

OCTOBER 2010

**BACKGROUND INFORMATION DOCUMENT
ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**

PROPOSED ESTABLISHMENT OF THE
UYEKRAAL WIND ENERGY FACILITY

ON A SITE NEAR VREDENBURG
WESTERN CAPE PROVINCE



SUSTAINABLE
FUTURES ZA



CRENERSOL (Pty) Ltd

Creative-Renewable-Energy-Solutions



Creative-Renewable-Energy-Solutions (Pty) Ltd (“CRENERSOL”) is proposing to establish a commercial wind energy facility and associated infrastructure (referred to as the Uyekraal Wind Energy Facility) on a site located approximately 10km south-east Vredenburg in the Western Cape Province. An area which falls within the Saldanha Bay Local Municipality has been identified for consideration within an Environmental Impact Assessment (EIA). It is proposed for a cluster of up to 22 wind turbines to be constructed over an area of approximately ~5.41 km² in extent. The nature and extent of this facility is explored in more detail in this document.

AIM OF THIS BACKGROUND INFORMATION DOCUMENT

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

- » an overview of the proposed Uyekraal Wind Energy Facility project.
- » an overview of the Environmental Impact Assessment (EIA) process and studies being undertaken to assess the project.
- » details of how you can become involved in the EIA process, receive information, or raise issues, which may concern and/or interest you.

OVERVIEW OF THE PROPOSED PROJECT

The proposed wind energy facility will consist of up to 22 wind turbines with a generating capacity of up to 66 MW (each turbine having a generating capacity of up to 3MW).

As the performance of the turbines is determined by disturbances to the wind resource, they must be appropriately spaced within the facility. The overall aim of the design and layout of the facility is to maximise electricity production through exposure to the wind resource, while minimising infrastructure, operation and maintenance costs, and social and environmental impacts. The proposed turbines would be appropriately located on the identified site, which covers an area of ~5.41 km². The broader site is proposed to accommodate both the wind turbines as well as the associated infrastructure which is required for such a facility including:

- » Wind turbines (up to 100 m hub height) and concrete foundations to support them. At present, the turbines being considered for use at this wind energy facility will each be up to 3MW in capacity.
- » Cabling between the turbines, to be laid underground where practical.
- » On-site substation to facilitate the connection between the wind energy facility and the grid.
- » New overhead power line to connect to Eskom’s existing Bloukrans Substation
- » Internal access roads to each turbine.
- » Workshop area for control, maintenance and storage.

A turbine is designed to operate continuously, with low maintenance for more than 20 years. The length of the construction period for the wind energy facility is estimated to be approximately one year.

The wind energy facility is proposed on Portion 4 of the Farm Langeberg 187 and Portion 1 of the Farm Uyekraal 189, which lie ~10 km south-east of Vredenburg and ~15 km east of Saldanha Bay. MITTAL Saldanha Steel Smelter is located ~4.5km to the south of the site, with the EXARRO Namaqua Sands Smelter and Namaqua Substation ~4.5km north of the site. The Laangebaanweg Air Force Base is located ~7 km - 11 km to the north-east of the study site.

PROJECT MOTIVATION

The site for the proposed Uyekraal Wind Energy Facility has been identified by CRENERSOL as a highly desirable site based on extensive pre-feasibility analysis of significant areas in the Western Cape Province. The site displays characteristics which make it a preferred site for a wind energy facility, including the following:

- » The topography of the area (open plain) is suitable for wind energy facility development.
- » The broader study area is characterised by industrial and agricultural land-use which is compatible with wind energy facility development. The Saldanha industrial area extends northwards from the Iron-Ore Export Harbour.
- » The study area is located on the fringe of the proposed Industrial Development Zone (IDZ) for the Saldanha Bay Local Municipality.
- » The site is located inland and occurs more than 5 km from the coastline (high water mark).
- » The site is located in close proximity to distribution power lines and the Bloukrans and Namaqua Substations, thereby limiting the need for lengthy power lines for evacuation of electricity into the grid.
- » The majority of the site is transformed by cattle grazing and historical agricultural practices.

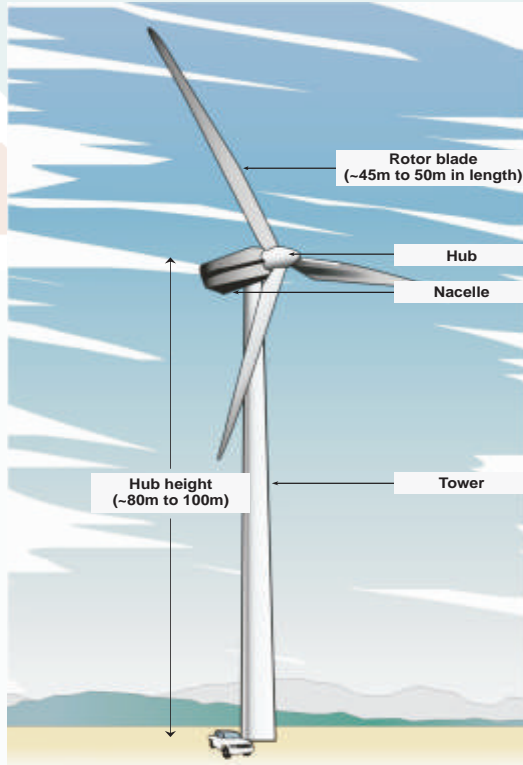
From the pre-feasibility analysis and site identification process undertaken, CRENERSOL consider the Uyekraal site a highly preferred site for wind energy facility development. Monitored data is to be recorded from an 80 m wind monitoring mast (authorisation for the mast was received in June 2010 under the DEA Reference number 12/12/20/1750).

MORE ABOUT WIND TURBINES

A wind energy facility consists of multiple wind turbines which are used to capture the kinetic energy of the wind for the purposes of generating electricity. This captured kinetic energy is used to drive a generator located within the wind turbine and the energy is subsequently converted into electrical energy. A typical wind turbine consists of four primary components:

- » The foundation unit upon which the turbine is anchored to the ground
- » The tower which is typically between 80m and 120m in height
The tower is a hollow structure allowing access to the nacelle. The height of the tower is a key factor in determining the amount of electricity a turbine can generate. The tower houses the transformer which converts the electricity to the correct voltage for transmission into the grid.
- » The nacelle (generator/turbine housing)
The nacelle houses the gearbox and generator as well as a wind sensor to identify wind direction. The nacelle turns automatically ensuring the blades always face into the wind to maximise the amount of electricity generated.
- » The rotor which is comprised of three rotor blades
The rotor blades use the latest advances in aeronautical engineering materials science to maximise efficiency. The greater the number of turns of the rotor the more electricity is produced.

The mechanical power generated by the rotation of the blades is transmitted to the generator within the nacelle via a gearbox and drive train. The wind turns the blades, which in turn spin a shaft which connects to a generator and makes electricity. The use of wind for electricity generation is essentially a non-consumptive use of a natural resource, and produces zero greenhouse gas



emissions. A wind energy facility also qualifies as a Clean Development Mechanism (CDM) project.

The amount of energy a turbine can harness is dependent on the wind velocity and the length of the rotor blades. Wind turbines start generating power at wind speeds of between 3 and 5 m/s, with speeds between 8 and 12 m/s required for full power operation. In a situation where wind speeds are excessive, the turbine automatically shuts down to prevent damage.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

In terms of the EIA Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, No 107 of 1998), CRENERSOL (Pty) Ltd requires authorisation from the National Department of Environmental Affairs (DEA) (and in consultation with the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)) for the undertaking of the proposed project. In terms of sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations of GN R385 (Regulations 27–36) and R387, a Scoping and EIA are required to be undertaken for this proposed project. In order to obtain authorisation for this project, comprehensive, independent environmental studies must be undertaken in accordance with the EIA Regulations. This project has been registered with National DEA under Application Reference number 12/12/20/1737.

An EIA 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 forewarned of potential environmental issues, and allows for resolution of the issue(s) reported on in the EIA report as well as dialogue with affected parties.

CRENERSOL has appointed Savannah Environmental, as independent consultants, to undertake a Scoping and Environmental Impact Assessment to identify and assess all potential environmental impacts associated with the proposed project for the area as identified, and propose appropriate mitigation measures in an Environmental Management Plan (EMP). As part of these environmental studies, I&APs will be actively involved through the public involvement process being undertaken by Sustainable Futures.

The phases of an EIA are as follows:



EIA PROCESS

WHAT ARE THE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT?

A number of potential environmental impacts associated with the proposed project have been identified. These potential impacts will be assessed through the following specialist studies:

Biophysical Impacts	Social Impacts
Impacts on Agricultural Potential: impacts on the potential of agricultural areas and on the capability of the land.	Social Impacts: positive and negative may occur from the construction and operation of the wind energy facility (i.e. employment opportunities and impacts on local land use).
Impacts on Geology: impacts on geology may relate to the underlying soil conditions and erosion potential of the site.	Impacts on Heritage Sites and Fossils & Paleontology: disturbance to or destruction of heritage sites/fossils/paleontology may result during the construction phase.
Impact on Avifauna: birds may be impacted through collision with the blades of the wind turbines as well as associated power line during the operational phase.	Visual Quality and Aesthetics: due to their height, wind turbines have the potential to have a visual impact on the surrounds and on sensitive visual receptors.
Impacts on Ecology, Fauna and Flora: the construction of the wind energy facility and the associated disturbance of vegetation may impact on the ecology of the site.	

These specialist studies will be undertaken in two phases:

1. The Scoping Phase includes a desk-top study, wherein potential issues associated with the proposed project are identified and evaluated, and those issues requiring further investigation through the EIA phase are highlighted.
2. The EIA Phase includes a detailed assessment of potentially significant impacts identified in the Scoping Phase. Practical and achievable mitigation measures will be recommended in order to minimise potentially significant impacts identified. These recommendations will be included within a draft EMP.

Specialist studies will be informed by existing information, field observations 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 INVOLVEMENT PROCESS

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

The public involvement process aims to ensure that:

- » Information containing all relevant facts in respect of the application is made available to I&APs for review.
- » Participation by potential I&APs is facilitated in such a manner that I&APs are provided with a reasonable opportunity to comment on the application.
- » 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 involvement process includes the following 4 phases:



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 project 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 wind energy facility.

HOW TO BECOME INVOLVED

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

If you consider yourself an I&AP for this proposed project, we urge you to make use of the opportunities created by the public involvement process to provide comment, or raise those issues and concerns which affect and/or interest you, and about which you would like more 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:

Shawn Johnston of Sustainable Futures ZA
PO Box 749, Rondebosch, CAPE TOWN, 7701

Phone: 083 325 9965

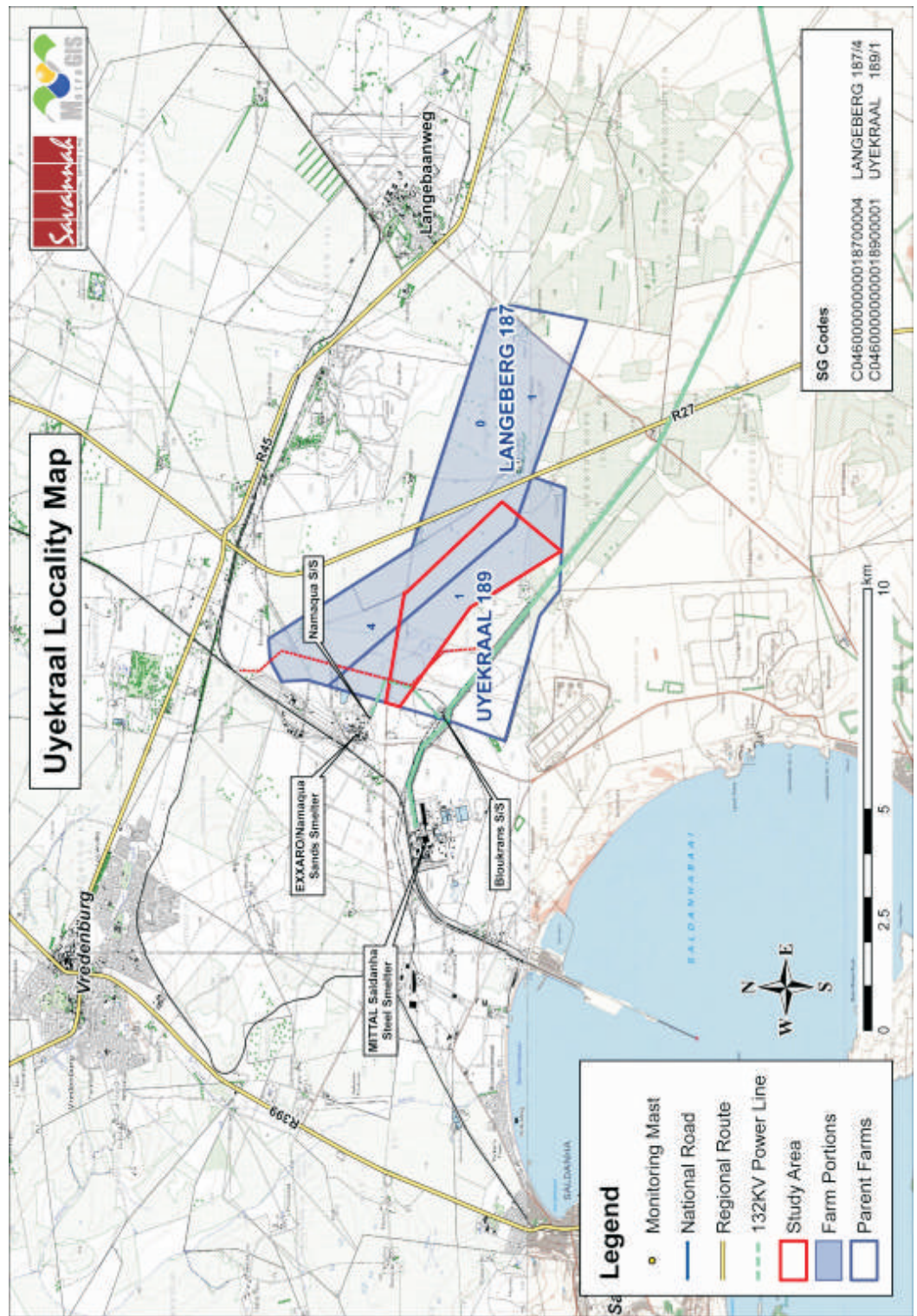
Fax: 086 510 2537

E-mail: swjohnston@mweb.co.za

To view project documentation, visit

www.savannahSA.com

Uyekraal Locality Map



Legend

- Monitoring Mast
- National Road
- Regional Route
- 132KV Power Line
- Study Area
- Farm Portions
- Parent Farms

SG Codes

- C04600000000018700004 LANGEBERG 187/4
- C04600000000018900001 UYEKRAAL 189/1



Scale: 0, 2.5, 5, 10 km

Namaqua SIS

EXXARO/Namaqua Sands Smelter

MITTAL Saldanha Steel Smelter

Bloukrans SIS

LANGEBERG 187

UYEKRAAL 189

Langebaanweg

Vredenburg

R45

R27

R399

BALDANWAAIER

BALDANWAAIER

Sald