

MAY 2012

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

GAROB WIND ENERGY FACILITY PROJECT

NORTHERN CAPE PROVINCE

A juwi Renewable Energies (Pty) Ltd Development Project

BACKGROUND INFORMATION DOCUMENT



Juwi Renewable Energies (Pty) Ltd has identified a site near Copperton within the Siyathemba Local Municipality (Northern Cape Province) for the establishment of a wind energy facility development. The wind energy facility will be referred to as the Garob Wind Farm (DEA Ref: 14/12/16/3/3/2/279).

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 Garob Wind Farm Project
- » An overview of the Environmental Impact Assessment Process and the relevant specialist studies being undertaken to assess the potential impacts associated with 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 PROJECT

The wind energy facility is proposed to be located on portion 5 of the Farm Nelspoortje 103 east of Copperton within the Siyathemba Local Municipality, Northern Cape Province. An area approximately 5520 ha in extent (i.e. a broader area) is being considered within which the proposed facility is to be constructed, although the developmental footprint will be smaller in extent. The majority of the site is located on plains, with the southern portion located on strongly undulating plains and hills. The Burchell-Cuprum 132kV distribution power line traverses the northern portion of the site, while the R357 from Copperton to Prieska traverses the southern boundary of the site. A railway line lies south of the site.

The proposed site for the wind energy facility was tested through a Site Screening Assessment for Wind Development which was completed in September 2011. The results of the feasibility reporting were favourable, and no other site alternatives have been identified for investigation for the proposed wind energy facility developments.

The facility will install up to 55 turbines with a generating capacity of up to 3MW each, with a hub height of up to 120m and a rotor diameter of up to 120m. The entire facility would have a capacity of up to 140 MW. Infrastructure associated with the wind energy facility is proposed to include:

- » Wind turbines of between 2 – 3MW in capacity
- » Concrete foundations to support the turbines
- » Cabling between the turbines, to be laid underground where practical, which will connect to an on-site substation.
- » An on-site substation to facilitate the connection between the wind energy facility and the electricity grid
- » A 132 kV overhead power line to connect to the Cuprum Substation

- » Internal access roads to each turbine (approximately 6 m in width) linking the wind turbines and other infrastructure on the site. Existing roads will be used as far as possible
- » Workshop area / office for control, maintenance and storage

The construction of the facility will require a workforce comprising low, semi-skilled and highly skilled staff. The operational phase is estimated at approximately 20 years. Each turbine is designed to operate continuously and with low maintenance.

Site-specific studies and assessments are currently being undertaken through an Environmental Impact Assessment process in order to evaluate the environmental suitability of the proposed project, and to delineate any areas of environmental sensitivity within the study area which should be excluded from development. The exact positioning or detailed layout of the components of this proposed wind energy facility will be finalised by taking cognisance of the wind resource on the site as well as the environmental sensitivities and mitigation measures identified through the EIA process. A final layout of the turbines within the facility would be prepared prior to construction following the completion of detailed environmental investigations and on-site wind monitoring.

THE NEED FOR THE PROJECT

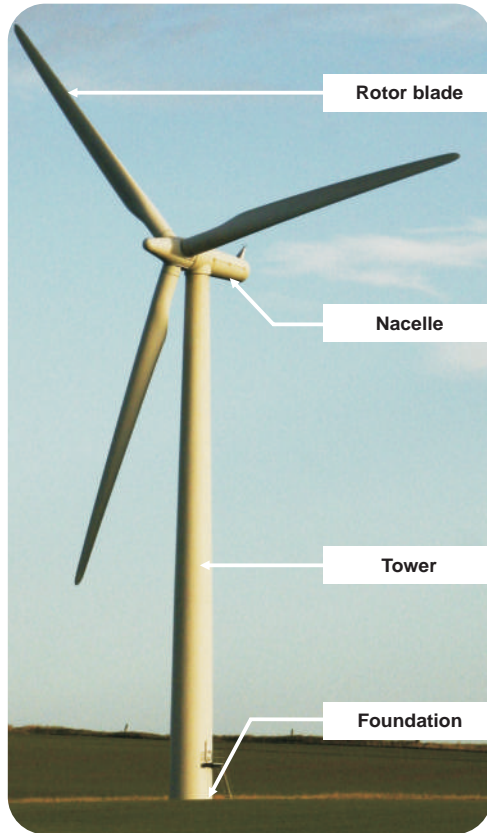
The need to expand electricity generation capacity in South Africa is based on national policy and informed by on-going strategic planning undertaken by the Department of Energy (DoE) and the National Energy Regulator of South Africa (NERSA). The South African Government has recognised the need to diversify the mix of energy generation technologies within the country, and also to reduce the country's reliance on fossil fuel derived power generation. As a result, and in order to meet the long-term goal of a sustainable renewable energy industry, the South African Government has set a target of 17GW renewable energy contribution to new power generation capacity by 2030. This is to be produced mainly from biomass, wind, solar and small-scale hydro. The proposed juwi Renewable Energies (Pty) Ltd Wind Energy Facility aims to assist government in meeting this goal.

WIND POWER AS A POWER GENERATION TECHNOLOGY

Wind turbines use the energy from the wind to generate electricity. In essence, the blades of the turbine are turned by the wind and the energy captured is converted into electrical energy and supplied to the electricity grid for use in homes and elsewhere. Wind power is regarded as a non-consumptive use of a natural resource, which produces an insignificant quantity of greenhouse gases in its life cycle. Wind power consumes no fuel for continuing operation, and has no emissions directly related to electricity production.

A wind turbine typically consists of three rotor blades and a nacelle mounted at the tip of a tapered tower. The rotational power generated by the turbine blades is transmitted to the generator housed

within the nacelle via a gearbox and drive train.



ENVIRONMENTAL IMPACT 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), juwi Renewable Energies (Pty) Ltd requires 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 renewable energy facility. In terms of sections 24 and 24D of NEMA, as read with the EIA Regulations of GN R543, R544, R545 and R546, a Scoping Phase and an EIA 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. As such, the project as well as the associated substation and power line has been registered with the National DEA under following application reference number; (DEA Ref: 14/12/16/3/3/2/279).

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 applicant 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 I&APs.

juwi Renewable Energies (Pty) Ltd has appointed Savannah Environmental, as the independent environmental consultants, to undertake the required Scoping Phase and Environmental Impact Assessment to identify and assess all the potential environmental impacts associated with the proposed project, and propose appropriate mitigation and management measures in an Environmental Management Programme (EMP). As part of these environmental studies, I&APs will be actively involved through the public involvement process being undertaken by Savannah Environmental and Sustainable Futures ZA.

The EIA process comprises of the following 4 primary phases:



POTENTIAL IMPACTS ASSOCIATED WITH THE ESTABLISHMENT OF A WIND ENERGY FACILITY

Although a wind energy facility utilises a renewable resource to generate electricity, the construction and operation of such a facility has the potential to impact on the environment both negatively and positively. The following impacts are typically associated with wind energy facilities:

- » Visual impacts - due to their height, wind turbines have the potential to visually impact on the surrounding area.
- » Noise impacts - the low frequency noise associated with the rotation of the blades as well as the noise associated with the generator may result in noise emissions which could affect sensitive receptors located in close proximity to the facility.
- » Impacts on avifauna and bats - bird and bat species may be affected through collisions with the turbine blades, electrocution associated with the power line, and through habitat disturbance during the construction phase.
- » Impacts on ecology - the construction of the wind energy facility and the associated habitat disturbance and transformation may result in impacts on the biodiversity of the area.
- » Impacts on heritage sites - disturbance to or destruction of heritage sites may result during the construction of the wind energy facility.
- » Impacts associated with erosion potential and agricultural potential - the

construction activities may result in increased erosion on the site and/or loss of agricultural land.

- » Impacts on the social environment - the construction and operation of the facility may result in limited job opportunities and the generation of additional capacity will have an indirect but positive impact through the generation of electricity by means of renewable technology.

These potential impacts will be assessed through the specialist studies which will be undertaken in two phases as follows:

1. A Scoping Study, wherein potential issues associated with the proposed project will be identified, described and evaluated. Sensitive environmental features on the development site will be identified and mapped.
2. 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 Environmental Management Programme (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 PARTICIPATION PROCESS

The sharing of information forms the basis of the public participation process and offers I&APs the opportunity to become actively involved from the outset. This 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 Environmental Impact Assessment Report.

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, 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 project.

HOW TO BECOME INVOLVED

- » By responding (by phone, fax, or e-mail) to our invitation for your participation which has been advertised.
- » By returning the attached reply form to the relevant contact person.
- » 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.
- » By contacting the consultants with queries or comments.

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

COMMENTS AND QUERIES

Direct all comments, queries or responses to:

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To view project documentation, visit
www.savannahSA.com

Garob Wind Energy Facility near Copperton, Northern Cape

Locality Map

Legend

-  National Road
-  Regional Road
-  Secondary Road
-  Railway Line
-  Perennial River
-  Non-perennial River
-  Power Line
-  Distribution Substation
-  Transmission Substation
-  Farm portion

