

Environmental Impact Assessment for the proposed Caledon Wind Farm, Western Cape Province (DEA Ref: 12/12/20/1701)

BACKGROUND INFORMATION DOCUMENT

WHAT DOES THIS DOCUMENT TELL YOU?

The purpose of this Background Information Document (BID) is to provide you with background information about the proposed Caledon Wind Farm and the EIA process to be undertaken.

This BID document will help you to:

- Better understand the project in order to be able to provide comment;
- Determine if you are an interested in and/or affected party (I&AP) in the project; and
- Understand the environmental authorisation process so that you are able to participate effectively.

YOUR OPPORTUNITY TO GET INVOLVED

If you consider yourself an I&AP for this proposed project, we urge you to make use of the following opportunities to become involved in the process:

1. By responding (by phone, fax or e-mail) to our invitation for your involvement which has been advertised in local newspapers.
2. By mailing, faxing or e-mailing the attached comment form to Arcus GIBB.
3. By attending the meetings to be held during the course of the project. Should you register as an I&AP you will be invited to attend these meetings.
4. By telephonically contacting Arcus GIBB if you have a query, comment or require further project information.
5. By reviewing the draft Scoping and EIA Reports within the 30-day review periods and sending your comments to Arcus GIBB.

By completing and submitting the accompanying response form, you automatically register yourself as an I&AP for this project. As a registered I&AP your comments, concerns or queries raised regarding the project will be captured and addressed accordingly through the EIA process. For further information, the contact person below can be contacted at any stage.

Contact:

Jan-Willem De Jager
 Arcus GIBB, PO Box 3965, Cape Town, 8000
 Tel: (021) 469 9100; Fax: (021) 424 5571
 Email: jdejager@gibb.co.za

PROJECT BACKGROUND/OVERVIEW

Epispan (Pty) Ltd, trading as 'Caledon Wind' is proposing to establish a commercial Wind Farm and associated infrastructure on a site near Caledon in the Western Cape Province. This project will be registered with the United Nations Framework Convention for Climate Change (UNFCCC) as part of the Clean Development Mechanism (CDM) Programme.

A study area of approximately 3700 ha is being considered within in which the proposed wind farm and associated infrastructure will be established.

The proposed sites are situated within the Theewaterskloof Municipality. The land leased for the project is all private owned farms that have been identified as prime spots for wind energy generation. The farms in question are:

Farm Name	Parcel No.	Owners Name
Warmoeskraal	1/259	Klipfontein Trust
Riet Fontein	3/259	Klipfontein Trust
Riet Fontein	7/259	Klipfontein Trust
Riet Fontein	8/259	Klipfontein Trust
Farm	9/259	G Le Roux Pty Ltd
De Vleytjes	261	G Le Roux Pty Ltd
Lang Road	3/263	G Le Roux Pty Ltd
Warmoeskraal	1/263	Klipfontein Trust
Warmoeskraal	Re/263	Klipfontein Trust
Goedvertrouw	4/264	J S Maree Trust
Hawston View	1/271	J S Maree Trust
Hawston View	3/271	J S Maree Trust
Windheuwel	1/354	Klipfontein Trust
Farm	744	G Le Roux Pty Ltd
Farm	749	Klipfontein Trust

A detailed map illustrating the farm positions is provided in Figure 3 on page 5.

The wind farm is expected to be 300 MW and will comprise of up to 150 wind turbines, 2 MW each in size. The hub height will be 80 m and the turbine blade length 40 m. A typical wind turbine, illustrating the hub height and blade length, is depicted in **Figure 1 on page 2**

Associated infrastructure will include:

- Turbine tower foundations,
- Underground cable between towers,
- Powerlines linking to the existing electricity network,
- Internal access road to the wind turbines.

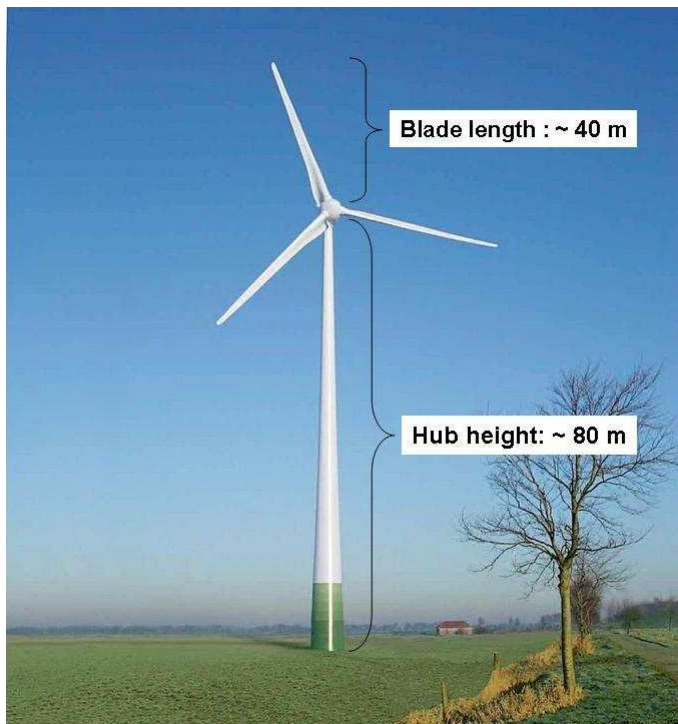


Figure 1: Typical 2 MW wind turbine structure

WHY IS A WIND FARM NEEDED?

Electricity is a strategic sector of the South African economy underpinning growth and developmental objectives set out by the Government. Over the next few years, the country is expected to experience continued growth in electricity demand, driven by growth in the industrial, mining, commercial and domestic consumer sectors.

Several key policies, departments and institutions are responsible for energy planning in South Africa. Firstly, the South African Energy Policy (Dec 1998) published by the Department of Energy (DE) identifies five key objectives:

- Increasing access to affordable energy services;
- Improving energy sector governance;
- Stimulating economic development;
- Managing energy-related environmental impacts; and
- Securing supply through diversity.

In order to meet these objectives as well as the developmental and socio-economic objectives in South Africa, the country needs to make optimal use of available energy resources. Secondly, the DE performs Integrated National Energy Planning (INEP) to identify future energy demand and supply requirements. Thirdly, the National Energy Regulator of South Africa (NERSA) performs National Integrated Resource Planning to

identify future electricity demand and supply requirements.

Demand for electricity varies spatially (geographic) and temporally (time). Spatially, South Africa's land surface area of 1,1 million km consists of urban and rural development, each with different electricity requirements. Areas of high electricity demand are not correlated with power generation centres. Coal resources, from which 90 % of South Africa's electricity is generated, are primarily located in the east of the country. Demand for electricity, however, is throughout the country with the mining and industrial sectors accounting for approximately 40 % of the electricity demand.

Approximately 70 % of the Western Cape's electricity is imported from Mpumalanga Province via transmission lines, with resultant line (energy) losses. Energy losses arise as power flows through the electrical network to meet customer load demands. Greater distances between the power generation centres and the customer mean greater energy losses. These losses on the transmission and distribution systems increase both the cost of production of energy as well as the delivery cost of energy. Therefore, more generation and system capacity is required to serve the system load, which increases capital costs. ⁽¹⁾

Losses are estimated to add 6-8 % to the cost of electricity and some 25 % to the cost of delivery. Lower technical losses provide for cheaper electricity and lower production costs which will in turn have a positive influence on economic growth.

The recent demand for electricity in South Africa has grown, on average, at more than 4 % per year, with an associated reduction in the surplus generating capacity. The recent increase in oil prices, the exhaustibility of fossil fuels and the urgent need for stable, reliable, non-polluting sources of electrical energy that are indispensable to a modern industrial economy focuses attention on alternative energy, such as renewable energy sources.

Renewable forms of electricity generation are highly desirable in terms of minimising the impact on the environment. The White Paper on Renewable Energy (2004) set a target for the implementation of renewable energy in South Africa. With this goal, renewable energy options have since been included into the INEP as complementary supply-technologies.

Wind energy is plentiful, renewable, widely distributed, clean and reduces greenhouse gas emissions when it displaces fossil-fuel derived electricity. It is thus attractive to many governments, organizations, and individuals. The location of the proposed wind farm in the Western Cape will also mean a reduction in line losses as it will be located close to the customer load demand.

(1) – Source: *A Tale of Two Winters* (http://www.eskom.co.za/live/content.php?Item_ID=4040)

TECHNICAL INFORMATION

Simply stated, a wind turbine works the opposite of a fan. Instead of using electricity to make wind, like a fan, wind turbines use wind to make electricity. The wind turns the blades, which spin a shaft, that connects to a generator and generates electricity.

The wind turbine generator converts mechanical energy to electrical energy. Wind turbine generators are different from other generating units you ordinarily find attached to the electrical grid. One reason is that the generator has to work with a power source (the wind turbine rotor) which supplies very fluctuating mechanical power (torque).

Activities that will be required for the construction phase of the project will include the abstraction of water and the storage of fuels for construction vehicles and machinery. Construction is proposed to be phased, with 50 MW being constructed at one time. The first 50 MW will take approximately 12 months to complete and the remaining 250 MW will take approximately an additional 36 months. Once complete, the wind farm can operate continuously for approximately 20 years or more.

THE NEED FOR AN EIA (LISTED ACTIVITIES)

In terms of the EIA Regulations published in Government Notice R385 of 21 April 2006 in terms of Section 24 (5) of the National Environmental Management Act (Act No. 107 of 1998), certain listed activities as set out in Government Notices R386 (activities that trigger Basic Assessments) and R387 (activities triggering Scoping and Environmental Impact Assessment processes or full EIAs) require environmental authorisation before they can proceed.

This proposed wind farm development comprises several activities listed in terms of the EIA Regulations (2006), which should be covered in a single application for authorisation.

These listed activities are:

- Government Notice 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.*

Government Notice 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.*

Government Notice 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.*

Government Notice 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).*

Government Notice 386, 13: *The abstraction of groundwater at a volume where any general authorization issued in terms of the National Water Act, 1998 (Act No. 36 of 1998) will be exceeded.*

Government Notice 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.*

Government Notice 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.*

THE EIA PROCESS

The EIA can be divided into 4 distinct phases:

1. Application and initial notification

- Submit an EIA application to the National Department of Environmental Affairs (DEA).
- DEA acknowledgement of the EIA application (within 14 days),
- Notify the public of the proposed development through *inter alia*, newspaper adverts, notification letters, BIDs and notice boards.

2. Scoping phase

- Investigate and gather information on the proposed study area in order to establish an understanding of the area;

- Establish how the proposed project will potentially impact on the surrounding environment;
- Identify Interested and Affected Parties (I&APs) and relevant authorities by conducting a Public Participation Process (PPP);
- Identify potential environmental impacts through investigation and PPP; and
- Describe and investigate the alternatives that may be considered.

3. EIA phase

- Detailed specialist assessment of all issues and proposed alternatives identified in the scoping phase
- Identify mitigation measures and recommendations to reduce the significance of potential impacts.

- Compile an Environmental Management Plan (EMP) which will prescribe environmental specifications to be adhered to during the construction and operational phases of the project
- As with the scoping phase, the PPP is an integral and important part of the assessment phase.

4. Environmental Authorisation

- Environmental Authorisation (EA) issued to Caledon Wind once DEA has made a decision regarding the proposed project.
- Decision may be positive or negative based on *inter alia*, information received in the Scoping and EIA phases.

The EIA process is represented diagrammatically in **Figure 2** below.

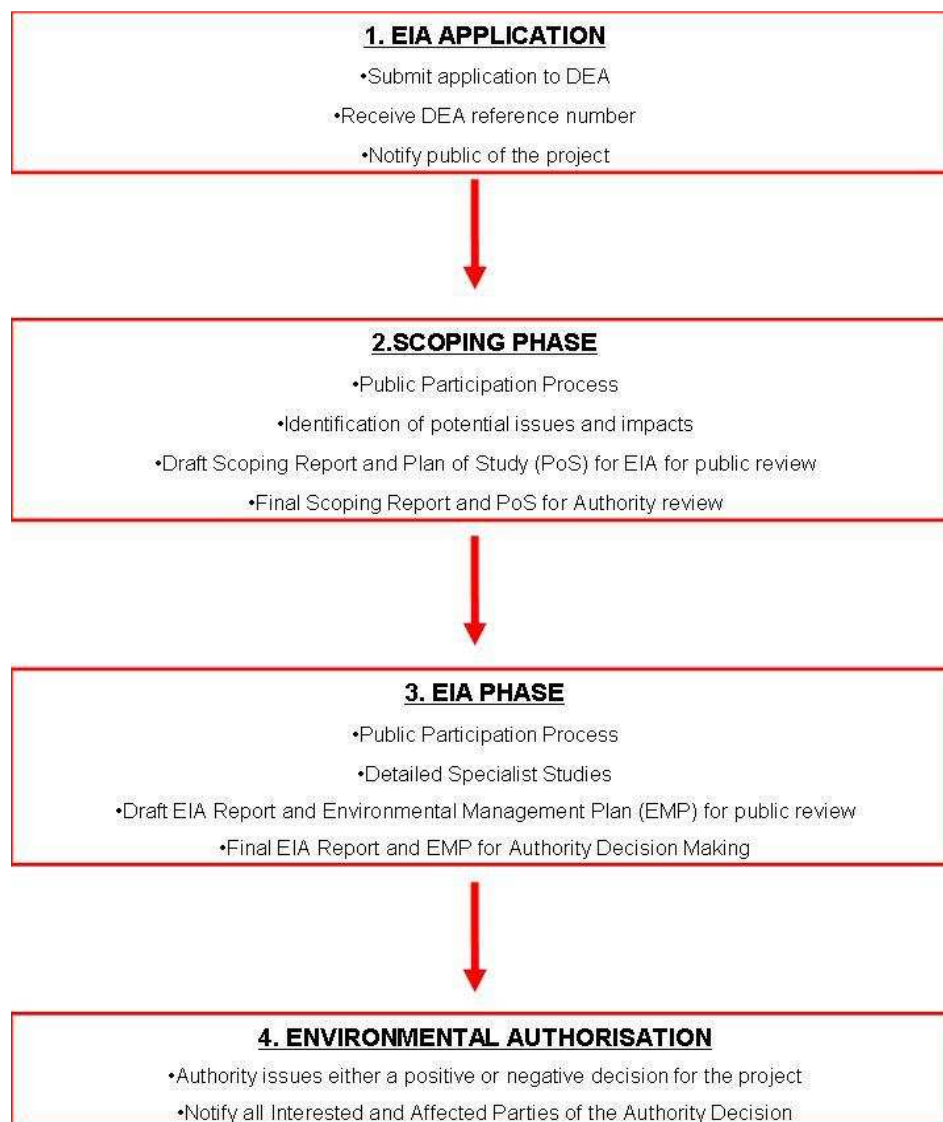


Figure 2: Flow diagram illustrating the EIA Process

TYPICAL IMPACTS ASSOCIATED WITH WIND FARMS

Positive environmental and social impacts that are typically associated with wind farms are:

- Wind energy is renewable, clean and non-polluting, as it does not produce any by-products (atmospheric contaminants or thermal pollution) that could be harmful to the environment;
- Wind energy can be generated during the day and at night;
- It is well suited to rural areas and therefore has a reduced impact on agriculture compared to other electricity generating options. They can also contribute to economic growth in these regions;
- Wind turbines make use of simple technology in terms of design and building;
- Wind energy is competitive compared to other renewable energy sources; and
- It is safe if properly maintained.

Wind farms also have the following impacts:

- Visual – due to their size, these machines are highly visible from virtually anywhere. They may also reflect light due to their large reflective surface area.
- Noise – the rotating blades are known to create a whooshing sound.
- Impacts on avifauna – collisions with the rotor blades and barotraumas¹ (especially in bats) are the main causes of injury and death.
- Habitat transformation – there will be an increase in hardened and unnatural surfaces.
- Air traffic obstacles – the wind turbines are extremely tall and may cause problems to air traffic, depending on flight routes and proximity of airports.

As part of the EIA, these potential impacts will be assessed through the following specialist studies:

- Fauna and Flora Assessment
- Avifauna Impact Assessment
- Heritage Impact Assessment
- Noise Impact Assessment
- Visual Impact Assessment
- Agricultural Impact Assessment
- Social Impact Assessment
- Traffic Impact Assessment
- Baseline Geotechnical Study

As part of these environmental studies, all I&APs are invited to become actively involved through a public participation process.

¹ Trauma caused by rapid or extreme changes in air pressure, especially affecting enclosed cavities within the body such as the middle ear, the sinuses and the lungs.

PUBLIC PARTICIPATION PROCESS AND HOW TO REGISTER AS AN I&AP

It is important that relevant I&APs are identified and involved in the public participation process from the outset of the proposed project. The inputs received from I&APs form an integral part of the EIA process and will also assist the decision-making authority, DEA, with their decision-making. To ensure effective public participation, the process includes the following steps:

- STEP 1: Advertise the EIA Process (national, regional and local newspapers)
- STEP 2: Register I&APs and key stakeholders on the database (on-going)
- STEP 3: Consultation with, and transfer of information to, I&APs through consultation, public meetings, focus group meetings and key stakeholder workshops
- STEP 4: Record all comments, issues and concerns raised by I&APs within an issues trail, which will form an integral part of EIA Reports
- STEP 5: Invite I&AP comment and input on the draft Scoping and EIA reports (30-day comment period)

REMINDER: HOW TO GET INVOLVED?

A registration and comments form is supplied at the back of this notice for your convenience and can be used to express your views regarding this proposed development. Please feel free to add comments on a separate page should the space provided on this notice not be enough. The names of all registered I&APs, together with the comments received will be incorporated into the Scoping and Environmental Impact Reports and will be submitted to DEA.

Please submit your name, contact information (address, telephone number, e-mail address, postal address) and written comments to contact person indicated on the registration sheet.



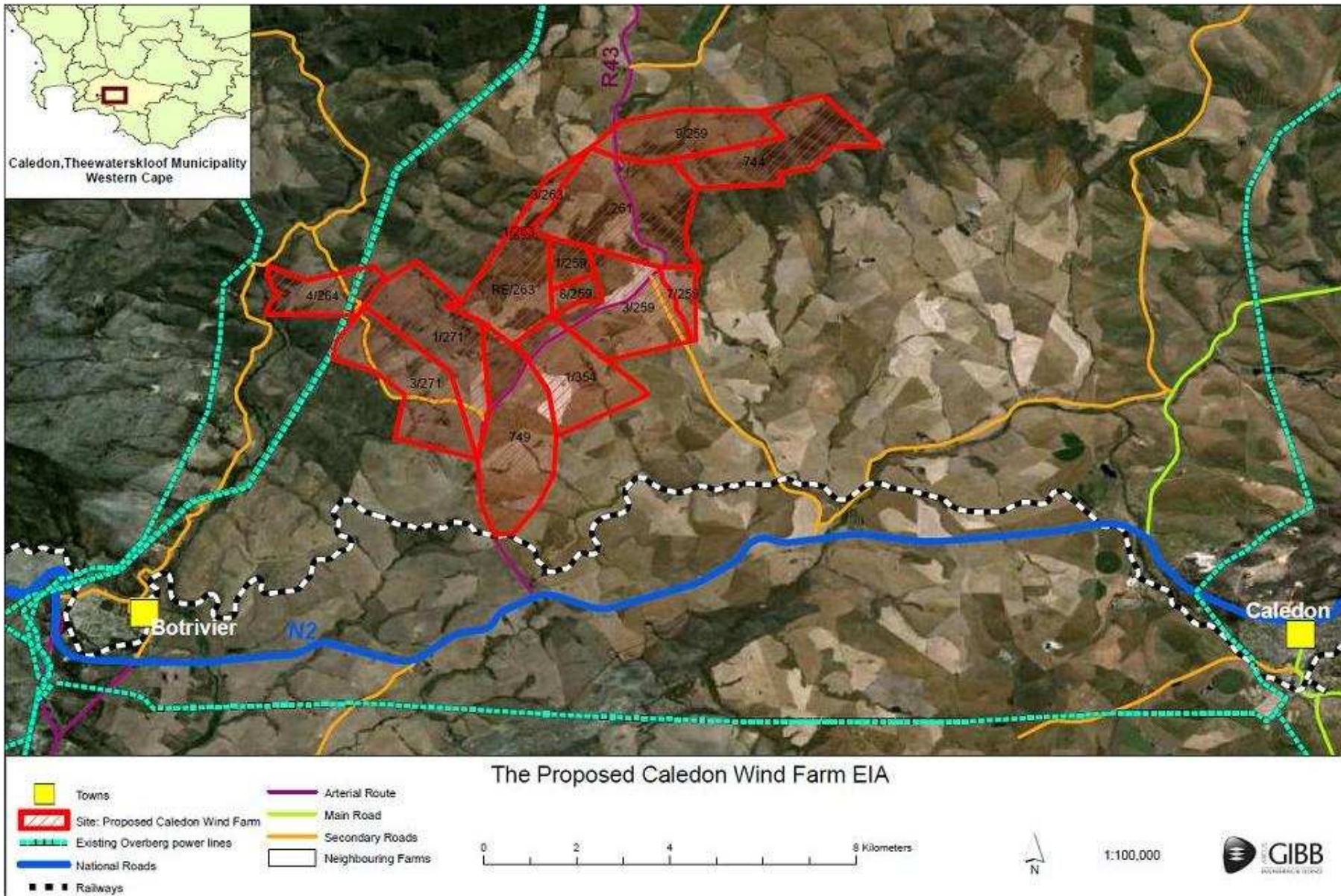


Figure 3: Locality map for the proposed Caledon wind farm within the Theewaterskloof Municipality.

Omgewingsimpak Evalueringsproses vir die voorgestelde Caledon Windplaas, Westelike Provinsie

AGTERGRONDINLICHTINGS-DOKUMENT

Wat Sê Hierdie Dokument Vir U?

Die doel van die Agtergrondinligtingsdokument (AID) is om inligting te verskaf rakende die voorgestelde Caledon Windplaas en die omgewingsproses wat onderneem sal word.

Die AID sal u help om:

- Die projek beter te verstaan sodat u kommentaar kan lewer (indien u kommentaar sou wou lewer);
- Te bevestig of u 'n Belanghebbende en Geaffekteerde Party (B&GP) is; en
- Om die omgewingsmagtingingsproses te verstaan, sodat verseker sal word dat u effektief kan deelneem.

U GELEENTHEID OM DEEL TE NEEM

As u self as 'n B&GP beskou, dring ons u aan om gebruik te maak van die volgende geleenthede om betrokke te raak:

1. Kommunikeer by wyse van telefoon, faks of e-pos dat u ons uitnodiging aanvaar en betrokke wil raak;
2. Deur die aangehegde kommentaarvorm aan Arcus Gibb te stuur deur middel van pos, faks of e-pos;
3. Deur vergaderings by te woon wat gehou sal word gedurende die publieke deelname proses. Indien u registreer as 'n B&GP, sal u uitgenooi word na hierdie vergaderings;
4. Deur telefonies met Arcus GIBB in aanraking te kom, indien u enige navrae het of kommentaar wil lewer, of indien u verdere inligting wil bekom rakende die projek;
5. Deur die konsep Omvangsbepaling en Omgewingsimpak Evalueringsproses OIE verslae te hersien, binne die 30-dae periodes, en kommentaar aan Arcus GIBB te stuur.

Deur die aangehegde vorm in te vul, sal u automaties geregistreer word as 'n B&GP. Sodoende sal u kommentaar en versoeke rakende die projek op skrif gestel word en daaraan aandag gegee word tydens die OIE proses. Vir verdere inligting kan die onderstaande persoon gekontak word.

Kontak:

Jan-Willem De Jager
 Arcus GIBB, Posbus 3965, KAAPSTAD, 8000
 Tel: (021) 469 9100; Faks: (021) 424 5571
 E-pos: idejaqer@qibb.co.za

AGTERGROND VAN DIE PROJEK

Epispan (Edms) Bpk, met die handelsnaam 'Caledon Wind' beplan om 'n kommersieel windplaas en geassosieerde infrastruktuur op 'n terrein naby Caledon in die Wes Kaap Provinsie op te rig. Hierdie projek sal geregistreer word onder die United Nations Framework Convention for Climate Change (UNFCCC) as deel van as deel van die Clean Development Mechanism (CDM) Program.

'n Studie area van ongeveer 3700 ha word in aanmerking geneem om die beplande windplaas en geassosieerde infrastruktuur op te stel.

Die voorgestelde terreine is almal geleë binne die Theewaterskloof Munisipaliteit se regsgebied. Die grond waarop die beplande windplaas gebou gaan word is privaat eiendom wat gehuur gaan word by die eienaars. Hierdie plase was saam geïdentifiseer as die beste ligging om wind energie te genereer. Die voorgestelde plase is:

Plaasnaam	Erf No.	Naam van Eienaar
Warmoeskraal	1/259	Klipfontein Trust
Riet Fontein	3/259	Klipfontein Trust
Riet Fontein	7/259	Klipfontein Trust
Riet Fontein	8/259	Klipfontein Trust
Rietfontein	9/259	G Le Roux Edms Bpk
De Vleytjies	261	G Le Roux Edms Bpk
Lang Road	3/263	G Le Roux Edms Bpk
Warmoeskraal	1/263	Klipfontein Trust
Warmoeskraal	Re/263	Klipfontein Trust
Goedvertrouw	4/264	J S Maree Trust
Hawston View	1/271	J S Maree Trust
Hawston View	3/271	J S Maree Trust
Windheuwel	1/354	Klipfontein Trust
Plaas 744	744	G Le Roux Edms Bpk
Plaas 749	749	Klipfontein Trust

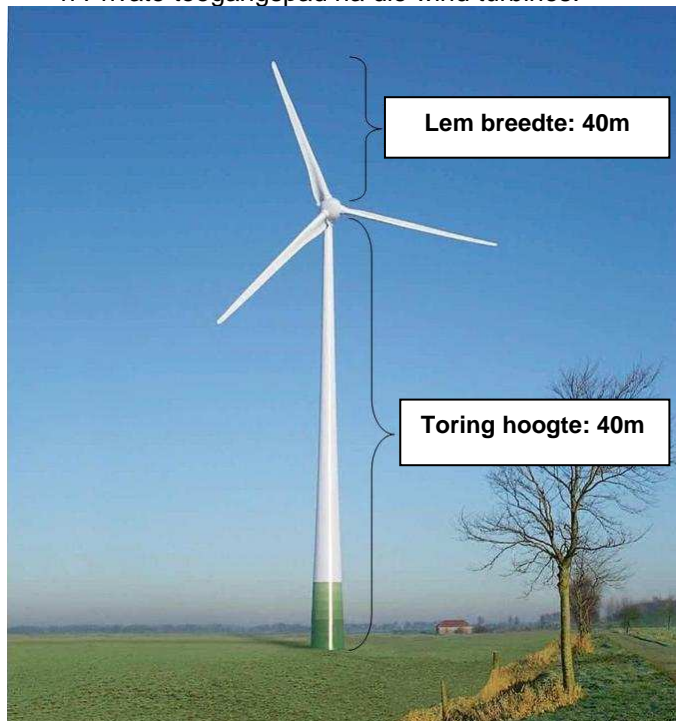
'n Gedetailleerde kaart wat die ligging van hierdie plase aandui word verskaf in **Figuur 3** op bladsy 5.

Die beplande Caledon windplaas sal 300MW groot wees, bestaande uit 150 wind turbines met 'n grootte van 2MW – 2,5MW elk. Elke windtoring sal 80m hoog wees en elke lem sal 'n lengte van 40m beslaan. 'n Tipiese wind turbine, wat die hoogte van die toring sowel as die lengte van die lem voorstel, word geïllustreer in **Figuur 1** op bladsy 2.

Addisionele infrastruktuur sal insluit:

- Toring fondasies (basis van die torings),

- Ondergrondse kables wat die torings verbind,
- Kragkables wat die turbines met die huidige kragnetwerk verbind,
- 'n Private toegangspad na die wind turbines.



Figuur 1: Tipiese 2MW wind turbine

HOEKOM WORD 'N WINDPLAAS BENODIG?

Die opwekking van elektrisiteit is 'n strategiese deel van die Suid-Afrikaanse ekonomie wat nou verweef is met die ekonomiese groei en ontwikkelingsplanne van die Regering. Oor die volgende paar jaar word verwag dat Suid-Afrika voortdurende groei in die industriële-, mynbou-, kommersiële- en plaalike-verbruikers sektore sal ervaar.

Verskeie kern beleide, departemente en instellings is verantwoordelik vir energiebeplanning in Suid-Afrika. Eerstens, die Suid-Afrikaanse Energie Beleid (Des 1998) gepubliseer deur die Departement van Energie (DE) identifiseer 5 kern doelwitte, naamlik:

- Verhoog toegang tot bekostigbare energiedienste;
- Verbeter die beheer van die energie sektor.
- Stimuleer ekonomiese ontwikkeling;
- Bestuur energie-verwante omgewingsimpakte; en
- Waarborg die beskikbaarheid van elektrisiteit deur van diverse bronne gebruik te maak.

Om die bostaande doelwitte sowel as ontwikkelings - en sosio-ekonomiese doelwitte van Suid-Afrika te bereik, moet die land al sy energiebronne optimaal benut. Tweedens, stel DE 'n Geïntegreerde Nasionale Energie

Plan (GNEP) op om toekomstige energie verbruik en aanvraag te bepaal. Dertens, die Nasionale Energie Reguleerder van Suid Afrika (NERSA) stel ook Geïntegreerde Nasionale Hulpbron Planne op om toekomstige energie aanvraag en aanbod te bepaal.

Die aanvraag vir elektrisiteit fluktueer beide op 'n geografiese en tydsvlak. Suid-Afrika se totale landsoppervlakte beslaan 'n area van 1.1 miljoen km² met stedelike en plattelandse gebiede wat elkeen 'n unieke aanvraag na elektrisiteit het. Areas met 'n hoë aanvraag is ook nie noodwendig naby aan kragopwekking-sentrums geleë nie. Steenkool, wat 90% van Suid-Afrika se elektrisiteit genereer, word meestal in die Ooste van die land ontgin. Nietemin, aanvraag na elektrisiteit is verspreid regoor die land met die mynbou en industriële sektore wat 40% in beslag neem.

Bykans 70% van die Wes Kaap se elektrisiteit word ingevoer vanaf Mpumalanga deur middel van transmissielyste, met die gevolg dat meer energie verlore gaan in die proses. Energie gaan verlore soos elektrisiteit deur die netwerk vloei om krag in verskillende gebiede te voorsien. Groter afstande tussen die kragopwekking-sentrums en verbruikers het dus die gevolg dat meer energie verlore gaan. Hierdie verliese verhoog beide die produksie onkoste en vervoerkoste van elektrisiteit. Meer kapasiteit word dus so benodig om elektrisiteit te genereer en die netwerk te onderhou, wat dan kapitale onkoste verhoog.

Hierdie verliese veroorsaak dat die koste van elektrisiteitsopwekking met n beraamde 6-8% en die verspreidingskoste met 25% verhoog word. Laer tegniese verliese lei tot goedkoper elektrisiteit en laer produksiekoste, wat dus 'n positiewe uitwerking sal hê op die Suid-Afrikaanse ekonomie.

Die aanvraag na elektrisiteit in Suid-Afrika het die afgelope paar jaar met 'n gemiddeld van 4% gegroei, ooreenkomstig met 'n verlaging van surplus produksie kapasiteit. Verhoogde olie pryse, die beperkte hoeveelheid fossiel brandstof en die dringende behoefte tot stabiele, betroubare en besoedelingsvrye bronne van elektriese energie, wat noodsaaklik is vir 'n moderne industriële ekonomie, het alles daartoe aanleiding gegee tot hernude fokus op alternatiewe energie bronne, insluitend hernubare energie.

Hernubarebronne van elektriese kragopwekking is verkieslik weens die feit dat dit 'n verlaagde impak op die omgewing het. Die Wit Papier op Hernubare Energie (2004) het 'n doelwit geplaas op die implementering van hernubare energie in Suid-Afrika. Met hierdie doelwit voor oë is hernubare opsies vir kragopwekking in ag geneem vir die GNEP as addisionele energiebronne.

Wind energie is volop, hernubaar, ver verspreid, skoon en verlaag die vlakke van CO² (koolstofdoksied) in die atmosfeer wanneer dit steenkool-gedrewe

kragepwekking vervang. Dit is dus aantreklik vir baie regerings, organisasies en individue. Die ligging van die beplande windplaas in die Wes-Kaap sal ook beteken dat daar minder energie verlore gaan omrede dit naby aan die aanvraagspunt geleë is.

TEGNIËSE INLIGTING

Eenvoudig gestel, werk 'n wind turbine op die teenoorgestelde manier as 'n waaier. Eerder as om wind te genereer deur van elektrisiteit gebruik te maak, gebruik 'n wind turbine die wind om elektrisiteit te genereer. Die wind draai die lemme en dit op sy beurt draai dan 'n as wat gekonnekteer is aan 'n kragopwekker. Sodoende word dus elektrisiteit gegenereer.

Die kragopwekker binne die wind turbine verander meganiese energie na elektriese energie. Hierdie kragopwekkers is anders as ander kragopwekkers wat normaalweg aan die kragnetwerk gekoppel is. Een rede hiervoor is dat die kragopwekker verbind moet wees aan 'n kragbron (die rotor van die wind turbine) wat dan krag meganiese krag (spanning) voorsien, alhoewel dit mag fluktureer.

Aktiwiteite wat benodig sal word vir die konstruksie fase van die projek sluit in die onttrekking van water en die stoor van diesel vir konstruksie voertuie en masjinerie. Die konstruksie van die windplaas sal in fases voltooi word. Tydens die eerste fase word dit beraam dat 50MW voltooi sal word. Die konstruksie van die eerste fase sal ongeveer 12 maande duur en die konstruksie van die addisionele 250MW sal oor 'n tydperk van min of meer 36 maande voltooi word. Wanneer die windplaas voltooi is, kan dit vir 'n tydperk van ongeveer 20 jaar gebruik word.

DIE BEHOEFTE VIR 'N OIE (GELYSDE AKTIWITEITE)

Die Nasionale Omgewingsbestuurswet (Wet 107 van 1998) Afdeling 24(5) stipuleer dat "aangetekende aktiwiteite" of "gelyste aktiwiteite" soos geïdentifiseer deur Regeringskennisgewings Nr. 386 (aktiwiteite wat 'n Basiese Impak Evalueeringsproses benodig) en Nr. 387 (Aktiwiteite wat 'n Omgewings Impak Evalueeringsproses benodig) eers deur die Minister bekragtig moet word.

Regeringskennisgewings Nr. 386 en Nr. 387 identifiseer die volgende aangetekende / gelyste aktiwiteite:

- Goewermentskennisgewing Nr. 387, 1:** Die bou van fasiliteite of infrastruktuur, met inbegrip van verwante strukture of -infrastruktuur, vir
- (a) die opwekking van krag waar –
 - (i) die kragopbrengs 20 megawatts of meer is; of
 - (ii) die elemente van die fasiliteit 'n gekombineerde gebied groter as 1 hektaar dek

(l) die leiding en verspreiding van bogrondse krag met 'n kapasiteit van 120 kilovolts of meer;

Goewermentskennisgewing Nr. 387, 2: Elke ontwikkelingsbedrywigheid, met inbegrip van verwante strukture en -infrastruktuur, waar die totale gebied van die ontwikkelde gebied 20 hektaar of meer is, of so beplan word.

Goewermentskennisgewing Nr. 386, 7: Die bogrondse berging van 'n gevaarlike goederesoort, met inbegrip van petrol, diesel, vloeibare petroleumgas of paraffien in houers met 'n gekombineerde kapasiteit van meer as 30 kubieke meter, maar minder as 1 000 kubieke meter te enige plek of perseel.

Goewermentskennisgewing Nr. 386, 12: Die omvorming of verwydering van inheemse plantegroei van drie hektaar of meer, of elke grootte waar die omvorming of verwydering sal plaasvind binne 'n kritiek bedreigde of 'n bedreigde ekosisteem gelys ingevolge artikel 52 van die Wet op Nasionale Omgewingsbestuur: Biodiversiteit, 2004 (Wet Nr. 10 van 2004).

Goewermentskennisgewing Nr. 386, 13: Die onttrekking van grondwater teen 'n volume waar enige algemene magtiging uitgereik ingevolge die Wet op Nasionale Water, 1998 (Wet Nr. 36 van 1998) oorskry word.

Goewermentskennisgewing Nr. 386, 14: Die bou van maste van enige materiaal of soort, en van enige hoogte, met inbegrip van dié gebruik vir telekommunikasieuitsending en radiouitsending, maar uitsluitende –

- (a) maste van 15 meter en laer wat uitsluitlik gebruik word (i) deur radioamateurs; of (ii) vir beligtingdoeleindes
- (b) vlagpale; en
- (c) weerligafleierpale.

Goewermentskennisgewing Nr. 15: Die bou van 'n pad wat breër is as vier meter of wat 'n reserwe het wat breër is as ses meter, uitsluitende paaie wat binne die strekking val van 'n ander gelyste bedrywigheid, of wat toegangspaaie van minder as 30 meter in lengte is.

DIE OIE PROSES

Die OIE word in vier fases verdeel:

1. Aansoek en aanvanklike kennisgewing

- 'n OIE aansoek word ingedien by die Nasionale Departement van Omgewingsake (DEA).
- Die DEA aanvaar die OIE aansoek (binne 14 dae).
- Die publiek word in kennis gestel van die voorgestelde ontwikkeling deur, *inter alia*, koerant

advertensies, kennisgewing briewe, agtergrond inligtingsdokumente en kennisgewingsborde.

2. Omvangsbepalingsfase

- Die studie area word bestudeer en inligting word ingesamel om sodoende 'n beter begrip van die omgewing te kry;
- Daar word bepaal hoe die voorgestelde projek die omliggende area sal beïnvloed;
- Belanghebbende en Geaffekteerde Partye (B&GP) word geïdentifiseer deur middel van 'n publieke deelname proses;
- Potensiële omgewingsimpakte word geïdentifiseer deur middel van die publieke deelname proses sowel as deur 'n deeglike ondersoek te loods; en
- Beskryf en bestudeer moontlike alternatiewe wat in rekenskap geneem kan word.

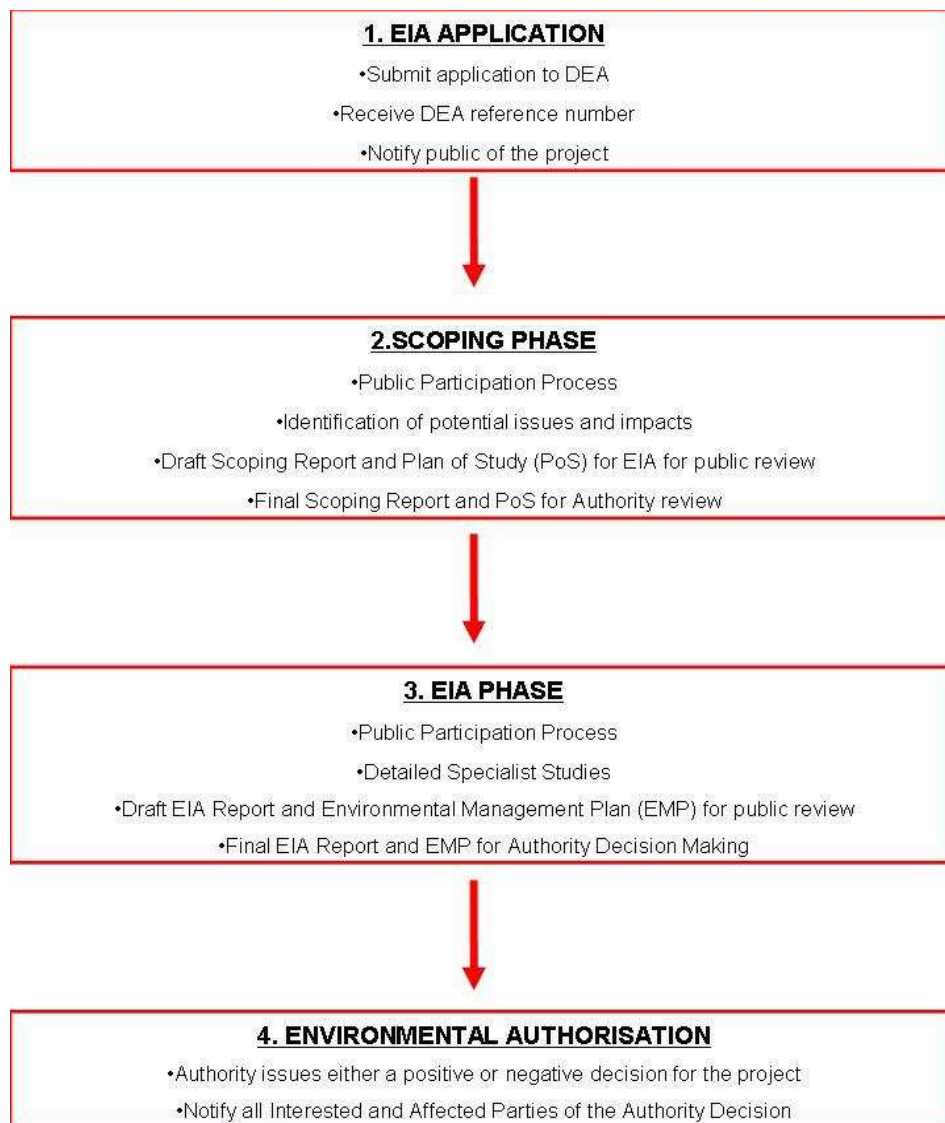
3. OIE fase

- 'n Gespesialiseerde evaluering van alle kwessies en voorgestelde alternatiewe word geneem in die omvangsbepalingsfase.
- Versagtingsmaatreëls en voorstelle word geïdentifiseer om die grootte en omvang van potensiële impakte te verlaag.
- 'n Omgewingsbestuursplan word opgestel wat die maatreëls uitlig waaraan voldoen moet word gedurende die konstruksie en operasionele fase.
- Soos met die omvangsbepalingsfase, vorm die publieke deelname proses 'n integrale deel van die evalueringproses.

4. Omgewingsmagtiging

- Omgewingsmagtiging word toegestaan aan Caledon Wind sodra die DEA 'n besluit geneem het rakende die voorgestelde projek.
- Die besluit kan beide positief of negatief wees gebasseer op *inter alia*, die inligting wat ontvang is in die omvangsbepalings - en OIE fases.

Die OIE proses word as 'n diagram voorgestel in **Figuur 2**.



Figuur 2: Diagram wat die OIE Proses illustreer

TIPIESE IMPAKTE GEASSOSIEËR MET WINDPLASE

Positiewe sosiale en omgewingsimpakte wat tipies geassosieer word met windplase is:

- Wind energie is hernubaar, skoon en besoedelingsvry omrede dit geen byprodukte produseer wat nadelig vir die omgewing is nie.
- Wind energie kan opgewek word gedurende die dag en nag;
- Windplase is gepas vir plattelandse gebiede en het dus 'n verlaagde impak op landbou aktiwiteite vergelykend tot ander kragopwekkingsmetodes. Windplase kan ook bydrae to ekonomiese groei in hierdie areas;
- Wind turbines maak gebruik van eenvoudige tegnologie in terme van ontwerp en konstruksie;
- Wind energie is kompetierend in vergelyking met ander hernubare energie bronne; en
- Dit is 'n veilige wyse van kragopwekking indien dit deeglik onderhou word.

Windplase het ook die volgende impakte:

- Visueel – weens hul grootte, is die windtorings van vêr af sigbaar. Hulle kan ook sonlig reflekteer weens hul groot reflektiewe oppervlakte.
- Geraas – die draaiende lemme is bekend daarvoor om 'n “whoosing” geluid te maak.
- Impakte op voels – botsings met draaiende lemme en “barotraumas” (spesifiek met vlermuise) is die hoof oorsaak van beserings en sterftes.
- Habitat transformasie – daar sal 'n vermeerdering van verharde en onnatuurlike oppervlakte wees.
- Lugverkeer struikelblokke – weens die wind turbines se hoogte mag daar probleme ontstaan vir lugverkeer, afhangend van vlugroetes en nabyheid van lughawes.

As deel van die OIE, sal hierdie potensiele impakte ge-evalueer word deur die volgende spesialisstudies te loods:

- Fauna and Flora Impak Bepaling;
- Avifauna Impak Bepaling;
- Heritage Impak Bepaling;
- Geraas Impak Bepaling;
- Visuele Impak Bepaling;
- Landbou Impak Bepaling;
- Sosiale Impak Bepaling;
- Verkeersimpak Bepaling; en
- Basiese Geotegniese Bepaling.

As deel van die omgewingstudies, is alle B&GPe genooi om aktief betrokke te raak tydens die publieke deelname proses.

PUBLIEKE DEELNAME PROSES EN HOE OM TE REGISTREER AS 'N B&GP

Dit is van kritiese belang vir die OIE proses dat die insette van Geïntereseerde en Geaffekteerde Party (B&GPe) vroegtydig ontvang word. Die terugvoer van B&GPe is 'n belangrike faset van die OIE en sal die DEA help om 'n besluit te neem rondom die projek. Om te verseker dat die OIE vlot verloop moet die volgende stappe geneem word:

STAP 1: Plaas advertensies rakende die OIE proses in nasionale, streeks- en plaalike koerante.

STAP 2: Registreer B&GPe en ander belanghebbendes en plaas kontakbesonderhede op die databasis (aangaande proses).

STAP 3: Konsultasie met, en die oordrag van inligting na B&GPe deur middel van publieke vergaderings, fokusgroep vergaderings en sleutelrolspelers vergaderings.

STAP 4: Dokumenteer alle terugvoer en aanmerkings vanaf B&GPe binne 'n aanmerkingslys, wat 'n belangrike deel uitmaak van die OIP verslae.

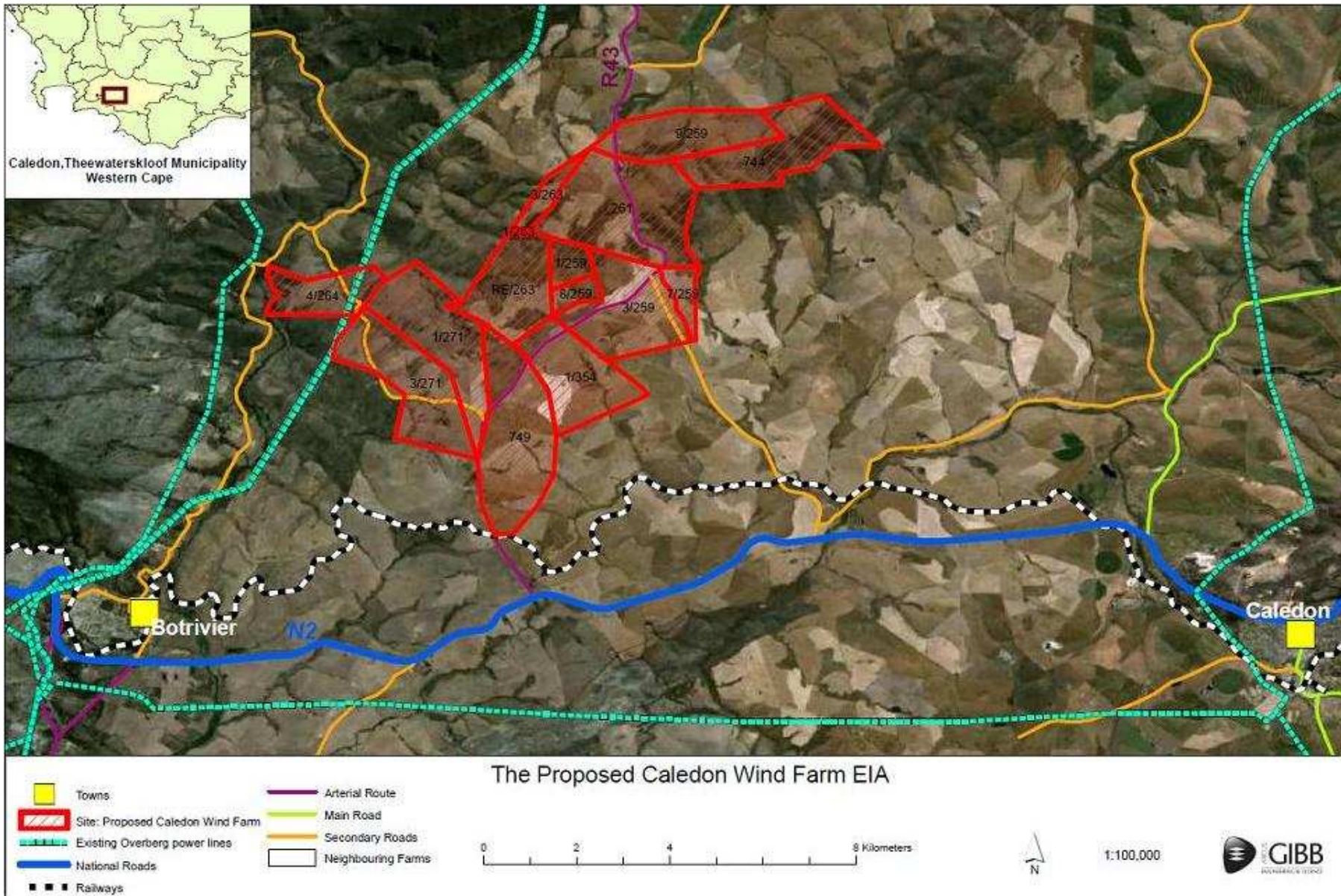
STAP 5: Nooi B&GPe om terguvoer te gee rakende die omvangsbepalingsverslae (periode van 30 dae).

HERINNERING: HOE OM BETROKKE TE RAAK?

'n Registrasie vorm word voorsien op die agterblad van die dokument en kan gebruik word om u mening rondom hierdie projek uit te lig. U is welkom om 'n aparte bladsy te gebruik indien hierdie spasie nie voldoende is nie. Die name van alle B&GPe sowel as hulle terugvoer rakende die projek sal binne die Omvangsbepalings - en OIP verslae geplaas word en sal aan die DEA oorhandig word.

Plaas asseblief u naam, kontakbesonderhede (adres, telefoon nommer, e-pos adres en pos adres) saam met u terugvoer as die kontak persoon op die registrasie vorm.





Figuur 3: Liggingsplan vir die voorgestelde Caledon Windplaas in Theewaterskloof Munisipaliteit.

