

JULY 2011

ENVIRONMENTAL BASIC ASSESSMENT PROCESS

PROPOSED ESTABLISHMENT OF THE

# COOKHOUSE II WIND ENERGY FACILITY

EASTERN CAPE

## BACKGROUND INFORMATION DOCUMENT



African Clean Energy Developments (Pty) Ltd (“ACED”) is proposing to establish a commercial wind energy facility on a site located approximately 20 km east of the town of Cookhouse in the Eastern Cape Province.

The site for the proposed Cookhouse II Wind Energy Facility comprises land directly adjoining the ACED Renewables Cookhouse (Pty) Limited 200 turbine Wind Energy Facility, which was authorised in May 2010. This proposed development is known as the Cookhouse II Wind Energy Facility. This project requires Environmental Authorisation from the Department of Environmental Affairs (DEA), who have approved the request for downscaling from a Scoping and EIA to a Basic Assessment process, in terms of Regulation 20(4) of GN543. The project is proposed on the following farm portions: Van Wyks Kraal 73 (Portions 0 – remaining extent, 1 and 4), Roberts Kraal 72 (Portion 0 remaining extent), Gallants Kloof 70 (Portion 3), Request 71 (Portion 0 remaining extent, Portion 11, Portion 12) and Farm 75 (Portion 2) (refer to attached map).

The site proposed for the facility falls within the Blue Crane Route Local Municipality. A broader area of approximately 35 km<sup>2</sup> is being considered within which the facility is to be constructed. The nature and extent of this facility is explored in more detail in this Background Information Document (BID).

### Aim of this Background Information Document

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

- » An overview of the proposed Cookhouse II Wind Energy Facility.
- » An overview of the Environmental Basic Assessment process and studies being undertaken to assess the potential impacts, both positive and negative, associated with the proposed project.
- » Details of how you can become involved in the process, receive information, or raise issues, which may concern and/or interest you.

### Overview of the Proposed Project

The proposed Cookhouse II Wind Energy Facility would comprise up to 50 wind turbines. Since 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.



Other infrastructure associated with the facility will include:

- » Up to 50 wind turbines with foundations to support the turbine towers;
- » Cabling between turbines, to be laid underground where practical;
- » Up to two substations to facilitate the connection to the grid
- » Overhead power lines either feeding into the existing Eskom Poseidon substation or tying into existing overhead transmission lines
- » Internal access roads to each wind turbine.
- » Workshop area for maintenance and storage if required.

## Wind Turbines

Wind Energy Facilities consist of multiple wind turbines which are used to capture the kinetic energy of the wind. This kinetic energy is then 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:

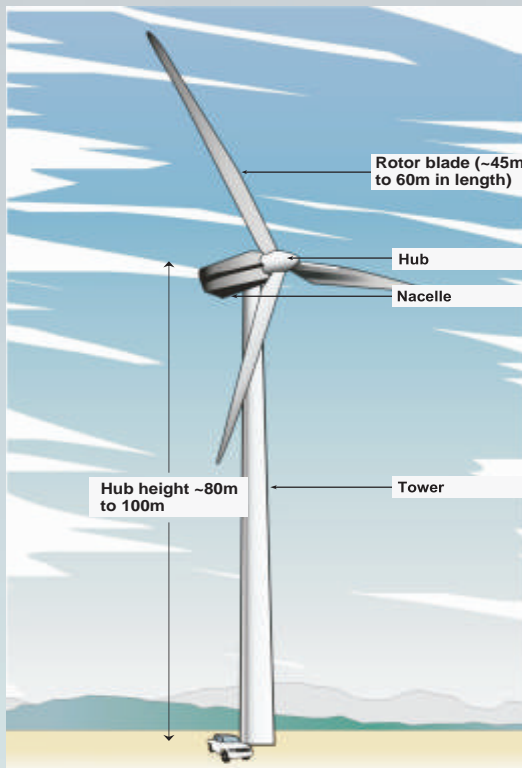


Figure 1: Illustration of the main components of a wind turbine



- » The foundation unit upon which the turbine is anchored to the ground;
- » The tower which typically reaches 80m – 100m;
- » The nacelle (generator/turbine housing); and
- » The rotor which is comprised of the rotor blade (up to 60 m in length) and the rotor tip.

The mechanical power generated by the rotation of the blades is transmitted to the generator within the nacelle via a gearbox and a drive train. The wind turns the blades, which in turn spin a shaft which connects to a generator and generates electrical power. 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 10-15 km/hour, with speeds between 45-60 km/hour required for full power operation. In a situation where wind speeds are excessive, the turbine automatically shuts down to prevent damage. The rotor diameter will be up to 120 m in length (i.e. each blade will be up to 60 m in length).

ACED have been monitoring on site wind conditions for in excess of 2 years and are considering various site layouts in order to maximise the generating capacity and minimise the potential environmental impacts of the site. Decisions regarding the final design of the facility will be made following further analyses.

A facility consisting of up to 50 turbines will take approximately 2 years to construct and commission, and requires the expertise of skilled staff. A turbine is designed to operate continuously, with low maintenance for more than 20 years.

### Environmental Basic Assessment Process

In terms of the Environmental Impact Assessment (EIA) Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), ACED requires authorisation from the National Department of Environmental Affairs (DEA) (in consultation with the Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)) for the construction and operation of the proposed renewable energy facility. 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 R543 – R546 a Scoping and EIA process is required to be undertaken for the proposed project. However based on the motivation supplied to the National Department of Environmental Affairs in terms of GN R543 20(4), a downscaling from a full EIA to a Basic Assessment Process has been approved for the proposed project. The Site is almost entirely surrounded by an authorised wind energy facility. This project could be considered as infill development of a similar nature. The environmental impacts for the proposed development are known for this area, and as this site has been subject to some level of scoping during the previous EIA undertaken for the adjacent facility, it is considered that the competent authority will be able to reach a decision on the basis of a Basic Assessment.



In order to obtain authorisation, comprehensive, independent environmental studies must be undertaken in accordance with the EIA Regulations. This project has been registered with the National DEA under application reference number 12/12/20/2290.

A Basic Assessment 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 fore-warned of potential environmental issues, and allows for resolution of the issue(s) reported on in the report as well as dialogue with I&APs.

ACED has appointed Savannah Environmental, as the independent environmental consultants, to undertake the required Basic Assessment to identify and assess all the potential environmental impacts associated with the proposed project, and proposes appropriate mitigation and management measures in an Environmental Management Plan (EMP). As part of these environmental studies, I&APs will be actively involved through the public involvement process also being undertaken by Savannah Environmental.

### What Are The Potential Environmental Impacts Associated With The Proposed Project?

A number of potential environmental impacts, both positive and negative, associated with the proposed Cookhouse II Wind Energy Facility have been identified. These include the following:

- » Visual quality and aesthetics: due to their size, wind turbines have the potential to have a visual impact on the surrounding area.
- » Noise impacts: the rotation of the blades may result in noise emissions which could impact on nearby residents.
- » Impacts on avifauna: birds and bats may be impacted through collision with the blades during operation of the wind energy facility.
- » Impacts on ecology, fauna and flora: the construction of the wind energy facility and the associated disturbance of vegetation may result in impacts on ecology.
- » Impacts on the social environment: the construction and operation of the facility may result in limited job opportunities and could impact on local land use.
- » Impacts on heritage sites and fossils/palaeontology: disturbance to or destruction of heritage sites and fossils/palaeontology may result during the construction of the wind energy facility.
- » Impacts on agricultural potential: Impacts on agricultural areas and potential, and land capability.



Specialist studies will be undertaken to assess these and any additional potential impacts associated with the proposed facility.

All reasonable and feasible alternatives will be assessed within the Basic Assessment process. The potential environmental impacts associated with not undertaking the proposed project will also be explored through the EIA process. Specialist studies will be guided 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 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 Basic 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 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 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 Basic Assessment Report 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

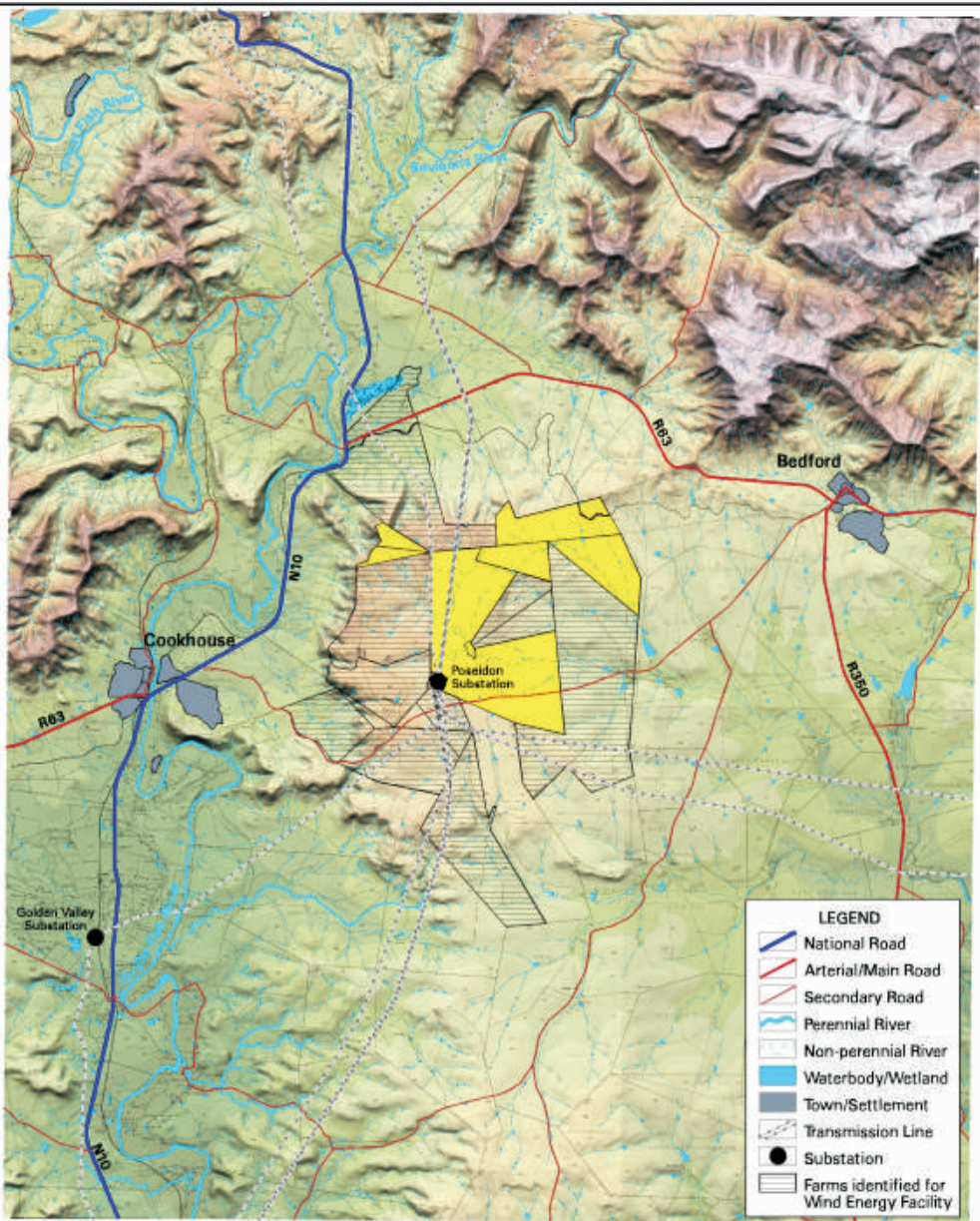
Direct all comments, queries or responses to:

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](mailto:swjohnston@mweb.co.za)

To view project documentation, visit

[www.savannahSA.com](http://www.savannahSA.com)





 **AUTHORISED COOKHOUSE WIND ENERGY FACILITY**

 **PROPOSED COOKHOUSE 2 WIND ENERGY FACILITY**

Includes the following farms (ISG-code in brackets):

- Remaining extent of farm Request 71 (C01000000000007100000)
- Portion 11 of farm Request 71 (C01000000000007100011)
- Portion 12 of farm Request 71 (C01000000000007100012)
- Remaining extent of farm Request 72 (C01000000000007200000)
- Portion 1 of the farm Van Wyks Kraal 73 (C01000000000007300001)
- Remaining extent of farm Van Wyks Kraal 73 (C01000000000007300000)
- Portion 4 of farm Van Wyks Kraal 73 (C01000000000007300004)
- Portion 2 (Hillbrow) of farm 75 (C01000000000007500002)
- Portion 3 (Spitskop) of farm Gallants Kloof 70 (C01000000000007000003)

