STEP 5:
Draft EIA Report and EMP for I&AP Review

The Draft EIA Report (including the draft EMP) will be released for a 40 day I&AP review period. I&APs registered on the project database will be notified in writing of the review period and public meetings. Comments received from I&APs and authorities via meetings held or via written correspondence are compiled into a Comments and Responses Trail for inclusion in the Final EIA Report. The Comments and Responses Trail will indicate the nature of the comment, when and who raised the comment as well as indicate how the comment received has been considered in the Final EIA Report, in the project design or EMP for the project.

STEP 6:
Final EIA Report and Draft EMP

The Final EIA Report, including the Comments and Responses Trail and Draft EMP will be compiled for submission to the authorities for decision making (DWEA). All I&APs of the project database will be notified in writing of the submission of the Final EIA Report.

STEP 7:
Notify I&APs of Environmental Authorisation and Appeal Period.

All I&APs on the project database will be notified in writing regarding the environmental authorisation for the project and the appeal period, as well as the manner of appeal.

HOW CAN YOU GET INVOLVED?

1. By registering your interest in the project with the consultant indicated below
2. By responding to our invitation for your involvement advertised in local newspapers.
3. By mailing or faxing a comment form to the participation consultant indicated below.
4. By telephonically contacting the participation consultant if you have a query, comment, or require further project information.
5. By reviewing the various reports within the 40-day comment period.
6. By attending any feedback meetings, which may be held during the review period. Should you be registered as an I&AP you will be invited to attend these meetings.

Public Process Consultants
Environmental Impact Assessment and Public Participation Management

WHO SHOULD YOU CONTACT?

Sandy Wren, Public Process Consultants
PO Box 27688, Greenacres, 6057
Phone : 041 - 374 8426 • **Fax :** 041 - 373 2002
Cell : 082 4909 828 • **Email :** sandy@publicprocess.co.za

Website for information on this EIA process:
www.publicprocess.co.za

electrawinds
POWERED BY NATURE

www.simonsays.co.za

Environmental Impact Assessment
Background Information Document

November 2009

Development of a 57.5 MW Wind Energy Project

in the Coega Industrial Development Zone, near Port Elizabeth, Eastern Cape

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Public Process Consultants

BACKGROUND

Electrawinds NV is a Belgian based company specialising in renewable energy, including wind, solar and biomass, and have been supplying such energy to households all over Europe whilst contributing to the reduction of carbon dioxide (CO_2) emissions. They have become one of the largest renewable energy enterprises in Belgium since their establishment in 1998. Electrawinds is proposing to establish a commercial wind energy project in the Coega Industrial Development Zone (IDZ), located in the Nelson Mandela Bay Municipality (NMBM), near Port Elizabeth in the Eastern Cape Province. The Electrawinds project is being developed in two phases:

i. Phase 1 includes one wind monitoring mast and a single turbine of approximately 2.3 MW, which is currently the focus of a Basic Assessment Process (DWEA Reference number: 12/12/20/1680).
ii. Phase 2 includes 25 turbines of approximately 2.3 MW each and is the subject of this full EIA.

WHAT DOES THIS DOCUMENT TELL YOU

This document provides you, as an interested and affected party (I&AP) with the following:

- Background information on the proposed project;
- EIA process that will be undertaken; and
- Details on how you can be involved in the Public Participation process, receive information and raise issues.

The sharing of information forms an important component of the Public Participation process and provides you with the opportunity to become actively involved in the EIA process from the outset. The input received from I&APs together with the specialist investigations assists the responsible authority, in this instance the national Department of Water and Environmental Affairs (DWEA), with their decision-making.

OVERVIEW OF THE PROJECT

The intention of this project is to generate additional electricity that will feed into the national or the Metro grid by installing a wind farm with a maximum capacity of approximately 57.5 MW. At a national level, renewable energy has the potential to play an important role in South Africa through diversifying the sources of power generation and reducing the carbon footprint from fossil fuel power generation, such as coal fired power stations. Currently, approximately 90% of South Africa's power generation is derived from coal. The favourable renewable energy feed-in tariffs released by government in April 2009 provide an important catalyst to promote the use of wind energy in South Africa.

At a provincial level, the project aims to assist the Eastern Cape in obtaining improved energy stability and security. This province is reliant on electricity imports from other provinces. The project would improve the capacity for this province to enhance development which is currently hampered by the shortage of supplementary power supply, especially for projects proposed in the IDZ that could have extensive socio-economic benefits.

At a local scale, the Nelson Mandela Bay Municipality has embarked on a renewable energy campaign to provide at least 10% of its energy from renewable sources, such as wind and solar. This Electrawinds project at Coega could contribute approximately 8% of the Metro's current power needs, when the turbines are at full generation capacity.

The key components of the project are:

- 25 turbines of approximately 2.3 MW each. At this stage of the project planning the exact turbine technology is still to be selected and the Siemens 2.3 MW turbine (Figure 1) is used as a typical example of the type of turbine envisaged. This turbine has a hub height of approximately 100 m, blade diameter of between 93 and 101 m, and a base of 16 m x 16 m x 2.5 m depth.
- Gravel access roads to the turbines, with the intent being to upgrade existing roads as far as possible.
- Construction of hard standing areas for use by cranes during construction and retained for possible maintenance use.
- Power line connection between wind turbines and via a sub-station to the Eskom / Metro grid. The wind turbines will be connected to the grid with underground lines, except possibly where the cables may need to cross a valley / gulley, where the connecting lines would be above ground.

To produce electricity, the rotor blades rotate around the horizontal hub, which is connected to a gearbox and generator located in the nacelle. The blades are turned by the wind, which spins the shaft, connected to the generator which then produces the electricity. In this way, the wind turbine generates electricity in a non-consumptive manner, without producing any green house gas emissions.

The turbines can operate at a range of wind speeds. For example, for the Siemens 2.3 MW turbine, the blades can rotate at between 15 – 20 revolutions per minute. These turbines can start producing electricity at minimum wind speeds of 4 m/s (approx 14 km/h) of wind, with nominal power output at 12 – 13 m/s (43 – 47 km/h). During continuously extreme winds over more than 25 m/s (> 90 km/h) the turbine shuts down to prevent damage. However, the turbine can accommodate 3 second gusts of up to 55 m/s (198 km/h).

Even though wind turbines are tall, they do not require extensive land space. The base of the turbine is 16 m x 16 m, which allows other activities to continue around the turbine. Wind turbines are mostly tubular and painted white or light grey as these colours are inconspicuous under most lighting conditions and help to reduce light reflection.

It is anticipated that the construction and commissioning phase of the project will require 12 months. The operational life of the wind turbines is expected to be a minimum of 25 years and can be extended beyond 25 years through regular maintenance and/or upgrades in technology.

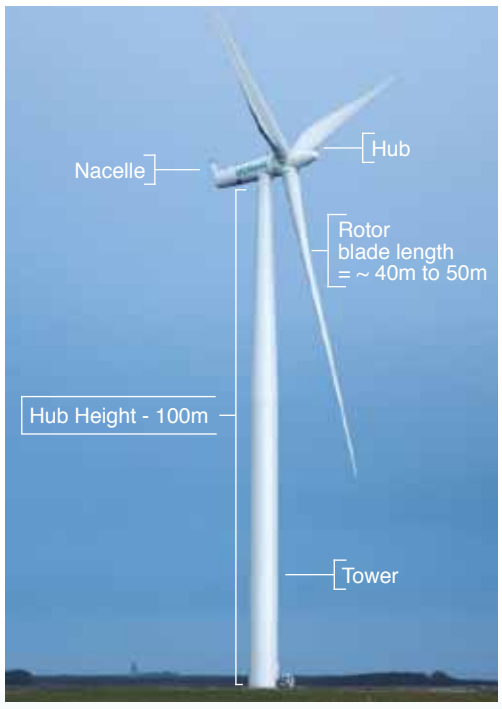


FIGURE 1: SIEMENS 2.3 MW WIND TURBINE, WHICH IS INDICATIVE OF THE TYPE OF WIND TURBINE ENVISAGED FOR THIS PROJECT.

PROJECT LOCATION AND LAYOUT

The Coega IDZ was chosen as the preferred location for the establishment of the wind farm based on the following key criteria:

(i) It is an industrial zone, which includes masts, power lines, substations and other tall structures;
(ii) The wind regime in the coastal and higher lying areas of the IDZ is favourable for such a development; and
(iii) The electricity created will feed into the national (Eskom) or Metro electricity grid which will contribute toward the Metro's target of 10% renewable energy usage.

An area that is potentially available for the establishment of wind turbines has been identified following consultation with the Coega Development Corporation (CDC) and is shown on the locality map in this document. The detailed siting of the turbines will be done during the EIA process and taking into account the findings of the EIA.

ENVIRONMENTAL ASSESSMENT PROCESS

In terms of Regulations 385, 386 and 387 promulgated under Chapter 5 of the National Environmental Management Act (NEMA, Act 107 of 1998) in Government Gazette 28753 on 21 April 2006, an environmental assessment process is required for the proposed wind farm. A full Scoping and Environmental Impact Assessment (EIA) will be conducted because, amongst others, it includes the following activity under R 387:

1. "The construction of facilities or infrastructure, including associated structures or infrastructure, for –
(a) the generation of electricity where -
(i) the electricity output is 20 megawatts or more; or
(ii) the elements of the facility cover a combined area in excess of 1 hectare."

The listed activity requires authorisation from the National Department of Water and Environmental Affairs (DWEA). The environmental assessment needs to demonstrate to the responsible authority, DWEA, and the project proponent, Electrawinds NV, what the consequences of their choices will be in environmental, social and economic terms. The CSIR has been appointed by Electrawinds NV to undertake the EIA required for the project and Public Process Consultants will manage the public participation component of the process. Public involvement forms an important component of this process, by assisting in the identification of issues and alternatives to be evaluated. The Environmental Assessment Process being implemented can be summarised as follows:

Environmental Scoping

The purpose of the Scoping Process is to provide sufficient information to decision making authorities to enable them to reach a decision on the scope of issues to be addressed in the EIA. The objectives of the Scoping Process are:

- Identify and inform a broad range of stakeholders about the proposed development.
- Clarify the scope and nature of the proposed activities and the alternatives.
- Conduct an open and transparent consultation process and facilitate the inclusion of stakeholders' concerns in the decision-making process.
- Identify key issues to be addressed in the EIA phase.

Environmental Impact Assessment

The purpose of the EIA phase of the assessment is to address the issues raised in the Scoping Phase. Specialist studies will be conducted to assess alternatives, identify impacts and determine the significance of impacts as well as formulate mitigatory measures, if required to mimimise/avoid negative impacts and maximise positive benefits of the project. The following specialist studies have been identified:

- Botany, Jamie Pote
- Avifauna (birds), Chris van Rooyen
- Bats, Stephanie Dippenaar
- Heritage, Dr Johan Binneman
- Palaeontology, Dr Robert Gess
- Visual, Henry Holland
- Noise, Brett Williams

PUBLIC PARTICIPATION PROCESS

The public participation programme (PPP) is an integral part of the EIA process, and continues throughout this process. This section provides more detail on the PPP.

STEP 1:
Notify Authorities of Environmental Assessment Process

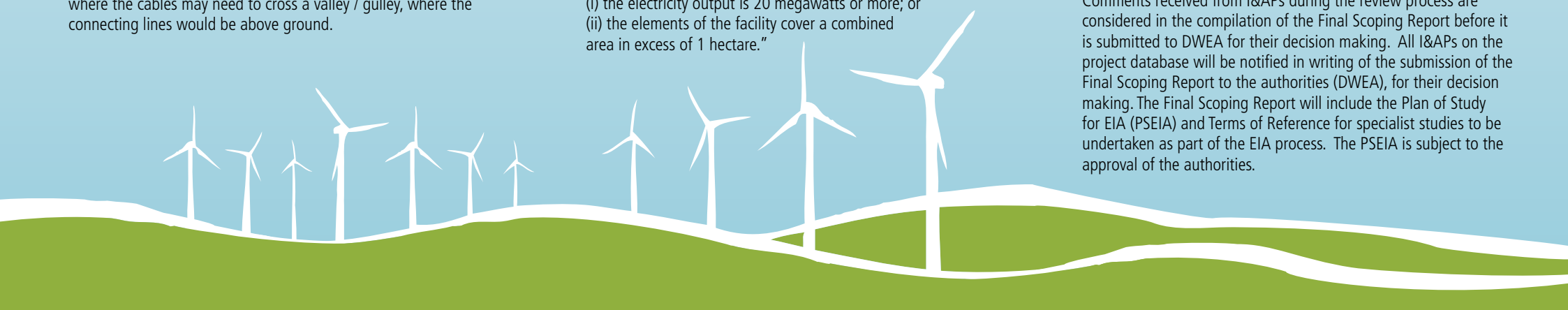
Submit an application for Scoping and EIA to the National Department of Water and Environmental Affairs (DWEA).

STEP 2:
Notify I&APs and Identify Issues

Notify I&APs of the project proposal and identify any issues/ concerns for inclusion in the Draft Scoping Report. I&APs will be provided with a Background Information Document (BID) on the project, including a locality map and a registration/issues form. I&APS are required to register their interest in the project to receive further project information. One-on-one meetings will be conducted with relevant stakeholders. I&APs will be provided with a minimum of a 30 day period within which to raise any issues of concern for inclusion in the Draft Scoping Report.

STEP 3:
I&AP Review of the Draft Scoping Report

The Draft Scoping Report is released for a 40 day comment period and will include the Plan of Study for EIA. All registered I&APs on the project database are notified in writing of the opportunity to comment. To assist I&APs with their understanding of the project, a public meeting, to which all I&APs are invited, will be held during the review period. Copies of the report will be made available on the website www.publicprocess.co.za.

STEP 4:
Final Scoping Report

Comments received from I&APs during the review process are considered in the compilation of the Final Scoping Report before it is submitted to DWEA for their decision making. All I&APs on the project database will be notified in writing of the submission of the Final Scoping Report to the authorities (DWEA), for their decision making. The Final Scoping Report will include the Plan of Study for EIA (PSEIA) and Terms of Reference for specialist studies to be undertaken as part of the EIA process. The PSEIA is subject to the approval of the authorities.