PROJECT

Concentrating Solar Power (CSP) plants produce electric power by converting the sun's energy into high temperature heat using various mirror configurations. The heat is then channelled through a conventional steam turbine, which drives a generator to produce electricity. The plants consist of two parts; i.e. the solar field which collects the solar fuel and converts it to heat, and the conventional power block that converts heat energy into solar thermal electricity. Some CSP systems use thermal storage and they can provide high value, round the clock, baseload and dispatchable electricity.

The above attributes, together with one of the best Direct Normal Irradiation (DNI) at the proposed site makes concentrating solar power an attractive renewable energy option for South Africa. The following provides a brief description of the CSP technologies proposed:

- » **Parabolic troughs** – the sun's energy is concentrated by parabolically curved, trough shaped reflectors onto a receiver pipe/tube running along the inside of the curved surface. The sun's energy heats the thermal fluid in the receiver pipe to produce high temperature steam which is used to generate electricity in a conventional power block. A solar field comprises of troughs in parallel rows aligned on a north-south axis. This configuration enables the single-axis troughs to track the sun from east to west during the day to ensure that the sun is continuously focused to the receiver tubes. Trough designs can incorporate thermal storage allowing for electricity generation several hours into the evening. Troughs can also be hybridised with other fuels such as coal, gas or biomass.

²Note that the associated power line infrastructure will be assessed through a separate Basic Assessment process.





Figure 1: Parabolic Troughs – Senertrough 2

» The Central **Tower** is based on concentrated solar power with an array of heliostats on a central receiver mounted atop a tower with a height of 270 metres. The molten salts running through the receiver absorb highly concentrated solar radiation in the receiver and convert it into thermal energy for use in the generation of steam, which runs the turbine and thus generates electricity.



Figure 2: The Central Tower – Gemasolar

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS AND BASIC ASSESSMENT PROCESS

In terms of the EIA Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), **Emvelo** require authorisation from the National Department of Environmental Affairs (DEA) in consultation with the Northern Cape Department of Environment and Nature Conservation (DENC) for the construction and operation of the proposed CSP facilities. In terms of Section 24(5) of NEMA, the EIA Regulations of GN R982 to GN R985; a Scoping and EIA (and a Basic Assessment for the power line) are required to be undertaken for this proposed project. In order to obtain authorisation, comprehensive, independent environmental studies must be undertaken in accordance with the EIA Regulations. Separate scoping reports and separate EIA reports will be compiled for each of the projects, i.e. for each new facility. The proposed power line associated with the facilities will be assessed through a separate Basic Assessment process.

An Environmental Assessment process is an effective planning and decision-making tool. It allows the potential environmental consequences resulting from a technical facility during its establishment and its operation to be identified and appropriately managed. It provides the opportunity for the developer to be fore-warned of potential environmental issues, and allows for resolution of the issue(s) reported on in the process, as well as for dialogue with affected parties.

Savannah Environmental (Pty) Ltd has been appointed as the independent environmental consultant to undertake the required Scoping and EIA process and Basic Assessment process to identify and assess all the potential environmental impacts associated with each project, and propose appropriate mitigation and management measures in an Environmental Management Programme (EMPr). As part of these environmental studies, I&APs will be actively involved through the public involvement process.

POTENTIAL IMPACTS ASSOCIATED WITH THE CONCENTRATING SOLAR POWER PLANTS AND ASSOCIATED INFRASTRUCTURES?

Although a solar facility utilises a renewable resource to generate electricity, the construction and operation of the proposed facility has the potential to impact on the environment in both a positive and negative manner, both directly and indirectly. A number of potential environmental impacts (both positive and negative), associated with the proposed solar facilities have been identified. These potential impacts will be assessed through the following specialist studies:

- » **Ecological impact assessment:** considering impacts on fauna and flora. The construction of the facility and the associated disturbance of vegetation and habitats may affect the ecology and biodiversity of the site.
- » **Avifaunal impact assessment:** considering impacts of the projects on avifaunal habitats and sensitive species.
- » **Impacts on soil resources:** the construction of the facility may result in soil degradation and/or resource loss through erosion.
- » **Agricultural potential:** solar facilities typically result in whole scale disturbance of a site (i.e. the vegetation underneath the heliostats and parabolic troughs will need to be cleared), resulting in the area being unavailable for agricultural activities.
- » **Heritage sites and palaeontology:** disturbance to or destruction of heritage sites and fossils may result during the construction phase through excavation activities.
- » **Water resources:** considering impacts on the aquatic environment, hydrology and hydraulics within the area and the abstraction and use of water in the generation process which may result in impacts in terms of quantity and quality of water as well as potential impacts on the riparian environment of the Orange River.
- » **Visual aesthetics:** the establishment of an industrial facility of this nature has the potential to affect the visual aesthetics within the area.
- » **Noise:** sensitive noise receptors may be affected during the construction phase and during the operational phase (i.e. due to the operation of the steam turbine and generator).
- » **Social:** the construction and operation of the facilities may result in positive socio-economic opportunities in terms of local employment as well as negative impacts in terms of safety and security and land use characteristics.

These specialist studies will be undertaken in two phases as follows:

- » The **Scoping Phase**³, where potential issues associated with the proposed project will be identified and potential significance evaluated as part of a desktop study. Areas of sensitivity within the broader site will be identified and delineated in order to identify any areas which must be avoided by the proposed development. The outcome of this phase will be a Scoping Report and Plan of Study for the EIA Phase.
- » The **EIA Phase**, which involves a detailed assessment of potentially significant impacts identified in the Scoping Phase, including consideration of direct, indirect and cumulative impacts. Practical and achievable mitigation and management measures will be recommended within a Draft Environmental Management Programme (**EMPr**).

³This process is not applicable to the Basic Assessment Process undertaken for the proposed linear infrastructure.



Specialist studies will be guided by existing information, field surveys and input from the public participation process. As an I&AP, your input is considered an important part of this process, and we urge you to become involved.

PUBLIC PARTICIPATION PROCESS

The sharing of information forms the basis of the public participation process and offers you the opportunity to become actively involved in the EIA Process from the outset. Comments and inputs from I&APs during the Scoping and the EIA Phases are encouraged in order to ensure that potential impacts are considered within the ambit of the study. The public participation process aims to ensure that:

- » Information that contains all the relevant facts in respect of the application is made available to I&APs for review.
- » I&AP participation is facilitated in such a manner that they are provided with a reasonable opportunity to comment on the proposed project.
- » Adequate review periods are provided for I&APs to comment on the findings of the draft Scoping and EIA Reports.

In order to ensure effective participation, the public participation process includes the following:

- » Distribution of this Background Information Document (BID) at the start of the process.
- » Identification of I&APs including adjacent landowners and Organs of State.
- » Placement of site notices at the affected properties and in local newspapers.
- » Compilation of an I&AP database which is updated throughout the EIA Process. All registered I&APs are personally notified at milestones in the EIA process through a stakeholder letter.
- » Notification of the release of the Draft reports (i.e. Scoping and EIA Reports and Basic Assessment Report⁴) for public review.
- » Holding public meetings, and focus group meetings with I&APs to further facilitate the participation process.

YOUR RESPONSIBILITIES AS AN I&AP

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

- » In order to participate in this EIA process, you must register yourself on the project database.
- » You must ensure that any comments regarding the proposed projects are submitted within the stipulated timeframes.
- » You are required to disclose any direct business, financial, personal or other interest which that you may have in the approval or refusal of the application for the proposed CSP facilities.

HOW TO BECOME INVOLVED

1. By **responding** by phone, fax or e-mail to the invitation for your involvement which has been advertised in newspapers.
2. By returning the **reply form** to the relevant contact person.
3. By attending the **meetings** to be held during the course of the process. As a registered I&AP you will automatically be invited to attend these meetings. Dates for public meetings will also be advertised in local newspapers.
4. By **contacting** the consultants with queries or comments.
5. By **reviewing and commenting** on the draft reports (i.e. Scoping and EIA Reports and Basic Assessment Report) within the stipulated 30-day public review periods.

⁴Applicable to the associated power line infrastructure

If you consider yourself an I&AP for this project, we urge you to make use of the opportunities created by the public participation process to provide comment, raise issues and concerns which affect and/or interest you or request further information. Your input into this process forms a key element of the EIA process.

By completing and submitting the accompanying reply form, you automatically register yourself as an I&AP for this project, and are ensured that your comments, concerns or queries raised regarding the project will be noted.

COMMENTS AND QUERIES

Direct all comments, queries or responses to:

Gabriele Wood of Savannah Environmental
PO Box 148, Sunninghill, Johannesburg, 2157

Phone: 011 656 3237

Fax: 086 684 0547

E-mail: gabriele@savannahsa.com

To view project documentation, visit

www.savannahSA.com

ILANGA CSP 7, 8 AND 9 FACILITIES AS WELL AS ASSOCIATED INFRASTRUCTURE WITHIN THE KAROSHOK SOLAR VALLEY DEVELOPMENT, NORTHERN CAPE

Locality map

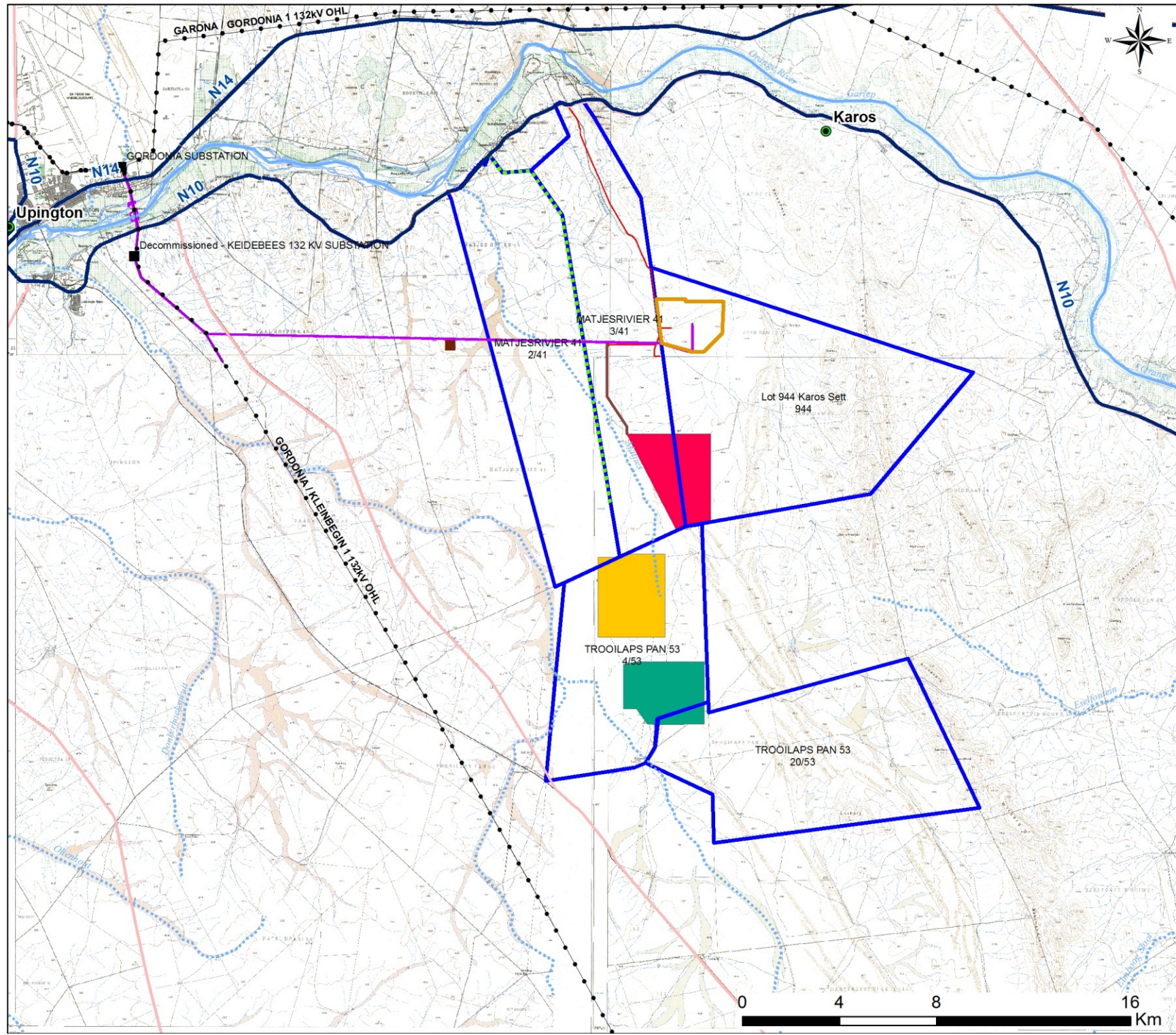
Legend

- Eskom substation
- Eskom Power Line
- National road
- Main road
- Perennial river
- ⋯ Non-perennial river
- Authorised Ilanga CSP site
- Authorised Ilanga 1 Power Line
- Proposed 400kV Substation
- Access roads
- ⋯ Water pipeline
- Power line
- Affected farm portions

Proposed CSP facilities:

- Ilanga CSP 7 (Tower)
- Ilanga CSP 8 (Tower)
- Ilanga CSP 9 (Trough)

Scale A3 1:150 000
 Projection: LG21 WGS 1984
 Map ref# Karoshok Solar Park Projects site 7, 8 & 9_Locality Map_23.11.15



JANUARIE 2016

OMGEWINGSIMPAKEVALUERINGSPROSES



OPRICHTING VAN DIE BEOOGDE ILANGA KSK 7, 8 EN 9 AANLEGTE EN GEPAARDGAANDE INFRASTRUKTUUR IN DIE KAROSHOK SONVALLEI-ONTWIKKELING NABY UPINGTON, NOORD-KAAPPROVINSIE

AGTERGRONDINLIGTINGSDOKUMENT



Emvelo Eco Projects (Edms.) Bpk. ("Emvelo"), 'n onafhanklike ontwikkelaar van konsentrenderende sonkragaanlegte (KSK-aanlegte), is in die proses om **drie nuwe KSK-aanlegte** van hoogstens 150 MW elk en **gepaardgaande infrastruktuur** (kraglyn en toegangspaaie) te ondersoek om deel uit te maak van die Karoshoek Sonvallei-ontwikkeling wat sowat 30 km oos van Upington in die Khara Hais en Kheis Plaaslike Munisipaliteit in die Noord-Kaap geleë is.

Die aanlegte word beoog op die volgende plaasgedeeltes (sien die aangehegte kaart):

- » Erf 944 Karos Nedersetting;
- » Gedeelte 2 van Matjiesrivier 41;
- » Gedeelte 3 van Matjiesrivier (Annashoek) 41;
- » Gedeelte 4 van Trooilaps Pan 53; en
- » Gedeelte 20 van Trooilaps Pan 53.

Die doel van die beoogde KSK-aanlegte sal wees om die opgewekte krag na Eskom se kragrooster te evakueer. Die voorstel is dat die projekte moet deelneem aan die Departement van Energie (DE) se Program vir die Verkryging van Hernubare Krag van Onafhanklike Kragprodusente (REIPPPP). Die projekte sal uiteindelik deel vorm van Suid-Afrika se portefeulje vir hernubare kragprojekte. Die aard en omvang van die KSK-aanlegte word van naderby in hierdie Agtergrondinligtingsdokument (AID) ondersoek.

DOEL VAN 'N AGTERGRONDINLIGTINGSDOKUMENT

Hierdie dokument poog om u, as 'n belangstellende en/of geaffekteerde party (B&GP), te voorsien van:

- » 'n oorsig van die beoogde nuwe KSK-aanlegte wat deel sal vorm van die Karoshoek Sonvalleipark;
- » 'n oorsig van die Omgewingsimpakevalueringproses (OIE-proses) en die spesialisstudies wat onderneem word om die potensiële impakte (d.i. positief en negatief, asook regstreeks, onregstreeks en kumulatief) van die beoogde KSK-aanlegte te evalueer; en
- » besonderhede van hoe u by die OIE en openbare deelnameproses betrokke kan raak, inligting kan ontvang of vraagstukke kan opper wat u dalk kan raak en/of vir u van belang kan wees.

OORSIG VAN DIE BEOOGDE PROJEKTE

Emvelo sal die drie beoogde projekte as losstaande projekte ontwikkel en dit sal deel vorm van die Karoshoek Sonvallei-ontwikkeling. Die plan is dat die projekte van toringtegnologie (Terrein 7 en 8 op die meegaande kaart) en trogtegnologie (Terrein 9 op die meegaande kaart) gebruik sal maak, en word beoog op Erf 944 Karos Nedersetting, Gedeelte 2 van Matjiesrivier 41, Gedeelte 3 van Matjiesrivier (Annashoek) 41, Gedeelte 4 van Trooilaps Pan 53 en Gedeelte 20 van Trooilaps Pan 53. Die terrein is sowat 30 km oos van Upington in die Khara Hais en Kheis Plaaslike Munisipaliteit (ZF Mgcawu Distriksmunisipaliteit) in die Noord-Kaap geleë. Die beoogde terrein geniet tegniese voorkeur op grond van klimaatstoestand, reliëf en aspek, die beskikbaarheid van grond en die nabyheid van 'n uitvoerbare konneksiepunt met die nasionale kragnet. Daarbenewens is die terrein in die Sonparkontwikkelingskorridor geleë, soos omskryf deur die Noord-Kaapse Provinsiale Regering, en word derhalwe as geskik geag vir die beoogde ontwikkeling.

Ilanga 7 en 8: Toring

Beide Terrein 7 en 8 sal bestaan uit heliostate en 'n gesmelte souttoringstelsel, elk met 'n opwekkingsvermoë van ~150 MW. 'n Gebied van sowat 1 000 ha word vir elke aanleg benodig.

Infrastruktuur wat met die projek gepaard gaan, sluit in¹:

¹ Let daarop dat die gepaardgaande kraglyninfrastruktuur deur 'n aparte Basiese Evalueeringsproses geëvalueer sal word.

- » 'n gesmelte souttoring (GST) van tot 270 m hoog met 'n heliostaatveld daarom;
- » infrastruktuur vir afvalbestuur, insluitend verdampingsdamme en 'n afvalwaterbehandelingsaanleg;
- » 'n interne substasie en gepaardgaande 132 kV kraglyn en wat die aanleg met die nasionale kragnet verbind;
- » toegangspaaie en interne toegangspaaie; en
- » 'n watertoevoerpylyn vanaf die Oranjerivier (insluitend waterbehandeling, bergings-reservoirs en verdampingsdamme).

Ilanga 9: Trog

Die beoogde KSK-projek op Terrein 9 sal uit paraboliese trogtegnologie met 'n warmteoordravloeistof (WOV) bestaan, en oor 'n opwekkingsvermoë van hoogstens 150 MW beskik. 'n Gebied van sowat 800 ha word vir hierdie aanleg benodig. Infrastruktuur wat met die aanleg gepaardgaan sluit die volgende in:

- » paraboliese trôe wat van 'n warmteoordravloeistof (WOV) gebruik maak;
- » kragaanleg/krageiland: krageiland met 'n stoomturbinegenerator, hulpketels, droog-koeling en gesmelte soutberging;
- » gepaardgaande infrastruktuur: toegangspaaie, 'n aanlegsubstasie, kraglyn², wateronttrekkingspunt en toevoerpylyn, waterbergingstenks, 'n verplaasbare waterbehandelingsaanleg, gevoerde verdampingsdamme en 'n werkwinkel en kantoorgeboue.

Terreinspesifieke studies sal onderneem word ten einde die impak van die beoogde ontwikkeling te evalueer en om sensitiewe gebiede in die bogenoemde plaasgedeeltes af te baken. Sodra die beperkende omgewingsfaktore bepaal is, kan die uitleg van elk van die beoogde KSK-aanlegte afgehandel en in detail in die OIE-fase geëvalueer word.

Elke KSK-aanleg sal sowat 2–3 jaar neem om op te rig. Die oprigting van die hele Karoshoek Sonvallei-ontwikkeling sal na verwagting sowat 5 jaar duur, wanneer in ag geneem word dat die konstruksiefase vir die Ilanga KSK-1 reeds in Oktober 2015 'n aanvang geneem het.

KONSENTRERENDE SONKRAG (KSK) AS DIE HERNUBARE KRAGTEGNOLOGIE VIR DIE PROJEK

Konsentrenderende Sonkragaanlegte (KSK-aanlegte) wek elektriese krag op deur die son se energie aan die hand van verskeie spieëlkonfigurasies om te sit in hoë temperatuurwarmte. Die warmte word dan deur 'n konvensionele stoomturbine gekanaliseer, wat 'n generator aandryf om elektrisiteit op te wek. Die aanlegte bestaan uit twee dele, naamlik die sonvelde wat die sonstrale opvang en dit omsit in warmte en die konvensionele kragblok wat die warmte-energie omsit in sontermiese elektrisiteit. Party KSK-stelsels maak gebruik van termiese berging en kan hoë waarde, 24-uur per dag basislas en evakueerbare elektrisiteit lewer.

Die bogenoemde kenmerke, tesame met een van die beste Direkte Normale Straling (DNI) by die beoogde terrein, maak konsentrenderende sonkrag 'n aanloklike hernubare kragopsie vir Suid-Afrika. Die onderstaande bied 'n bondige beskrywing van die KSK-tegnologieë wat beoog word:

- » **Paraboliese trôe** – Die son se energie word deur parabolies geboë, trogvormige reflektors gekonsentreer op 'n ontvangspyp/-buis wat aan die binnekant van die geboë oppervlak langs loop. Die son se energie verhit die termiese vloeistof in die ontvangspyp om hoë temperatuurstoom voort te bring wat gebruik word om elektrisiteit in 'n konvensionele kragblok op te wek. 'n Sonveld bestaan

¹ Let daarop dat die gepaardgaande kraglyninfrastruktuur deur 'n aparte Basiese Evalueeringsproses geëvalueer sal word.

uit trôe in parallelle rye wat op 'n noord-suid as opgestel is. Hierdie konfigurasie maak dit moontlik dat enkelas trôe die son bedags van oos na wes kan naspoor om te verseker dat die son deurlopend op die ontvangsbuise gekonsentreer is. Trogontwerpe kan termiese berging inkorporeer wat sorg vir elektriese opwekking vir 'n aantal ure nadat die son gesak het. Trôe kan ook in hibriede stelsels dien deur ander brandstowwe soos steenkool, gas of biomassa te inkorporeer.



Figuur 1: Paraboliese Trôe – Senertrough 2

- » Die Sentrale **Toring** is geskoei op konsentrerende sonkrag met 'n reeks heliostate wat op 'n sentrale ontvanger op die spits van 'n toring met 'n hoogte van 270 meter gemonteer is. Die gesmelte soute wat deur die ontvanger vloei, absorbeer hoogs gekonsentreerde sonbestraling in die ontvanger en sit dit om in warmte-energie wat vir die opwekking van stoom gebruik word om die turbine aan te dryf en sodoende elektrisiteit op te wek.



Figuur 2: Die Sentrale Toring – Gemasolar

OMGEWINGSIMPAKEVALUERINGS- EN BASIESE EVALUERINGSPROSES

Ingevolge die OIE-regulasies wat kragtens Artikel 24(5) van die Nasionale Wet op Omgewingsbestuur (NEMA, Wet 107 van 1998) gepubliseer is, verlang **Emvelo** magtiging van die Nasionale Departement van Omgewingsake (DO), in oorleg met die Noord-Kaapse Departement van Omgewingsake en Natuurbewaring (DENC), vir die oprigting en bedryf van die beoogde KSK-aanlegte. Ingevolge Artikel 24(5) van NEMA, die OIE-regulasies van Staatskennisgewing R982 tot R985, moet 'n Bestekopname en 'n OIE (en 'n Basiese Evaluering vir die kraglyn) vir hierdie beoogde projek onderneem word. Ten einde magtiging te verkry, moet omvattende, onafhanklike omgewingstudies ingevolge die OIE-regulasies onderneem word. Aparte bestekopnameverslae en aparte OIE-verslae sal vir elk van die projekte (d.i. vir elke nuwe aanleg) opgestel word. Die beoogde kraglyn wat met die aanlegte gepaard gaan, sal deur 'n aparte Basiese Evalueringsproses geëvalueer word.

'n Omgewingsevalueringproses is 'n doeltreffende beplannings- en besluitnemingswerktuig. Dit bring

mee dat die potensiële omgewingsverwante gevolge wat voortspruit uit die oprigting en bedryf van 'n tegniese aanleg, geïdentifiseer en na behore bestuur word. Dit bied die ontwikkelaar die geleentheid om vooraf gewaarsku te wees teen potensiële omgewingsvraagstukke en bied die geleentheid om die vraagstuk(ke) waaroor verslag gedoen is, asook dié wat voortspruit uit dialoog met geïmpakteerde partye, op te los.

Savannah Environmental (Edms.) Bpk. is aangestel as die onafhanklike omgewingskonsultant om die nodige Bestekopname, OIE- en Basiese Evalueringsproses te onderneem ten einde alle potensiële omgewingsimpakte wat met elk van die beoogde projekte gepaard gaan, te identifiseer en te evalueer, en om gepaste versagtings- en bestuursmaatreëls in 'n Omgewingsbestuursprogram (OBPr) voor te stel. As deel van hierdie omgewingstudies sal B&GP's aktief betrokke raak deur die openbare deelnameproses.

WAT IS DIE POTENSIËLE IMPAKTE WAT MET DIE KONSENTRERENDE SONKRAGANLEGTE EN GEPAARDGAANDE INFRASTRUKTUUR GEPAARD GAAN?

Hoewel 'n sonkragaanleg 'n hernubare hulpbron benut om elektrisiteit op te wek, het die oprigting en bedryf van die beoogde aanlegte die potensiaal om beide 'n positiewe en negatiewe impak op die omgewing te hê, regstreeks sowel as onregstreeks. 'n Aantal potensiële omgewingsimpakte (positief sowel as negatief) wat gepaard gaan met die beoogde sonkragaanlegte, is geïdentifiseer. Hierdie potensiële impakte sal deur die volgende spesialisstudies geëvalueer word:

- » **Ekologiese impakevaluering:** Met inagneming van impakte op fauna en flora kan die oprigting van die aanlegte en die gevolglike versteuring van plantegroei en habitats die terrein se ekologie en biodiversiteit affekteer.
- » **Avifauna-impakevaluering:** Skenk oorweging aan die projekte se impakte op die habitats van avifauna en sensitiewe spesies.
- » **Impakte op landboupotensiaal:** Sonkragaanlegte lei normaalweg tot 'n algehele versteuring van 'n terrein (d.i. die plantegroei onder die heliostate en paraboliese trôe sal uitgeroei moet word), wat daartoe lei dat die gebied onbeskikbaar is vir landbouaktiwiteite.
- » **Erfenisterreine en paleontologie:** Die versteuring of vernietiging van erfenisterreine en fossiele kan tydens die oprigtingsfase voortspruit weens uitgrawings wat plaasvind.
- » **Waterhulpbronne:** Met inagneming van impakte op die akwatiese omgewing, hidrologie en hidroulika in die omgewing, sowel as die onttrekking en gebruik van water in die opwekkingsproses, kan impakte met betrekking tot die hoeveelheid en gehalte van die water, en ook die oeweromgewing van die Oranjerivier voorkom.
- » **Visuele estetika:** Die oprigting van 'n industriële aanleg van hierdie aard het die potensiaal om die visuele estetika in die gebied te beïnvloed.
- » **Geraas:** Sensitiewe geraasreseptors kan geraak word ten tyde van die oprigtings- asook die bedryfsfase (d.i. weens die werking van die stoomturbine en generator).
- » **Maatskaplik:** Die oprigting en bedryf van die aanlegte kan 'n positiewe impak op sosio-ekonomiese geleenthede bied betreffende plaaslike werkgeleenthede, asook negatiewe impakte inhou ten opsigte van veiligheid en sekerheid en kenmerkende grondgebruik.

Hierdie spesialisstudies sal soos volg in twee fases onderneem word:

- » Die **Bestekopnamefase**³, waartydens potensiële kwessies wat gepaard gaan met die beoogde projekte as deel van 'n kantoor (desktop) studie geïdentifiseer en die potensiële wesenlikheid

³Hierdie proses is nie van toepassing op die Basiese Evalueringsproses wat vir die beoogde liniêre infrastruktuur onderneem word nie.



geëvalueer sal word. Sensitiewe gebiede binne die groter terrein sal geïdentifiseer en afgebaken word ten einde enige gebiede te identifiseer wat deur die beoogde ontwikkeling vermy moet word. Die resultaat van hierdie fase sal 'n Bestekopnameverslag en Plan van Studie vir die OIE-fase wees.

- » Die **OIE-fase**, wat 'n gedetailleerde evaluering van potensieel wesenlike impakte behels wat tydens die Bestekopnamefase geïdentifiseer is, insluitend oorweging van regstreekse, onregstreekse en kumulatiewe impakte. Praktiese en uitvoerbare versagtings- en bestuursmaatreëls sal in 'n Konsep Omgewingsbestuursprogram (**OBPr**) aanbeveel word.

Spesialisstudies sal toegelig word deur bestaande inligting, veldwaarnemings en insette wat voortspruit uit die openbare deelnameproses. As 'n B&GP word u insette as 'n belangrike deel van hierdie proses geag, en ons moedig u aan om betrokke te raak.

OPENBARE DEELNAMEPROSES

Die deel van inligting vorm die grondslag van die openbare deelnameproses en bied u die geleentheid om uit die staanspoor aktief by die OIE-proses betrokke te raak. Kommentaar en insette van B&GP's tydens die Bestekopname- en OIE-fase word aangemoedig ten einde te verseker dat oorweging aan potensieël impakte binne die omvang van die studie geskenk word.

Die openbare deelnameproses poog om te verseker dat:

- » inligting wat al die tersaaklike feite met betrekking tot die aansoek bevat, aan B&GP's beskikbaar gestel word vir oorsig;
- » deelname deur B&GP's op so 'n wyse gefasiliteer word dat hulle 'n redelike geleentheid gegun word om kommentaar te lewer oor die beoogde projekte; en
- » toereikende oorsigtydperke aan B&GP's gebied word om kommentaar te lewer oor die bevindinge van die konsep Bestekopname- en OIE-verslag.

Ten einde effektiewe deelname te verseker, sluit die openbare deelnameproses in die:

- » verspreiding van hierdie Agtergrondinligtingsdokument (AID) met die aanvang van die proses;
- » identifisering van B&GP's, wat naburige grondeienaars en staatsinstansies insluit;
- » aanbring van terreinkennisgewings by die geaffekteerde eiendomme sowel as plasinge in plaaslike koerante;
- » samestelling van 'n B&GP databasis wat regdeur die OIE-proses bygewerk word. Alle geregistreerde B&GP's word persoonlik in kennis gestel van mylpale in die OIE-proses deur 'n brief aan belanghebbendes;
- » kennisgewing van die vrystelling van die konsepverslae (d.i. Bestekopname, OIE- en Basiese Evalueeringsverslag⁴) vir openbare oorsig; en
- » hou van openbare en fokusgroepvergaderings met B&GP's ten einde die openbare deelnameproses verder te fasiliteer.

U VERANTWOORDELIKHEDE AS 'N B&GP

Kragtens die OIE-regulasies word u aandag gevestig op u verantwoordelikhede as 'n B&GP:

- » Ten einde aan hierdie OIE-proses deel te neem, moet u uself op die projekdatabasis registreer.
- » U moet toesien dat enige kommentaar rakende die beoogde projekte binne die gestipuleerde tydsraamwerke ingedien word.
- » Daar word van u verlang om enige regstreekse sake-, finansiële-, persoonlike- of ander belang wat u dalk mag hê in die goedkeuring of afkeuring van die aansoek vir die beoogde KSK-aanlegte, bekend te maak.

⁴Van toepassing op die geaardgaande kraglyninfrastruktuur.

HOE OM BETROKKE TE RAAK

1. Deur telefonies, per faks of per e-pos te **reageer** op ons uitnodiging vir u betrokkenheid wat in koerante geadverteer is.
2. Deur die **antwoordvorm** aan die tersaaklike kontakpersoon terug te besorg.
3. Deur die **vergaderings** by te woon wat gedurende die verloop van die proses gehou sal word. As 'n geregistreerde B&GP sal u outomaties uitgenooi word om hierdie vergaderings by te woon. Datums vir openbare vergaderings sal ook in plaaslike koerante geadverteer word.
4. Deur die konsultante te **kontak** met navrae of kommentaar.
5. Deur **oorsig en kommentaar te bied** oor die konsepverslae (d.i. die Bestekopname-, OIE- en Basiese Evalueeringsverslag), en wel binne die gestipuleerde 30-dae openbare oorsigtydperke.

Indien u uself as 'n B&GP vir hierdie projek ag, moedig ons u aan om gebruik te maak van die geleenthede wat geskep word deur die openbare deelnameproses om kommentaar te lewer, vraagstukke en knelpunte te opper wat u raak en/of waarin u belangstel of waaroor u meer inligting verlang. U insette in hierdie proses vorm 'n belangrike deel van die OIE-proses.

Deur die meegaande antwoordvorm in te vul en in te dien, registreer u uself outomaties as 'n B&GP vir hierdie projek en verseker u dat kennis geneem word van die kommentaar, knelpunte of navrae wat u betreffende die projek opper.

KOMMENTAAR EN NAVRAE

Rig alle kommentaar, navrae of antwoorde aan:

Gabriele Wood van Savannah Environmental
Posbus 148, Sunninghill, Johannesburg, 2157
Telefoon: 011 656 3237
Faks: 086 684 0547
E-pos: gabriele@savannahsa.com

Vir dokumentasie wat met die projek geaardgaan, besoek

www.savannahSA.com

ILANGA CSP 7, 8 AND 9 FACILITIES AS WELL AS ASSOCIATED INFRASTRUCTURE WITHIN THE KAROSHOK SOLAR VALLEY DEVELOPMENT, NORTHERN CAPE

Locality map

Legend

- Eskom substation
- Eskom Power Line
- National road
- Main road
- Perennial river
- ⋯ Non-perennial river
- ▭ Authorised Ilanga CSP site
- Authorised Ilanga 1 Power Line
- Proposed 400kV Substation
- Access roads
- ⋯ Water pipeline
- Power line
- ▭ Affected farm portions

Proposed CSP facilities:

- ▭ Ilanga CSP 7 (Tower)
- ▭ Ilanga CSP 8 (Tower)
- ▭ Ilanga CSP 9 (Trough)

Scale A3 1:150 000
 Projection: LG21 WGS 1984
 Map ref# Karoshok Solar Park Projects site 7, 8 & 9_Locality Map_23.11.15

