Summary

Project overview

Electrawinds NV is a Belgian based company specialising in renewable energy, including wind, solar and biomass. The company has become one of the largest renewable energy enterprises in Belgium since its establishment in 1998. Electrawinds is actively exploring opportunities to expand into Southern Africa. This initiative led to this proposal to establish a commercial wind energy project comprising 24 turbines and a total generation capacity of approximately 43 to 72 megawatts (MW) in the Coega Industrial Development Zone (IDZ), located in the Nelson Mandela Bay Metropolitan Municipality (NMBM), near Port Elizabeth in the Eastern Cape Province.

Need for the Project

The Eastern Cape Province is reliant on electricity imports over considerable distances from other provinces (e.g. Mpumalanga). Currently the province experiences constraints in transmission lines and grid instabiliites, which restricts economic growth. With the development of the Coega Industrial Development Zone, the ultimate demand for the IDZ and the Nelson Mandela Metro is predicted to rise from current levels of 600-700 MW to approximately 5000 MW. Faced with such an increase in electricity demand, the Eastern Cape Province will need to import more power from the national grid (in particular for baseload power supply for large industrial projects), as well as increase local generation capacity. Furthermore, in recognition of the international imperative to reduce CO_2 emissions, the Nelson Mandela Bay Municipality aims to source at least 10% of its energy from renewable sources, such as wind and solar. The proposed Electrawinds will make a meaningful contribution towards meeting this target.

Project description

The project is being developed in two phases:

Phase 1 consists of a single Vestas V90 test turbine of 1.8 MW and wind monitoring mast that received environmental authorisation from the national Department of Environmental Affairs on 16th February 2010 following a Basic Assessment process.

Phase 2 consists of 24 turbines, each between approximately 1.8 MW and 3 MW, with a total generation capacity of approximately 43 to 72 MegaWatts (MW) that is the **subject of this EIA process**.

The key components of the project are presented below:

Wind turbines

At this stage of the project planning, the exact turbine technology is still to be selected. The Siemans 2.3 MW turbine and the Vestas V112 3 MW turbine can be used as typical examples of the types of turbine envisaged.

In the Background Information Document published in Nov 2009 for this EIA, it was indicated that the total generation from the project would be 57.5 MW based on proposed use of 25 turbines of 2.3 MW each. Subsequently, a wider range of alternative

turbine technologies is being investigated by Electrawinds (refer to Chapter 2 of the Draft Scoping Report for more information).

Even though wind turbines are relatively tall, they do not require extensive land space. The comparatively small base (e.g. 20m x 20m) of the turbine allows other activities to continue underneath and around the turbine. The operational life of the wind turbine facility is expected to be a minimum of 25 years, and can be extended with regular maintenance and potential upgrades.

Electrical connections

The proposed 24 wind turbines will be connected either to existing or proposed substations within the Coega IDZ. These cables will be located along road servitudes and be buried (except, for example, where they cross watercourses and need to be above ground).

Access roads

All proposed access roads will be gravel and follow the road alignments as contained in the CDC Master Plans. The road construction for the turbine sites should be seen as the first stage of the development of new secondary road Infrastructure in the IDZ.

Other infrastructure

At each turbine site, hard standing areas (25m x 50m) will be required for crane operation and turbine assembly offload and storage during construction; and will be retained for use during maintenance activities.

Bursary programme

Electrawinds intends to make a positive contribution to skills development through the Coega wind energy project. For this purpose, a scholarship programme has been developed in partnership with CDC.

Need for an EIA

In terms of the regulations promulgated under Chapter 5 of the National Environmental Management Act (Act 107 of 1998) published in GN R 385, 386 and 387 on 21 April 2006, Scoping and Environmental Impact Assessment (EIA) is required for this project. The need for Scoping and EIA is triggered by, amongst others, the inclusion of activities listed in GN R 387, in particular:

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.

Purpose of the Scoping Report

The Scoping Phase of the EIA refers to the process of determining the spatial and temporal boundaries for the EIA. In broad terms, this involves three important activities:

- Confirming the process to be followed and opportunities for stakeholder engagement;
- Clarifying the project scope and alternatives to be covered; and
- Identifying the key issues to be addressed in the impact assessment phase and the approach to be followed in addressing these issues.

The Draft Scoping Report is being made available to all stakeholders for a 40 day review period, with comments to reach Public Process Consultants by **Monday, 28th June 2010**. The Final Scoping Report will include all the comments received.

Identification of Issues

The Draft Scoping Report includes the issues identified to date from the scoping process. The project and associated EIA process was advertised in one local and two regional newspapers and letters with personal notification regarding the EIA process were mailed to all pre-identified key stakeholders on the database, which at the time consisted of 79 I&APs. The I&AP register was updated during the scoping phase. At the time of producing this report, the database stands at 107 registered I&APs. Issues were further identified by a meeting between the EIA consultant, specialists and land owners. A synthesis of these issues is provided in the Issues & Response Trail (Chapter 5), which includes an explanation of how the issues will be addressed through the EIA.

In summary, the following key issues have been identified to date:

Ecology, in particular botany

- Impact of the turbines and associated activities during construction as well as operation, on flora and fauna, with special attention to red data species.
- Impact on the integrity of the Open Space Management System established for the Coega IDZ.
- Impact on ephemeral pans, wetlands and other water bodies.

Avifauna (birds)

- Bird mortality from collisions with turbines or power lines, in particular for raptors and larger bird species such as flamingos, bustards and Secretary Birds.

Bats

- Identification of potential bat species occurring in the study area and their vulnerability to impacts from turbines.

Visual

- Visual impact of turbines on the sense of place and landscape character of the IDZ and surrounding area.
- Visibility of the turbines from surrounding areas, in particular tourism routes or areas.

Noise

- Impact of noise from operation of the turbines on nearby residential areas.

Traffic and Transportation

- Implications of transport of large turbine components during construction on the national and provincial roads in the local area (e.g. need for road closure).

Archaeology and palaeontology (heritage)

- Potential impact on archaeology, e.g. stone age artefacts and shell middens.
- Impact of excavations during construction on palaeontology, e.g. fossils.

Socio-economics

- Generation of electricity within the NMBM contributes positively to economic growth and job creation.
- Potential impacts of the turbines on human health in nearby communities.

Civil aviation and radar

- Effect of the wind farm on the functionality of radar services at PE airport and management of air traffic.

The draft *Plan of Study for EIA* (Chapter 6) presents the approach to the forthcoming EIA phase. This includes the Terms of Reference for the various specialist studies that are proposed to address the issues raised, where necessary.