


## Environmental Impact Assessment (EIA) for the Proposed Caledon Wind Farm, Transmission Lines and Associated Infrastructure

**Public Meeting  
Botrivier Town Hall: 18h00**


‘Working together to produce better decisions’

**11 January 2010**





## Agenda

- Welcome and Introduction
- Purpose of the Meeting
- Role Players
- Overview of the Project
- Findings of the Environmental Scoping Report
- Public Participation Process
- Discussion
- Way Forward and Closure


## Purpose of the Meeting

- Provide I&APs with information regarding:
  - The proposed project
  - The EIA process to be undertaken
  - How to get involved in the project
  - How to receive further information as the EIA progresses
- Provide I&APs with the opportunity to raise issues regarding the potential impacts of the project on the environment
- Invite I&APs to register on the project database
- Provide an opportunity for I&APs to interact with the project team




## Role Players



	<b>Arcus GIBB (Pty) Ltd</b> • Independent Environmental Assessment Practitioner (EAP)
	<b>Epispán (Pty) Ltd trading as Caledon Wind</b> • Applicant
	<b>Department of Environmental Affairs (DEA)</b> • Lead Decision-maker for the Environmental Authorization Application
	<b>Interested and Affected Parties</b> • Raise comments and issues regarding the proposed project for inclusion in the relevant documentation

## Responsibilities: Arcus GIBB

**Arcus GIBB (Pty) Ltd (Consultant):**


- Be independent with no vested interest
- Have the necessary qualifications & experience
- Responsible for EIA process, information & reports
- Provide relevant & objective information to the Authorities, the I&APs & the Applicant
- Ensure Public Participation Process (PPP) is undertaken
- Ensure all issues raised are addressed or responded to

## Responsibilities: Caledon Wind

**Caledon Wind (Applicant):**

- Appoint suitable, independent consultants
- Ensure adequate resources are available to conduct an effective, efficient & equitable EIA
- Ensure that the Consultants are provided with relevant information to undertake the EIA effectively
- Ensure that the Consultant provides all relevant information to the Authorities



## Responsibilities: DEA

**Relevant Environmental Authority (National DEA):**


- Efficient & expedient in evaluating proposals
- Compliance with regulatory requirements
- Inter-departmental co-operation & consultation
- Consultation with the Applicant & the Consultant
- Evaluation/review & decision-making
- Requiring sufficient detail to make informed decisions



## Responsibilities: I&APs


**Interested & Affected Parties (I&APs)**

- Provide input & comment during various stages of the process
  - Identify issues & alternatives
  - Review of reports
    - Draft Scoping Report (DSR)
    - Draft Environmental Impact Report (DEIR)
- Provide input & comment within specific timeframes




## Project Description

- **Wind Farm**  
The wind farm is proposed to have a generating capacity of up to 300 MW and will comprise of up to 150 wind turbines, each of which will be between 2 – 3,6 MW generating capacity. Built in phases with end goal of 300MW.
- **Access Roads**  
Access roads will be required for the delivery of the turbines to their assembly positions during construction as well as to a temporary laydown area.
- **Powerlines**  
The turbines and wind farm will be connected to the existing Overberg transmission powerlines through a medium voltage feeder power line.
- **Proposed new Substation and Houwhoek Substation Upgrade**  
Where the lines connect to the existing Overberg powerlines a substation will be built and after the first phase of the project, Eskom's Houwhoek Substation's capacity will need to be upgraded.

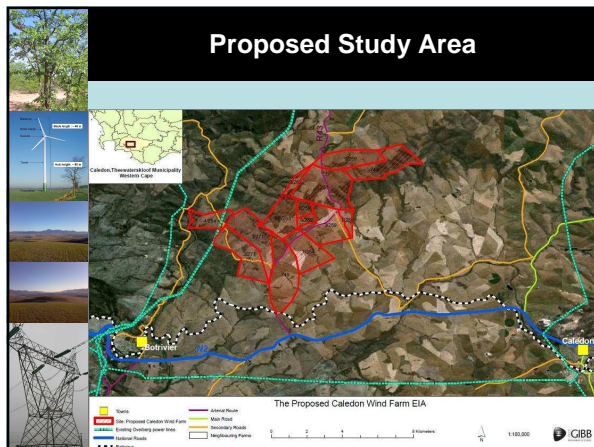


## Project Description


- **Temporary Construction Laydown Area**  
A temporary laydown area will be utilised during the construction phase of the project.
- **Staff Housing**  
The project engineers will be housed on site in four new housing facilities to be constructed adjacent to the laydown area. These facilities will be converted into Tourism & Educational facilities after final commissioning of the Wind Farm. Labourers, including security guards, employed from the surrounding communities, will commute to the site daily.
- **Wind Farm Control Room**  
A control room will operate from an office in an existing building in Caledon.
- **Transport**  
Turbine components and some of the construction materials will be delivered to the site by road along the N2 and R43. Where possible, existing farm roads will be upgraded for transport within the proposed site, to the future benefit of the farm owners.



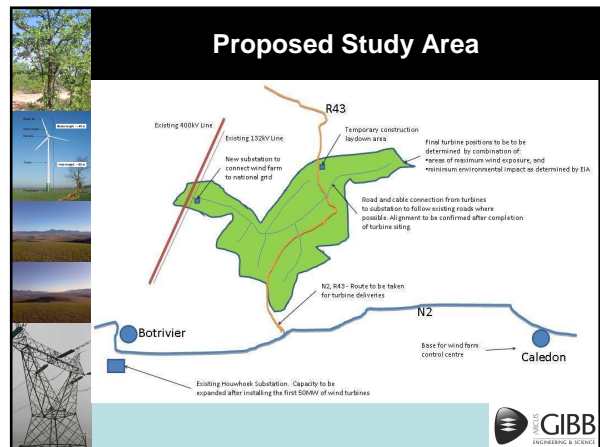
## Proposed Study Area




The Proposed Caledon Wind Farm EIA




## Proposed Study Area





Existing Houwhoek Substation. Capacity to be expanded after installing the first 500kW of wind turbines







## Alternatives

- **The 'do-nothing' or 'no-go' alternative:**
  - The 'do-nothing' alternative will be represented by the status quo, against which the proposed project will be compared in detail during the Impact Assessment phase of the project.
- **Location alternatives:**
  - Various available location options throughout the Northern, Western and Eastern Cape were investigated by CaledonWind during a pre-feasibility study. The criteria, which resulted in the selection of the proposed study area included following:
    - Topography
    - Wind conditions (renewable resource)
    - Extent of site
    - Connection to the national transmission system
    - Environmental considerations
    - Site access
    - Local labour and economic stimulus



## Alternatives

- **Layout and design alternatives:**
  - **Arrangement of the wind turbines**  
The arrangement of the wind turbines will be determined by Computational Fluid Dynamics during the micro-siting process and EIA process.
  - **Size / Generating Capacity of wind turbines**  
Turbines ranging between 2 – 3.6 MW will be investigated during the detailed Impact Assessment phase of the project.
  - **Transmission power lines**  
Alternative alignments for the 11 - 22 kV Transmission lines will be assessed in the Impact Assessment phase. The EIA will investigate whether power lines should be above or below ground cables, or a combination thereof.
  - **Access roads**  
Access road alignments will be further investigated in the Impact Assessment phase once the layout and design alternatives have been selected.



## Why an EIA?

- Legislative tool used to assess both positive and negative potential impacts
- All impacts then addressed through various measures prescribed by an Environmental Management Plan
- Transparency and involvement of the general public
- Environmental Impact Assessment Regulations, :
  - Caledon Wind Farm (12/12/20/1701)
    - GN R386: 4 Listed Activities
    - GN R387: 3 Listed Activities



## Why an EIA?

- **GN 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;
  - (b) The transmission and distribution of above ground electricity with a capacity of 120 kilovolts or more.
- **GN 387, 2:** Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more.
- **GN 386, 7:** The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1000 cubic metres at any one location or site.
- **GN 386, 12:** The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
- **GN 386, 14:** The construction of masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission, but excluding
  - (a) masts of 15 metres and lower exclusively used
    - (i) by radio amateurs; or
    - (ii) for lighting purposes
- **GN 386, 15:** The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.


## What Does the EIA Process Entail?

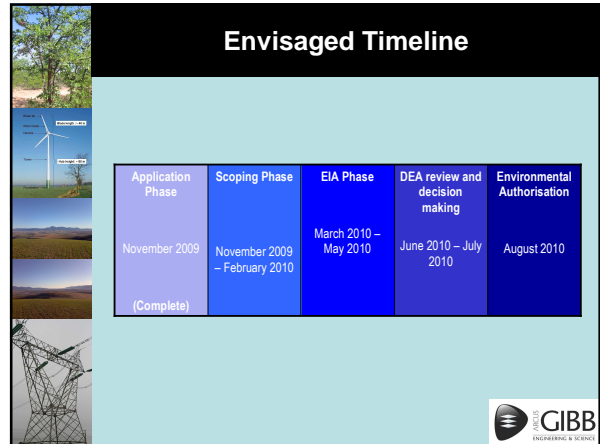
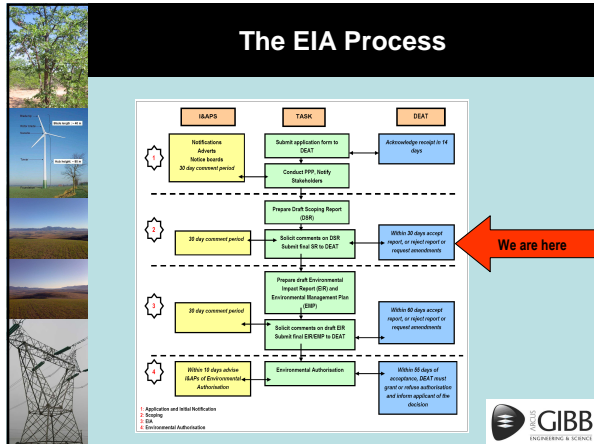
- The EIA process can be divided into 4 distinct phases:
  1. Application and Initial Notification
    - Application for authorisation to DEA
    - Initial notification process whereby the public is informed
  2. Scoping Phase
    - Investigate and gather information on the proposed site
    - Establish potential impacts on the surrounding environment
    - Identification and consultation with I&APs and relevant authorities
    - Describe and investigate alternatives that may be considered

## What Does the EIA Process Entail?

3. EIA Phase
  - All identified issues and alternatives assessed and rated in terms of significance
  - Mitigation measures recommended
  - Compile Environmental Management Plan
  - Identification and consultation with I&APs and relevant authorities
  - Once final EIR submitted to DEA, the decision making process will commence
4. Environmental Authorisation
  - Issued to Caledon Wind once DEA reaches a decision
  - Based on information received during scoping and EIA phases





## Specialist Studies

Due to the nature of the project and the various activities associated with it, there are likely to be specific impacts on the environment. Those which are anticipated to be of significance are identified in advance and specific specialists' brought in to assess those specifically.

The GIBB logo is at the bottom right.

## Specialists

Specialist Study	Specialist Name
Flora Impact Assessment	Nick Helme of Nick Helme Botanical Surveys
Fauna Impact Assessment	David Hoare of David Hoare Consulting CC
Avifauna Impact Assessment	Chris van Rooyen of Chris van Rooyen Consulting
Agricultural Study	Garry Patterson of ARC
Geotechnical Study	Jon McStay of WSP
Social Impact Assessment	Tony Barbour of Tony Barbour Environmental
Heritage Impact Assessment	Dr. Lita Webley/ Tim Hart of UCT
Noise Impact Assessment	Barend van der Merwe of DBAcoustics
Visual Impact Assessment	Tanya de Villiers of CNIV Africa
Traffic Impact Assessment	Nuran Norden of Arcus GIBB

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## Potential Impacts: Flora

- Potential Negative Impacts:**
  - Direct loss of vegetation during the construction phase (tower installation requires special cranes on heavy tracks; substations; access roads; concrete mixing sites);
  - Temporary (but often long term) loss of vegetation at the construction phase (laydown areas; cabling; disturbance around towers; building material storage areas; powerline access and footing placement); and
  - Potential indirect ecological impacts at the operational phase (introduction of invasive alien ants and plants; disruption of natural fire regimes; fragmentation of natural habitat and ecological corridors).
- Potential positive ecological impacts:**
  - Opportunity to formally conserve significant priority areas of natural habitat in the study area (basically on-site offsets), preferably as Contract Reserves with CapeNature's Stewardship Program for private landowners; and
  - Opportunity to fund and implement an Operational Environmental Management Plan (OEMP) throughout the site, focussing on alien vegetation control, fire management and grazing impacts (livestock).

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## Potential Impacts: Fauna

- Potential Loss of terrestrial habitat (fynbos and/or renosterveld);
- Potential Loss of wetland habitat;
- Potential Change in runoff and drainage leading to soil erosion and increase in silt loads and sedimentation;
- Potential Displacement of animals due to construction disturbance (noise, dust and general disturbance);
- Potential Fragmentation of populations of species of conservation concern; and
- Potential Loss of individuals of bat species through collision with wind turbines.

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## Potential Impacts: Avifauna

- Potential Disturbance of breeding birds during the construction phase
- Potential Sterilisation of breeding and foraging habitat by the operation of the wind farm
- Potential Collisions with the wind turbines during the operational phase
- Potential impacts of the lighting on the wind turbines
  - Increased Night Time Collisions
- Potential impacts of sub-transmission line
  - Collision Impacts, if above ground




## Potential Impacts: Agricultural

- Loss of agricultural land. Land that is no longer able to be utilized due to construction of infrastructure.



## Potential Impacts: Geotechnical

- No potential environmental impacts identified. Study area suitable for construction of required infrastructure. No blasting will be required.



## Potential Impacts: Social


**Surrounding and Wider Community and Individuals:**

**Potential Negative Impacts:**

- Potential impact on rural sense of place (this will be closely linked to the potential visual impacts);
- Potential impact on tourism, both locally and regionally (this will be closely linked to the potential visual impacts from routes currently serving a scenic/ touristic function)
- Impact on property prices (Botrivier town and adjacent/ near-adjacent rural areas where the scenic resource may be considered of significant value with regard to rural lifestyle land use);
- Influx of job seekers may result in an increase in sexually transmitted diseases, including HIV/AIDS; increase in prostitution; increase in alcohol and drug related incidents; increase in crime; and creation of tension and conflict in the community. This issue is potentially of great importance, given the high established migration influx level currently experienced by the Theewaterskloof LM;

**Potential Positive Impacts:**

- Creation of employment and business opportunities during construction and operation phase;
- Creation of potential training and skills development opportunities for local communities and businesses;
- Potential up and down-stream economic opportunities for the local, regional and national economy; and
- Provision of clean, renewable energy source for the national grid.
- Potential positive impact on tourism as a sightseeing destination .
- Land Taxes



## Potential Impacts: Social


**Farmers on and adjacent to the proposed wind farm site**

**Potential Negative Impacts:**

- In terms of potential impacts on local farmers in the area the following issues will need to be assessed:
- Potential threat to farm safety due to increased number of people in the area and construction workers;
- Potential stock losses (during the construction and operational phase);
- Potential damage to water and other farm infrastructure (during the construction and operational phase);
- Potential damage to roads by heavy equipment and increased traffic volumes (during the construction and operational phase); and
- Potential impact on farming operations and loss of productive land (during the construction and operational phase).


**Potential Positive Impacts:**


- Increased security on site
- New and Upgrading of existing B&B facilities for future tourism
- Increased rental from income



## Potential Impacts: Heritage



- Potential presence of archaeological and palaeontological resources, in which case will be assessed in the EIA phase.
- Potential impact on the cultural landscape to be assessed in the EIA phase of the project.







## Potential Impacts: Noise

- Road traffic noise from the transportation of equipment and goods to the site.
- Noise from the assembly of the wind turbines.
- Noise from the operation of the wind turbines.

## Potential Impacts: Visual

- The optimal sizing of the wind turbines to minimise the visual impact.
- The careful siting of the turbines, roads and transmission lines so that their visual impact is minimised.
- The effect of the development on views from the N2 with specific reference to the Houwhoek Pass
- The visual impact on the local towns and farms.



## Potential Impacts: Traffic

**Construction/Decommissioning Phase Impacts**

- Transportation of large construction components and other construction materials will along N2 and R43.
- Potential impact on the intersection of N2 and R43.
- Potential impact on the condition of the off-road vehicle track .
- Potential impact of the height of the wind turbines on the aviation line in the area.



**Operation Phase Impacts**

- As minimal labour will be required for the operation phase, the transportation demand of the site during operation is expected to be little.


## Public Participation

- **What is Public Participation?**
  - A tool to inform I&APs of a proposed project
  - A tool to help integrate the comments of the I&APs into the relevant phases of a proposed project
- **What Public Participation is not?**
  - Not a public relations exercise
  - Not a means to satisfy personnel grievances – rather to record issues related to the EIA and to respond to these


## Public Participation?

- Public participation is a joint effort between:
  - Stakeholders
  - The Applicant
  - Technical Specialists
  - Decision-makers
- Work together to produce better decisions
- Allows the public to exchange information and express their views and concerns
- Facilitates the identification of issues and concerns throughout the EIA process
- All contributions from I&APs will be fully documented, evaluated and responded to in the EIA

## Public Participation


- The PPP includes the following steps:
  - STEP 1: Register I&APs and key stakeholders on the database
  - STEP 2: Advertise the EIA process
  - STEP 3: Consultation with and distribute information to I&APs
  - STEP 4: Invite I&AP comment and input on the draft scoping and EIA reports
  - STEP 5: Record all comments, issues and concerns raised by I&APs






## Getting Involved

- Providing your contact details to the public participation office using details provided to you
- Attending the meetings that will be held during the EIA so that you can obtain further information, interact with the project team members and raise issues and concerns
- Contacting the public participation consultant by phone, post, fax or email should you have a query, wish to make a comment or require further information
- Reviewing and commenting on the draft Scoping and Environmental Impact reports within the review periods provided

## Way Forward

- Compilation and distribution of minutes
- Inclusion of I&AP comments in Final Environmental Scoping Report (FESR)
- Submission of FESR report to DEA and Provincial Environmental Authorities
- Release of FESR into the public domain
- Authority review
- Acceptance of FESR and Plan of Study for EIA
- Notify I&APs of decision
- EIA Phase




# THANK YOU!




## Contact Details

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