



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Reference: 12/12/20/1737

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PER FACSIMILE / MAIL

Dear Ms Jodas

ACKNOWLEDGEMENT OF RECEIPT OF THE APPLICATION FORM FOR SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS: PROPOSED WIND ENERGY FACILITY ON A SITE SOUTH EAST OF VREDENBURG IN THE WESTERN CAPE

The Department confirms having received the application submitted by you on 4 January 2010 for environmental authorisation of the abovementioned project. You may proceed with the scoping process required in terms of the Environmental Impact Assessment Regulations, 2006.

The application has been assigned the reference number **12/12/20/1737**. Kindly quote this reference number in any future correspondence in respect of the application.

The applicant must ensure that all requirements of Chapter II, Section 38 of the National Resources Act, Act 25 of 1999, are complied with in this scoping process and that the comments and/ or recommendations of the relevant heritage resources authority responsible for the area in which the development is proposed, are considered.

You are requested solicit comments on the Final Scoping and Environmental Impact Assessment reports from the pertinent provincial authority. Further, please ensure that these comments are addressed to the Directorate: Environmental Impact Evaluation.

Please submit 2 copies of the Scoping Report to this Department.

You are hereby reminded that the activity may not commence prior to an environmental authorisation being granted by the Department.

Yours sincerely

A handwritten signature in black ink, appearing to read "L. Grobbelaar". The signature is written in a cursive, flowing style.

Ms Lize McCourt

CHIEF DIRECTOR: ENVIRONMENTAL IMPACT MANAGEMENT

Department of Environmental Affairs

Letter signed by: Lene Grobbelaar

Designation: AD: Parastatals

Date: 13/01/10

BRIEF SITE ASSESSMENT FOR WIND ENERGY FACILITY DEVELOPMENT - UYEKRAAL SITE NEAR LANGEBAAN, WESTERN CAPE

FOR DISCUSSION AT A MEETING WITH DEAT & DEA&DP

JULY 2009

Prepared for:

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TABLE OF CONTENTS

	PAGE
1 BACKGROUND AND OVERVIEW	2
2 METHODOLOGY IN DETERMINING AREAS CONSIDERED ACCEPTABLE FOR THE DEVELOPMENT OF A WIND ENERGY FACILITY WITHIN THE IDENTIFIED STUDY AREA	2
3 BRIEF SITE ASSESSMENT	3
3.1.1 <i>Criteria Based Assessment</i>	<i>3</i>
3.1.2 <i>Landscape Based Assessment</i>	<i>5</i>
3.1.3 <i>Composite Result - Preferred Areas for Development.....</i>	<i>6</i>
4 FINDINGS AND CONCLUSIONS FROM REGIONAL ASSESSMENT.....	6

1 BACKGROUND AND OVERVIEW

The potential to establish a new wind energy facility development on a site known as Uyekraal, near Langebaan on the West Coast within the Western Cape Province has been identified by Cresco Renewable Energies. The facility would be developed as an IPP project.

The environmental criteria which could affect the placement of a wind energy facility on this site (in this area) have been investigated in some detail through the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) guideline document. This report provides a summary/synopsis of the findings of the DEA&DP guideline in relation to the Uyekraal site identified as a potentially viable site for wind energy development by Cresco Renewable Energies.

2 METHODOLOGY IN DETERMINING AREAS CONSIDERED ACCEPTABLE FOR THE DEVELOPMENT OF A WIND ENERGY FACILITY WITHIN THE IDENTIFIED STUDY AREA

The Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) have developed a guideline document entitled *Strategic Initiative to Introduce Commercial Land Based Wind Energy Development to the Western Cape - Towards a Regional Methodology for Wind Energy Site Selection* (Western Cape Provincial Government, May 2006). The vision of the strategic initiative was to develop and establish a policy on the implementation of a *methodology* to be used for the identification of areas suitable for the establishment and implementation of wind energy developments (i.e. appropriate site selection) in the Western Cape. The approach outlined in this document has also been adopted by the National Department of Environmental Affairs and Tourism (DEAT), who will act as lead authority for the proposed wind energy facility.

The proposed site falls within the area considered through the initial DEA&DP Regional Assessment. The regional assessment provides a view of acceptable areas considered suitable for the development of a wind energy facility. The following provides a brief synopsis of the site in terms of the findings of the regional assessment and from an overarching environmental perspective in order to assess if the site is *suitable from an environmental perspective* for the proposed development.

It is important to note that the DEA&DP regional assessment guideline's focus is on environmental and planning issues, and the results of which indicate the **environmental suitability** of the proposed site for development of a wind energy facility. The consideration of technical factors such as the availability of wind resources, proximity to the electricity grid, and access requirements have, however not been considered for this study area. These results are to be considered by the

developer together with technical criteria in order to determine a preferred site for the investigation of establishing a wind energy facility.

3 BRIEF SITE ASSESSMENT

The methodology in the DEA&DP guideline is intended to be a regional level planning tool to guide planners and decision-makers with regards to appropriate areas for development. The purpose of the assessment is to select appropriate sites for development, and not to undertake detailed analyses or field surveys. Local level issues are not assessed in detail within macro-level regional assessments and the intention is that these issues be considered within site-specific studies and assessments through an EIA for an identified suitable area or site.

It must be noted that the regional methodology considers site identification from an environmental and planning perspective without incorporating technical data and specifications. Without this input, the areas identified through following the Regional Methodology are recognised as areas appropriate for development but not specifically for development of a wind energy facility.

The regional assessment has as its basis the following broad input components:

- » Regional Methodology: based on Geographic Information System composite map data layers (both criteria-based and subjective)
- » Elements of a **Criteria Based Assessment**: including environmental, planning and infrastructure criteria.
- » Elements of a **Landscape Based Assessment**: incorporating character analysis, sensitivity, value and capacity considerations. These are less quantitative and more subjective considerations compared to the Criteria Based map layers.

3.1.1 Criteria Based Assessment

Environmental Criteria

» *Protected and Sensitive Areas*

The site does not impact on any Environmental Criteria that would be negatively affected by the development of a Wind Energy Facility (i.e. negative constraints to wind energy development). These include protected and environmentally sensitive areas within the study area including conservancies, biospheres (i.e. the West Coast Biosphere Reserve), nature reserves and national parks (i.e. West Coast National Park). The site falls only partly within the transitional zone of the CWCBR, and does not affect the core or buffer zones. All these categories are mapped as negative criteria for the development of a wind energy facility. Buffers are used to define exclusionary zones around these protected and sensitive areas.

» *Topographical*

Topographical information which are negative constraints for the development of a wind energy facility includes elevation above sea level (areas above the 150m range were recorded as a negative) and slope, where slopes with a gradient steeper than 1:4 were not preferred/not considered as ideal locations for development due to visual impact concerns of wind turbines breaking the skyline. This layer has an important influence on landscape character types as, in addition to exclusionary buffers around or on ridgelines, mountains and hills, the analysis should seek to determine plains, as well as foothill landscape types which may have positive locational attributes for wind turbines.

No portions of the site is situated on elevated land, and therefore the site is indicated as an area which is preferred in terms of the topographical aspects.

Planning Criteria

» *Urban and Industrial Areas*

Urban residential areas have a 1 km negative buffer. Industrial areas were assigned a 5 km **positive buffer** as these are already disturbed and developed landscapes and therefore the siting of the proposed wind energy facility near industrial areas is generally preferred. The site falls within the industrial area positive buffer.

» *Coastal Areas*

Planning Criteria specifically aimed at managing and protecting the South African coastline as an important landscape feature recommends a 4km buffer zone from the coastline (the high water mark). The site falls outside of this 4km buffer.

Infrastructural Criteria

» *Airports and Security Sites*

A 25 km buffer around major airports and a 2 km buffer around local airfields are applicable.

Langebaanweg Military airfield lies approximately 10 km east of the site. It has been determined through consultation with the South African Airforce (SAAF) that development **may be allowed** within the buffer area of Langebaanweg, depending on the exact location and layout of the wind farm, and the specifications of the SAAF airspace. Therefore, through negotiation with the SAAF, a portion of the buffer around Langebaanweg reflected as restricted may become a neutral or negotiable area for the development. This can only be determined through detailed negotiations with the SAAF in order for them to assess the locality in terms of instrument flight procedures to ensure sufficient and safe obstacle clearance.

3.1.2 Landscape Based Assessment

Infrastructural Criteria

» *Vertical and Disturbed Landscapes*

Positive (inclusionary) criteria for the development of a wind energy facility were identified in the form of vertically disturbed landscape corridors within the study area. As opposed to the previous negative map layer, this is **positive map layer** that recognises 'vertical and disturbed' landscapes as a primary-level criterion for location of wind energy developments from a landscape perspective. The intention of inclusionary buffers is the location of wind energy developments as close as possible to landscapes that are already compromised by vertical structures (such as power lines).

The site is located in close proximity to both transmission and distribution power lines.

In addition, the site lies in close proximity to local industries.

Landscape and Cultural Criteria

» *Scenic Drives and Heritage Sites*

The DEA&DP study refers to the delineation of heritage and cultural assets, as well as scenic drives and cultural routes, as negative criteria. A negative buffer was used around the major roads, which would be inclusive of most of the possible scenic routes in the area. The close proximity to the R27 results in this site being viewed as a negative. Whether this section of road is considered to be of high scenic quality due to the proximity all the industrial activities in the area should be discussed and negotiated with DEA&DP.

Visual Assessment and Landscape Character

This landscape-based assessment is aimed at defining landscape character types and their relative visual sensitivity and capacity to absorb wind energy facility development. Areas that have been permanently transformed, predominantly by agricultural and mining practises are mapped as positive areas. Almost the entire site is transformed.

In terms of topographical units the site lies on open landscapes (positive units) in the form of large plains.

Within the landscape based assessment, the visibility analyses undertaken from vantage points within the study area indicate the site is indicated as having relatively high visual exposure from major roads (zone of visual influence). This is due to the proximity to the R27 and R45. The index identifies areas that are more frequently exposed to both the national and provincial roads (highly visible areas); areas exposed

to either the national road or the provincial roads (visible areas) and areas that are not exposed to any of the major roads within the study area. Areas are reflected as those of potential high visibility (mapped as negative areas), those of moderate visibility and those of low visibility (mapped as positive areas).

The composite result of the Landscape Character and Visual Assessment as *Preferred Areas*, *Negotiable Areas* and *Restricted Areas* for development. It must be noted that only potential visibility is indicated, and not the visual impact of a wind energy facility. The visual impact of the facility from the identified sites would need to be assessed in detail at a site-specific level in the EIA process in order to determine the significance of the impact.

3.1.3 Composite Result - Preferred Areas for Development

The resultant composite of all the input criteria indicates **preferred areas for development** within the study area as various combinations of positive and negative criteria. The restrictions (occurrence of negative input criteria) relating to the proximity to the R27 as well as Langebaanweg have resulted in the site not being illustrated as being preferred for development. However, as stated, both of these criteria can be discussed and negotiated with the relevant authorities.

4 FINDINGS AND CONCLUSIONS FROM REGIONAL ASSESSMENT

From the Regional Assessment undertaken, the following conclusions can be drawn regarding the identified site:

» **Uyekraal site:**

This site falls within a restricted and highly restricted area, i.e. an area with one or more negative criteria. In summary, the negative criteria identified for this site are:

- * The 25km buffer area associated with the Langebaanweg airfield
- * Buffer area around a major road – R27 and R45

There are several positive (inclusionary) criteria (such as industrial areas, or disturbed or vertical landscapes) mapped for this site. From a visual perspective, this site is shown to be visible - as previously indicated, it must be noted that the composite visual map only indicates potential visibility based on landscape and visibility and not the visual impact of a wind energy facility at the identified sites. The visual impact of the facility from the identified sites would need to be assessed in detail at a site-specific level in the EIA process in order to determine the significance of the impact.

It has been concluded that this site could be investigated for the development of a wind energy facility at a site-specific level through an EIA as the issues associated with the restriction the site (being largely associated with the buffer area around the Langebaanweg and the potential visibility from the R27) could potentially be successfully resolved, depending on the affected and surrounding environment. Further discussion with other stakeholders, such as the SAAF, will be required to be undertaken in order to gain a full understanding of these identified issues.

