

MEETING NOTES

199 Bryanston Drive
Bryanston
2191

Tel: +27 11 361 1392
Fax: +27 11 361 1381

www.wspgroup.com
www.pbworld.com

| | |
|-----------------------|--|
| Job Title | BioTherm Wind EIA's |
| Project Number | 47579 |
| DEA Reference Number: | 14/12/16/3/3/2/963 – Maralla West WEF 14/12/16/3/3/2/967 – Esizayo WEF 14/12/16/3/3/2/962 – Maralla East WEF |
| Date | 22 February 2017 |
| Time | 14:00 |
| Venue | The Court House, Matjiesfontein |
| Subject | Landowner Meeting for the Transmission Lines |
| Client | BioTherm Energy (Pty) Ltd |
| Present | See Appendix A |
| Apologies | Mr and Mrs van Zyl Mr Andries Le Roux |
| Distribution | As above |

MATTERS ARISING

ACTION

1.0 WELCOME AND INTRODUCTION

- 1.1 Ashlea Strong (AS) welcomed the land owner and an informal round of introductions was done.
- 1.2 Ashlea Strong explained that as only Mr Francois Conradie (FC) was present this would be an informal discussion. We would focus on his particular concerns.

2.0 PROJECT OVERVIEW

- 2.1 AS explained why we have had to split the 3 x WEF and the 2 x BA's for the Transmission Lines. The Transmission lines will be handed over to Eskom once construction is complete.
- 2.2 We are doing the Basic Assessment's this is the start of the process.

3.0 TECHNICAL DESCRIPTION & LOCATION

- 3.1 Three Proposed wind farms:
- Esizayo
 - Maralla East
 - Maralla West
- AS explained the locations of each of the wind farms as per the Map attached as **Appendix B**.
- We started off with 125 turbines per project, using the results of the specialist studies we have reduced it to 56 turbines.

4.0 ALTERNATIVES

- 4.1 AS: Preferred alternative for Esizayo is the route in yellow on Map on Presentation (**Appendix B**).
- 4.2 Due to the fact that the preferred corridor follows the existing road as far as possible it should have limited impact on your farm.
- 4.3 FC: Do you choose one or do you want to build all three? You don't have a preferred one.

AS

| MATTERS ARISING | ACTION |
|--|--------|
| AS: No. The three WEFs are three separate projects and Biotherm wants to build all three | |
| 4.4 AS: Explained the proposed powerline route for Maralla route as per the presentation (Appendix B). | |
| 4.5 AS: BioTherm are proposing to install double circuit structures so that you can run two lines from one structure. We don't know if it needs two circuits yet so we will use one side and Eskom could possible use the other. | |
| 4.6 FC: There are so many powerlines on my farm. Eskom or any other company putting up powerlines need to make a plan to try reduce the number of powerlines on my land. | |
| 4.7 FC: What is the size of the line? | |
| 4.8 AS: 132 kV line. The structure is a concrete monopole. Doesn't take up a lot of space on the ground and doesn't need any anchors or guy wires. | |
| 4.9 AS: To reduce the impact of the powerlines (and supporting access roads) the lines will be placed parallel to the road. This is better from an environmental point of view. Also reduces the risk of erosion. | |
| 4.10 FC explained that there have been petitions going around from the weekend "wealthier farmers" as they don't want the Wind Farms but the people that farm the lands want them as they bring economic opportunities to the area. | |
| 5.0 IMPACTS | |
| 5.1 AS went over the impacts associated with the WEF. → High significance for birds but we have moved some of the turbines to reduce the impact. → High significance for bats → High Significance for visual - not much you can do to mitigate | |
| 5.2 AS showed the landowner the various projects that are being undertaken in the area and identified the land owners farm and explained where the planned projects are in relation to his farm. | |
| 5.3 AS: The map of the other planned facilities is not 100% correct. It is uploaded by the DEA but has not been updated. | |
| 5.4 AS showed the cumulative impact graph in the presentation (Appendix B) and explained that the cumulative impacts are low. | |
| 5.5 We will have something similar in the basic assessment for the powerlines. | |
| 6.0 WAY FORWARD | |
| 6.1 AS explained the way forward and explained that the EIA and BA processes are running simultaneously, however the BA process is slightly behind the EIA's but it is a much shorter process. | |
| 6.2 BioTherm will need to wait for the next bidding window to submit. | |
| 6.3 AS has agreed to send through a descent powerline map and the presentation. | |
| 7.0 GENERAL DISCUSSION | |
| 7.1 FC: When G7 was being advertised on the internet all the wealthier land owners located near Matjiesfontein where not happy with the wind farms. The farmers that rely on the land for income are positive about the planned projects. The Matjiesfontein farmers are so far away that they won't even see the wind turbines. | |
| 7.2 AS: Laingsburg seem positive but they are tired of people coming and talking about wind farms and then nothing ever comes of it. | |
| 7.3 FC: Yes, this has been happening for 10 years now. | |
| 7.4 FC: We have some of the best wind in the country, why are so few projects actually being approved here? | |
| 7.5 MY: I think they only discovered Laingsburg later than the other areas so its still to recent. | |
| 7.6 FC: No they have been proposing projects in the area for almost 10 years now. | |





| MATTERS ARISING | ACTION |
|---|--------|
| 7.7 AS: For the REIPPPP you submit your best cost to sell back to the government. It might be that building on a hilly topography is more expensive due to the cost of construction. | |
| 7.8 FC: When is the next Bidding round? | |
| 7.9 MY: Unfortunately, we do not know at this stage. We do all this work at risk as we need to have this all in place so that if there is a round 5 we have everything ready to submit. | |
| 7.10 AS confirmed that the landowner is on the stakeholder database and will receive communication going forward. | |
| 8.0 CLOSING | |
| 8.1 AS thanked the landowner for coming and closed the meeting at 14:00. | |

NEXT MEETING


No further meetings are anticipated.

Appendix A: Attendance Register

ATTENDANCE REGISTER 22 February 2017

| Name | FARM Company Name | Contact Details | Signature |
|-----------------------|----------------------|--|---|
| Bronwyn Fisher | WSP Environmental | Tel: 021 481 8062 Fax: 021 481 8799 Mobile: 083 329 9316 Email: Bronwyn.fisher@wspgroup.co.za |  |
| F.D. CONRADIE | Saeiplaas | Tel: 023-5571817 Fax: Mobile: Email: Fdconradie@rosgeveld.co.za |  |
| MOHAMMED JUNIUS YUSUF | BioTherm | Tel: Fax: Mobile: 072-3515033 076 765 2789 Email: myusuf@biothermenergy.com |  |
| Simphine Kulu | BioTherm Energy | Tel: (011) 867 4600 Fax: Mobile: 076 011 8895 Email: Skulu@biothermenergy.com |  |

ATTENDANCE REGISTER 22 February 2017

| Name | Company Name | Contact Details | Signature |
|------------|--------------|---|---|
| A. Strong. | FROM WSP | Tel: 011 361 1392 Fax: Mobile: Email: ashlea.strong@wspgroup.co.za |  |
| | | Tel: Fax: Mobile: Email: | |
| | | Tel: Fax: Mobile: Email: | |
| | | Tel: Fax: Mobile: Email: | |

Appendix B: Presentation



BioTherm Wind Energy Developments

Landowner Meeting

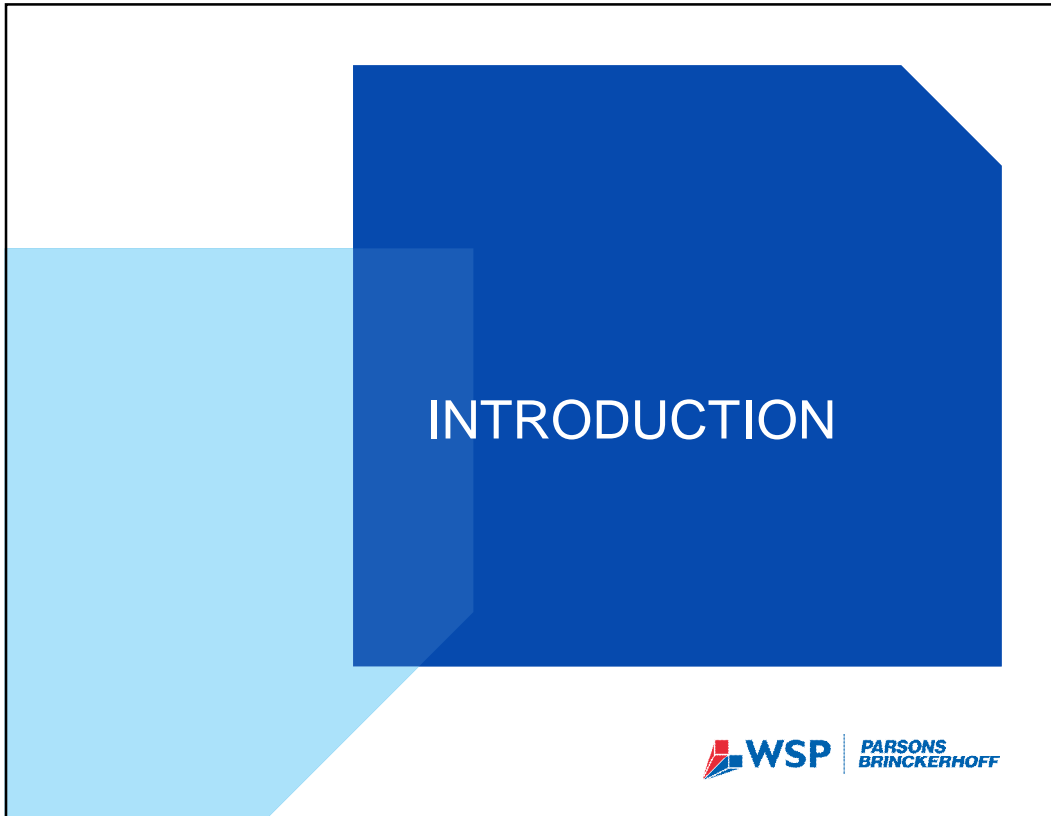
Date: 22 February 2017
Time: 14:00 – 16:00
Venue: Lord Milner Hotel



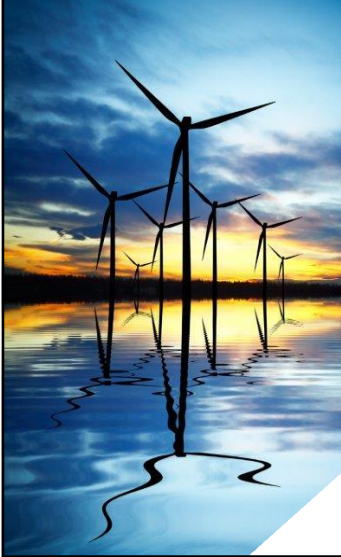
AGENDA



- à **Welcome and Introductions**
 - § Purpose of the Meeting
 - § Conduct of the Meeting
 - § Responsibilities
- à **Environmental Authorisation Process**
- à **Project Description & Locality**
- à **Legal Requirements**
- à **Outline of the Alternatives**
- à **Impact Assessment**
- à **Public Participation Process**
- à **Way Forward**
- à **Questions**



PURPOSE OF THE MEETING



- à **Provide stakeholders with information regarding:**
 - § The proposed project
 - § The Environmental Impact Assessment (EIA) process to date
 - § Findings of the Draft Environmental Impact Report (DEIR)
- à **Provide stakeholders with the opportunity to raise issues regarding the potential impacts of the project on the environment**
- à **Provide an opportunity for stakeholders to interact with the project team**



CONDUCT OF THE MEETING



- à **Focus on issues at hand**
- à **Presentation will be presented in English**
- à **Questions should please raised through the facilitator**
- à **Be courteous and ensure equal opportunity**
- à **Cell phones to be switched off or on silent**



RESPONSIBILITIES

| Roleplayer | Responsibility |
|-------------------------|--|
| Applicant (BioTherm) | <ul style="list-style-type: none"> • Appoint suitable, independent EAP • Ensure adequate resources are available to conduct an effective, efficient & equitable S&EIR process • Ensure that the EAP is provided with relevant information to undertake the S&EIR process effectively • Ensure that the EAP provides all relevant information to the Authorities |
| EAP (WSP) | <ul style="list-style-type: none"> • Be independent with no vested interest • Have the necessary qualifications & experience • Responsible for authorisation process, information & reports • Provide relevant & objective information to the authorities, the stakeholders & the proponent • Ensure public participation process (PPP) is undertaken • Ensure all issues raised are addressed or responded to |



RESPONSIBILITIES CONT.

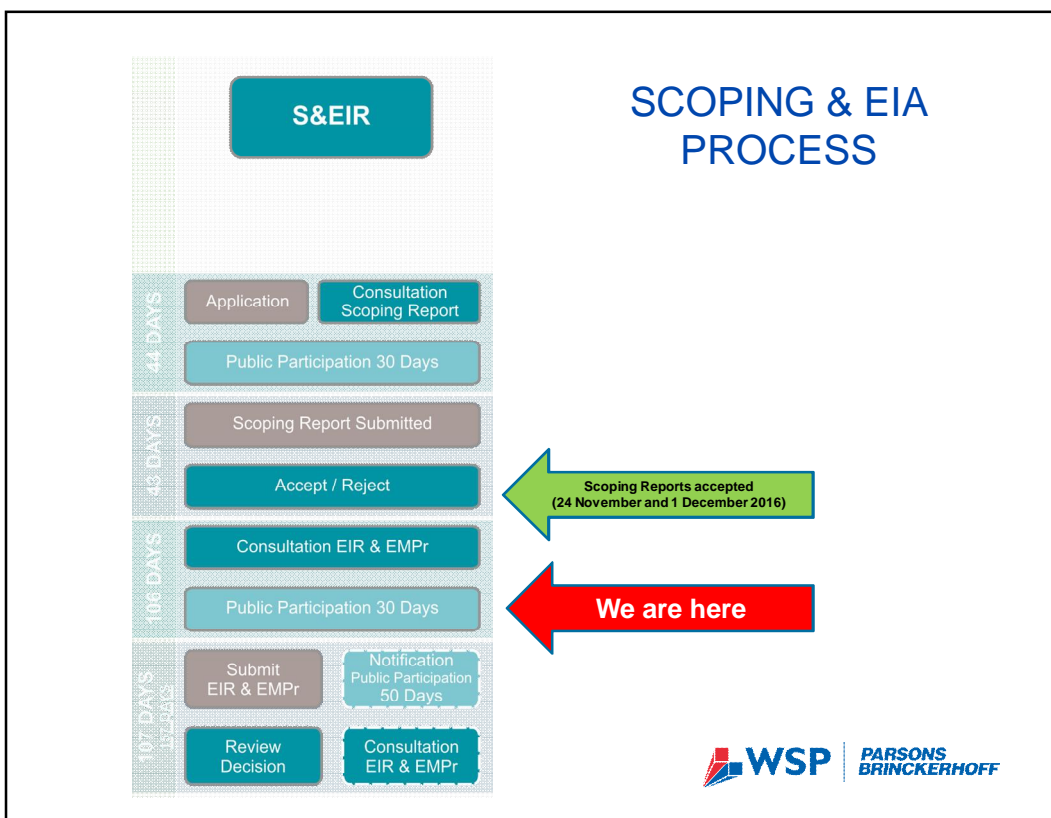
| Roleplayer | Responsibility |
|---|---|
| Stakeholders | <ul style="list-style-type: none"> • Provide input & comment during the S&EIR process • Review of reports <ul style="list-style-type: none"> • Draft Scoping Report (DSR) • Environmental Impact Report (EIR) • Environmental Management Programme (EMPr) • Provide input & comment within specific timeframes |
| Decision-making Authority (Department of Environmental Affairs) | <ul style="list-style-type: none"> • 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 |



ENVIRONMENTAL AUTHORISATION PROCESS



The slide features a large blue rectangle with the title 'ENVIRONMENTAL AUTHORISATION PROCESS' in white capital letters. Below the title, the logos for WSP and Parsons Brinckerhoff are displayed.



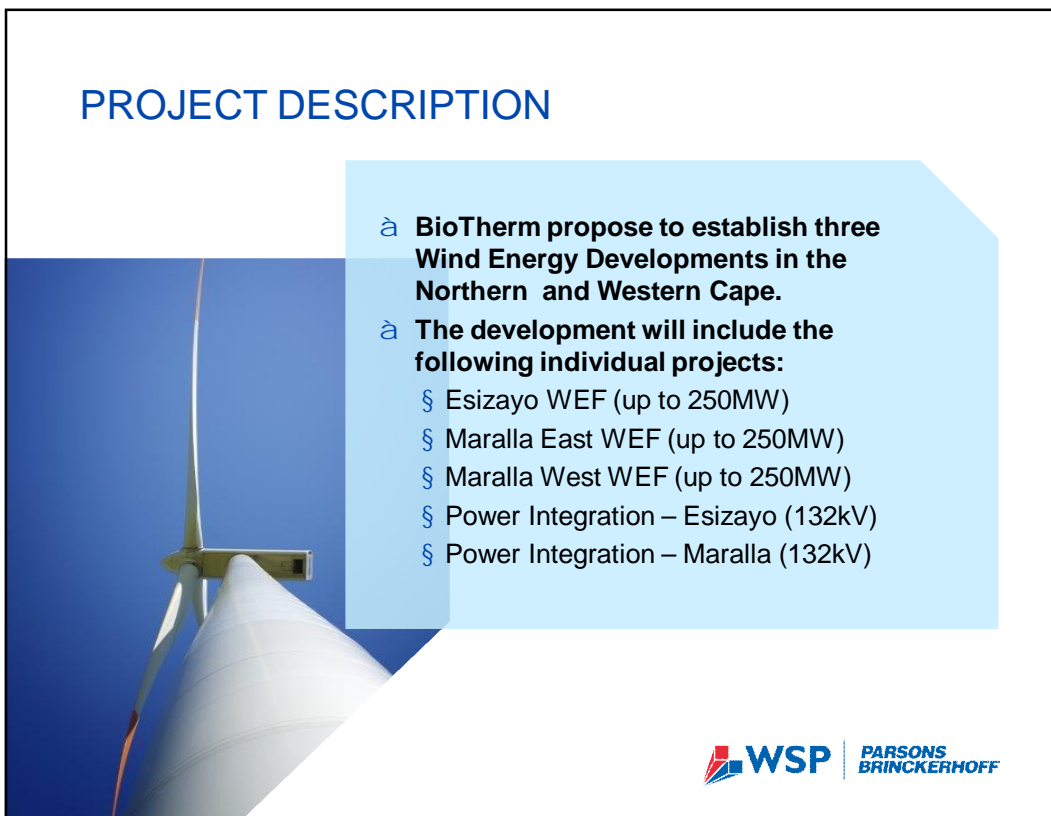


PROJECT
DESCRIPTION

Project and Technical Description and Locality





WSP | PARSONS
BRINCKERHOFF



PROJECT DESCRIPTION

- à **BioTherm propose to establish three Wind Energy Developments in the Northern and Western Cape.**
- à **The development will include the following individual projects:**
 - § Esizayo WEF (up to 250MW)
 - § Maralla East WEF (up to 250MW)
 - § Maralla West WEF (up to 250MW)
 - § Power Integration – Esizayo (132kV)
 - § Power Integration – Maralla (132kV)



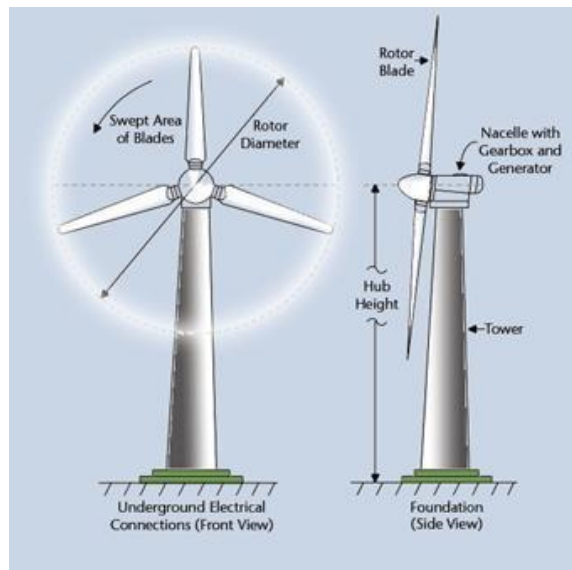
WSP | PARSONS
BRINCKERHOFF

TECHNICAL DETAILS

| | |
|--|--|
| Generation Capacity | Up to 250 MW |
| Number of turbines | Up to 125 (Revised Layout includes 56 Turbines) |
| Area occupied by each turbine | 0.5 ha (85m x 60m) |
| Turbine hub height | Up to 120m |
| Rotor Diameter | Up to 150m |
| Width of internal roads | Between 4.0m and 6.0m, however this may increase to 8m on bends |
| Footprint of internal onsite substation | 150m x 150m |
| Onsite substation capacity | Up to 132kV |
| Width of the powerline servitude | 31m (15.5m either side) |
| Powerline tower types and height | Tower (suspension / strain) / Steel monopole structure, which may be self-supported or guyed suspension. |



WIND ENERGY GENERATION PROCESS



Drawing of the rotor and blades of a wind turbine, courtesy of ESN



PROJECT LOCATION

Esizayo Development Location

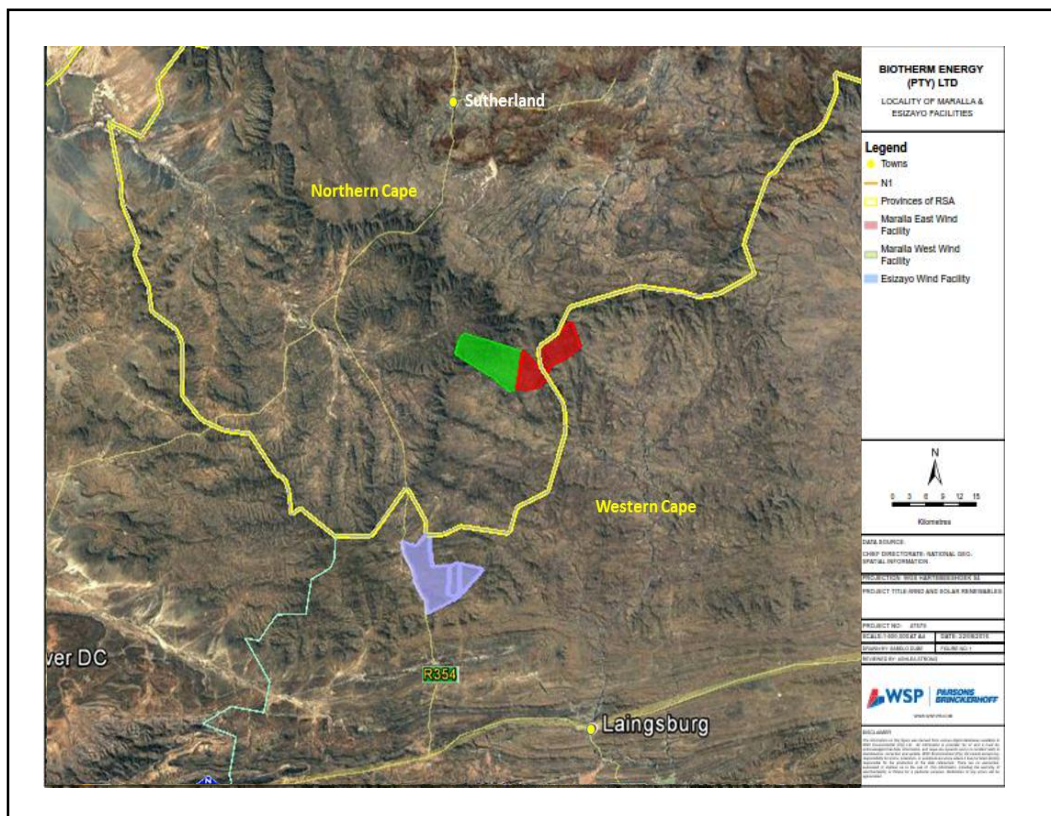
| FARM NAME & NUMBER | FARM SIZE (HA) |
|-----------------------------------|----------------|
| Portion 1 of Aanstoot Farm No. 72 | 762.42 ha |
| Annex Joseph's Kraal Farm No.84 | 913.32 ha |
| Aurora Farm No. 285 | 4 385.29 ha |

Maralla East Development Location

| FARM NAME & NUMBER | FARM SIZE (HA) |
|--|----------------|
| Farm Welgemoed 268, Remainder | 2 649 ha |
| Farm Schalkwykskraal 204, Remainder | 1 056 ha |
| Farm Drie Roode Heuvels 180, Remainder | 3 929 ha |

Maralla West Development Location

| FARM NAME & NUMBER | FARM SIZE (HA) |
|--|----------------|
| Farm Drie Roode Heuvels 180, Remainder | 3 929 ha |
| Farm Annex Drie Roode Heuvels 181, Remainder | 329 ha |
| Farm Wolven Hoek 182, Portion 1 | 763 ha |
| Farm Wolven Hoek 182, Portion 2 | 625 ha |

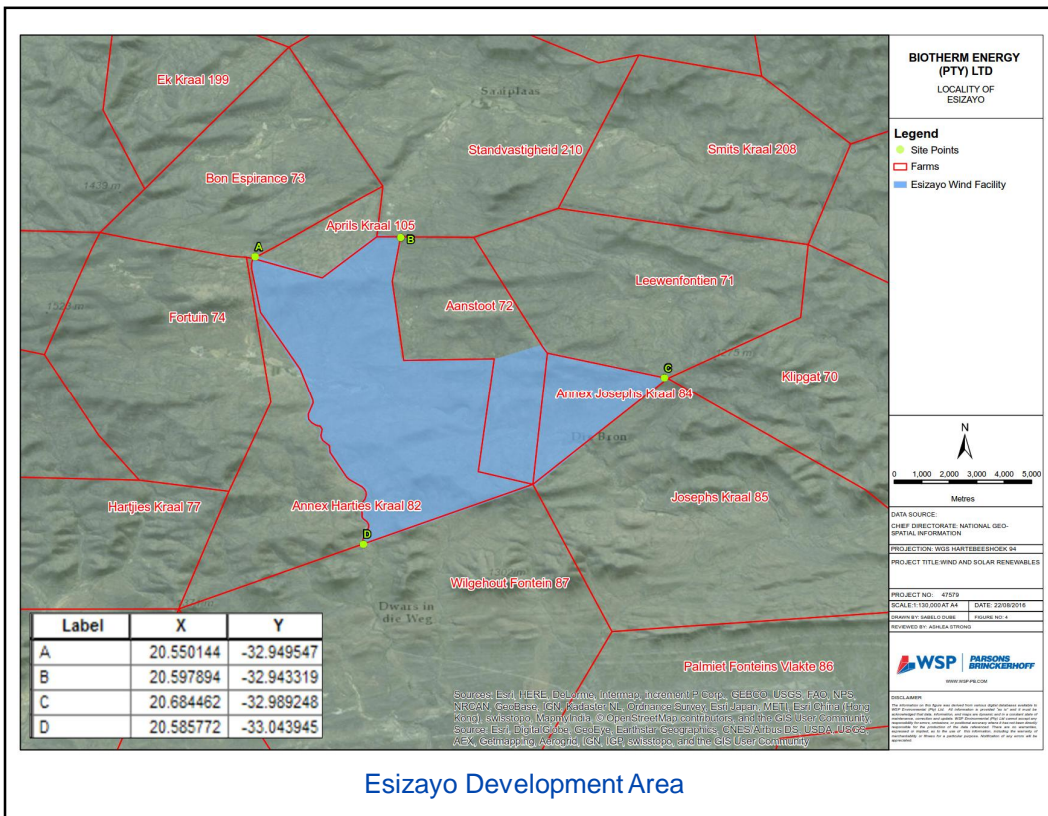


PROJECT LOCATION- ESIZAYO



à **The Esizayo Wind Energy Development will be located:**

- § Farm Aanstoot 1/72
- § Farm Annex Joseph's Kraal 84
- § Farm Aurora 285
- § Approximately 70km south of Sutherland
- § Laingsburg Local Municipality
- § Central Karoo District Municipality
- § Western Cape

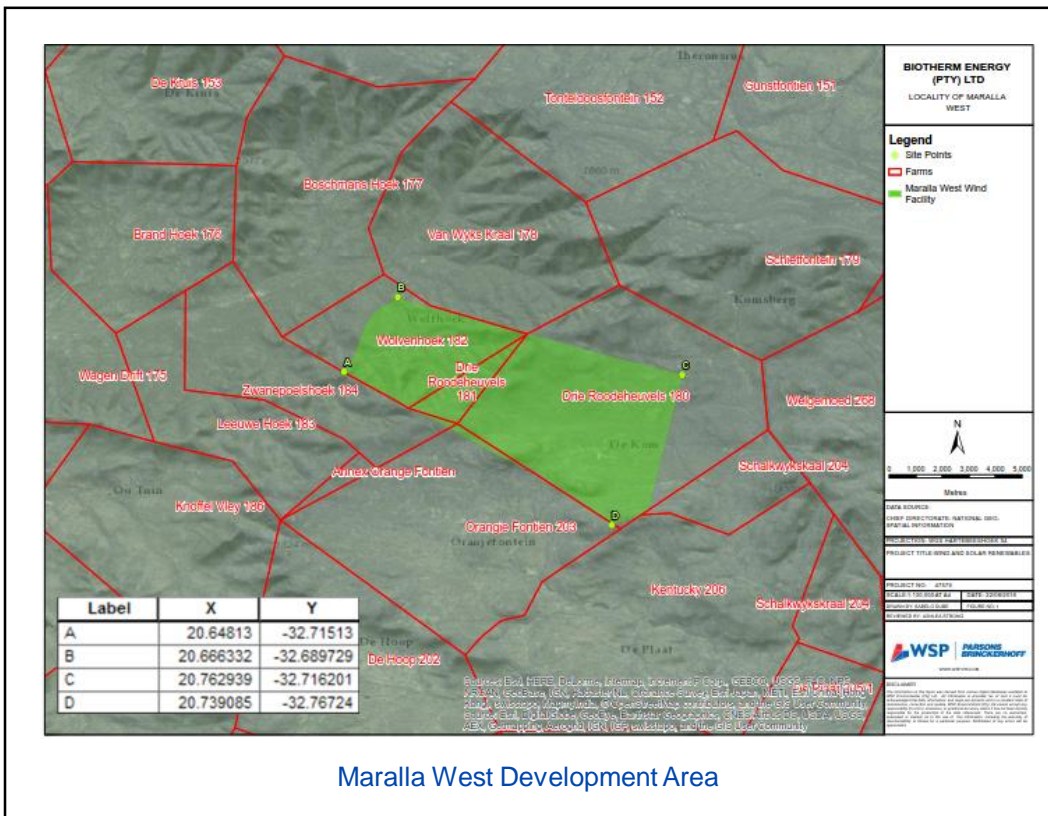


PROJECT LOCATION- MARALLA WEST



à **The Maralla West Wind Energy Development will be located:**

- § Portion of Farm Drie Roode Heuvels RE/180
- § Farm Annex Drie Roode Heuvels RE/181
- § Farm Wolven Hoek 1/182
- § Farm Wolven Hoek 2/182
- § Approximately 34km southeast of Sutherland
- § Karoo Hoogland Local Municipality
- § Namakwa District Municipality
- § Northern Cape





LEGAL REQUIREMENTS

| Relevant Act | Competent Authority |
|---|---|
| National Environmental Management Act (No. 107 of 1998) (NEMA) | Department of Environmental Affairs (DEA) |
| <ul style="list-style-type: none"> An environmental authorisation is required prior to the establishment of the Proposed Projects A full S&EIR Process is required to be conducted for the WEF Projects A Basic Assessment is required to be conducted for the power integration projects Listed Activities triggered under Government Notice Regulation (GNR) 983, 984 and 985 of 2014 | |
| National Water Act (No. 36 of 1998) | Department of Water and Sanitation |
| <ul style="list-style-type: none"> The following water uses have been identified as potentially applicable: <ul style="list-style-type: none"> Section 21 (a) and 21 (b) Section 21 (c) and 21 (i) Water Use Licence or General Authorisation required prior to the establishment of the Proposed Projects | |
| National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004) | |
| <ul style="list-style-type: none"> The are Critical Biodiversity Areas (CBAs) in the study areas. | |
| National Heritage Resource Act (No. 25 of 1999) | |
| <ul style="list-style-type: none"> A Heritage Impact Assessment (HIA) will be undertaken looking at Archaeology, Heritage and Palaeontology for each of the above mentioned projects | |
| Renewable Energy Development Zone | |
| <ul style="list-style-type: none"> The project areas fall within the Komsberg Wind REDZ | |

WATER USE LICENSING

| Relevant Water Use | Description | Applicability |
|--------------------|---|---|
| Section 21 (a) | Taking water from a water resource | In the event that ground water abstraction is required for operational activities |
| Section 21 (b) | Storage of raw water | In the event that the storage of raw water is required for operational activities |
| Section 21 (c) | Impeding or diverting the flow of water in a watercourse | In the event that the powerlines or access roads cross a watercourse, drainage line or wetland area or if a turbine is constructed within 500m of a watercourse, drainage line or wetland |
| Section 21 (i) | Altering the bed, banks course or characteristics of a water course | |



LISTED ACTIVITIES

| Project Name | Listing Notice | Activities Triggered | | | | | | |
|--|----------------|----------------------|----------------|-------|--------|--------|----------|----|
| | | 11(i) | 12 (xii) (a&c) | 19(i) | 24(ii) | 28(ii) | 30 | 56 |
| Maralla West, Maralla East and Esizayo | GNR 983 | 11(i) | 12 (xii) (a&c) | 19(i) | 24(ii) | 28(ii) | 30 | 56 |
| | GNR 984 | 1 | 15 | - | - | - | - | - |
| | GNR 985 | 4 | 10 | 12 | 14 | 18 | 23 (iii) | - |
| Power Integration | GNR 983 | 11(i) | 12 (xii) (a&c) | 19(i) | 27 | 28(ii) | 30 | - |
| | GNR 985 | 4 | 12 | 14 | - | - | - | - |



A title slide for 'PROJECT ALTERNATIVES'. The slide features a dark blue background on the right side with the title in white, and a light blue background on the left side. The WSP and Parsons Brinckerhoff logos are in the bottom right corner.

PROJECT ALTERNATIVES

WSP | **PARSONS BRINCKERHOFF**

DEVELOPMENT AREA ALTERNATIVES

Site Selection was based on the following factors:

A vertical flowchart with five blue downward-pointing arrowheads on the left, each pointing to a rounded rectangular box containing a list of factors. The factors are: Environmental Factors, Resources Factors, Grid Factors, Other Factors, and Land Owner Factors.

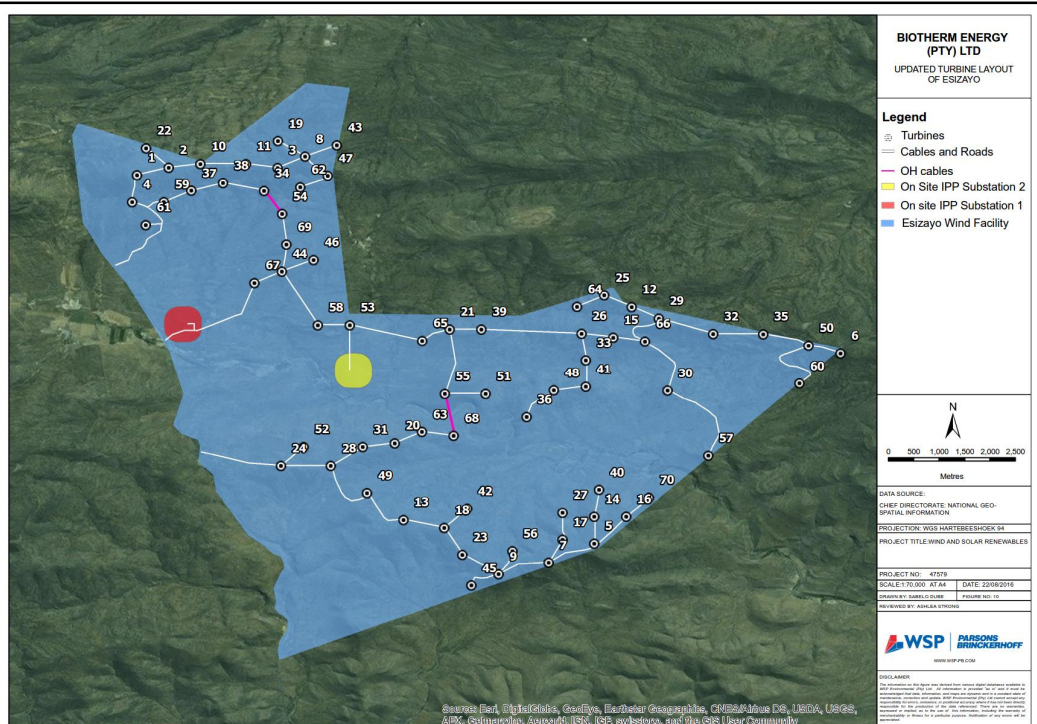
- Environmental Factors**
 - Google Earth
 - SANBI BGIS
 - FEPA, SEA
 - Other EIAs
- Resources Factors**
 - Satellite Data
 - Onsite Measurements
- Grid Factors**
 - Current Capacity
 - Future Capacity
 - Stability
 - Substations/Powerlines
- Other Factors**
 - Climate
 - Topography
 - Site Access
 - Competition
 - Existing Environmental Authorisations
- Land Owner Factors**
 - Land Availability
 - Land Owner Approachability
 - Compensation
 - Competition

WSP | **PARSONS BRINCKERHOFF**

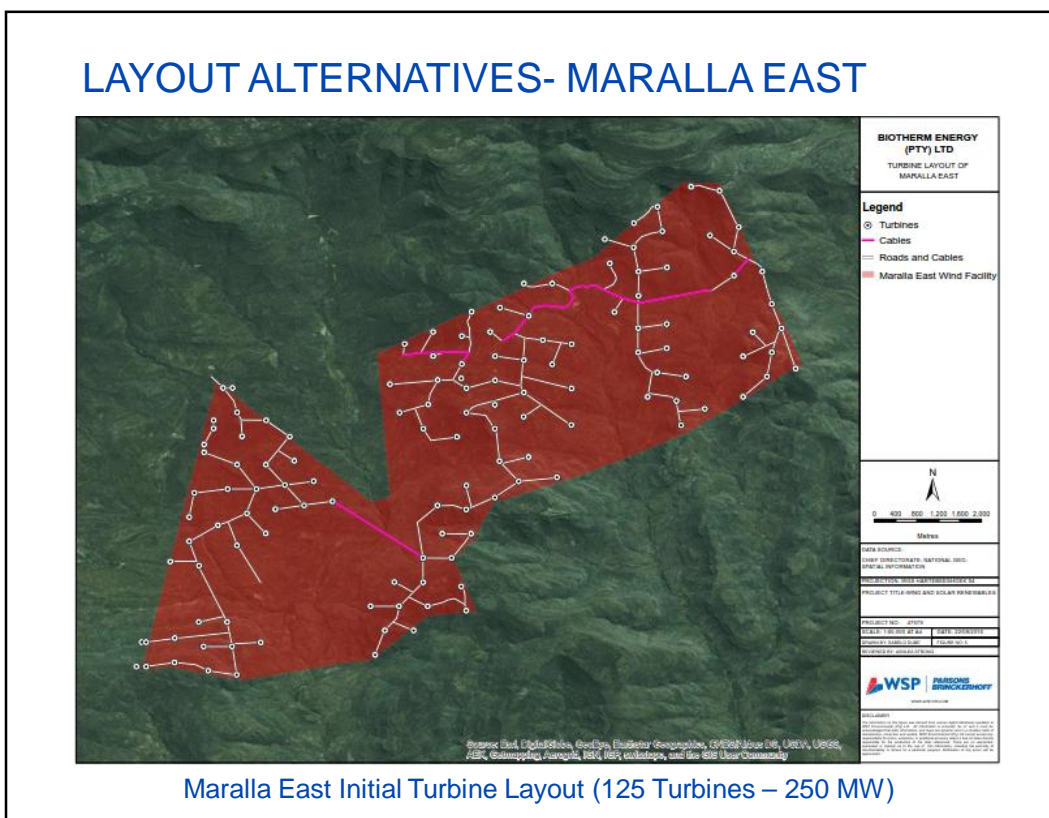
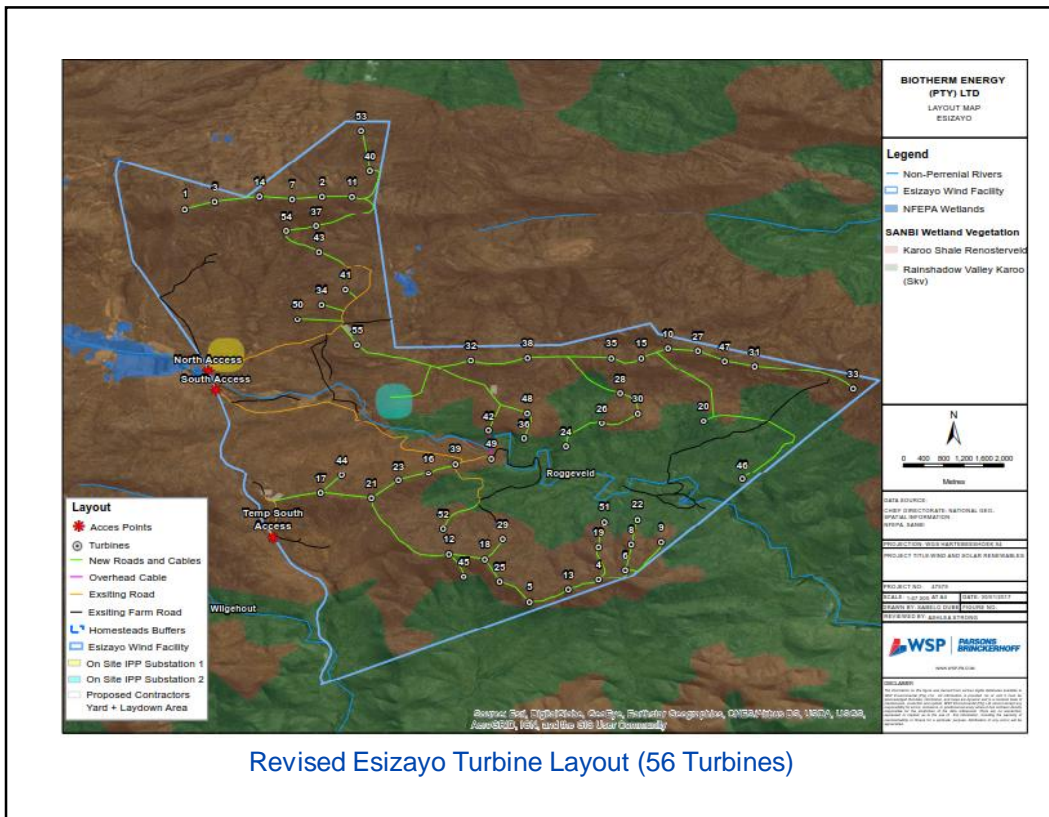
LAYOUT ALTERNATIVES- ESIZAYO

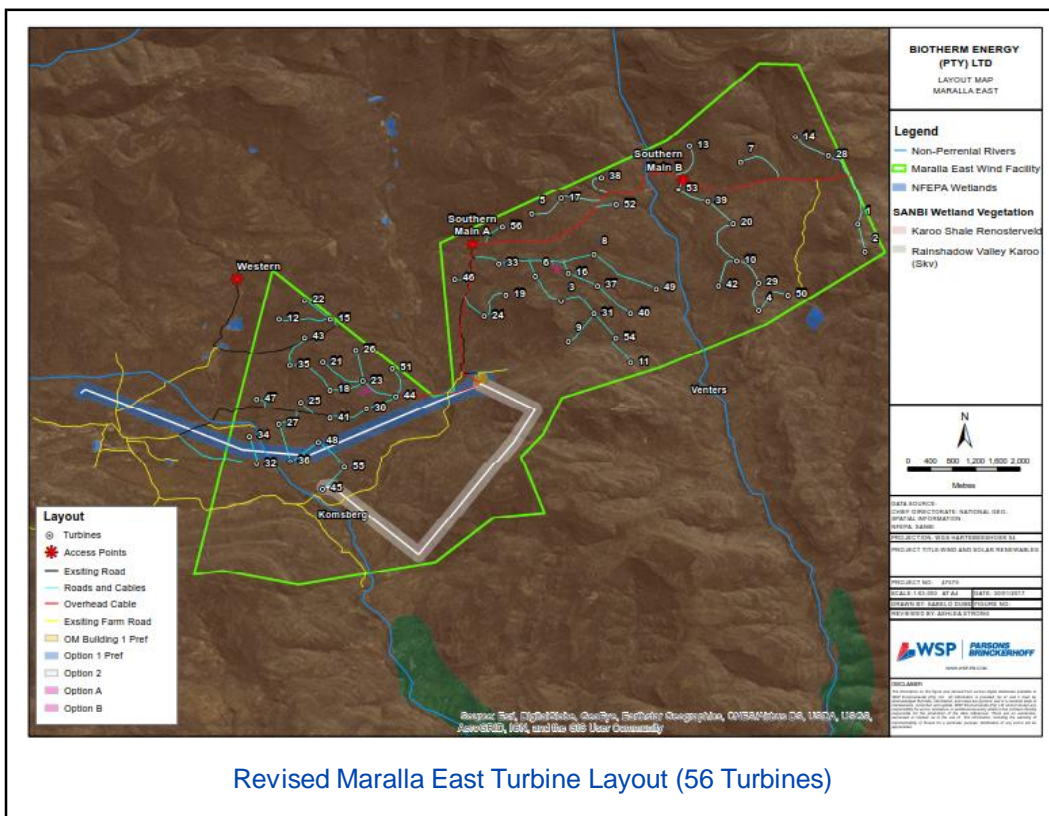
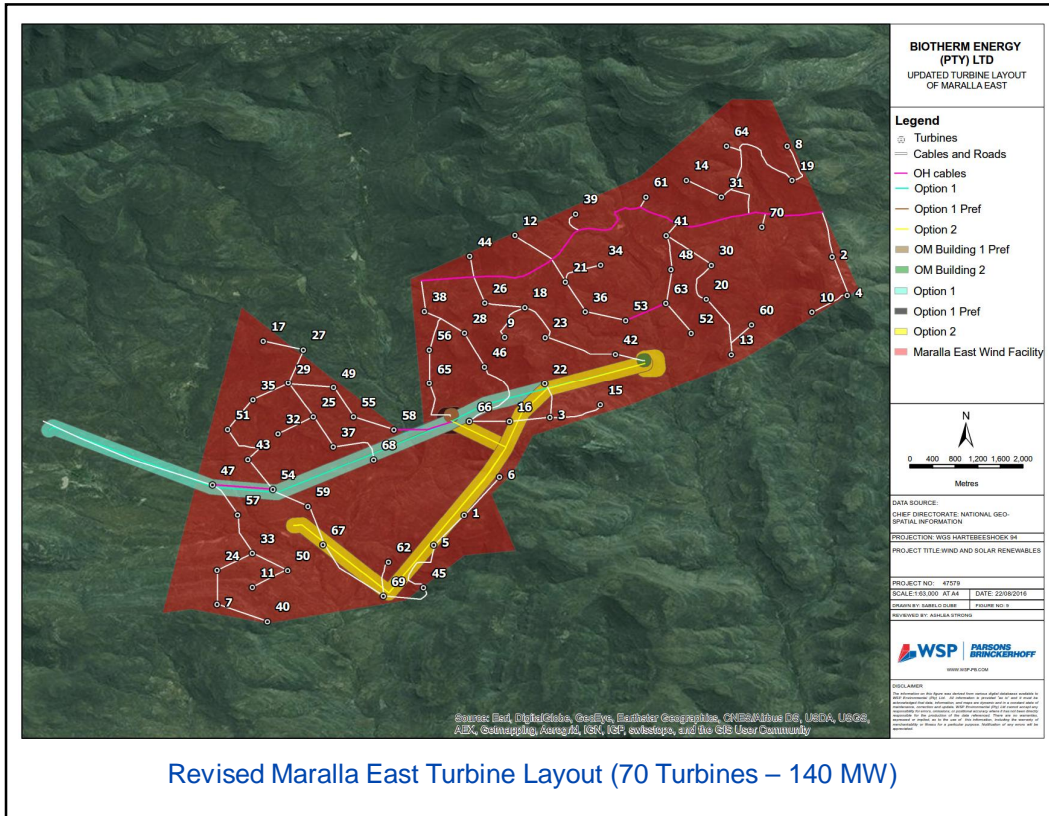


Esizayo Initial Turbine Layout (125 Turbines – 250 MW)



Revised Esizayo Turbine Layout (70 Turbines – 140 MW)

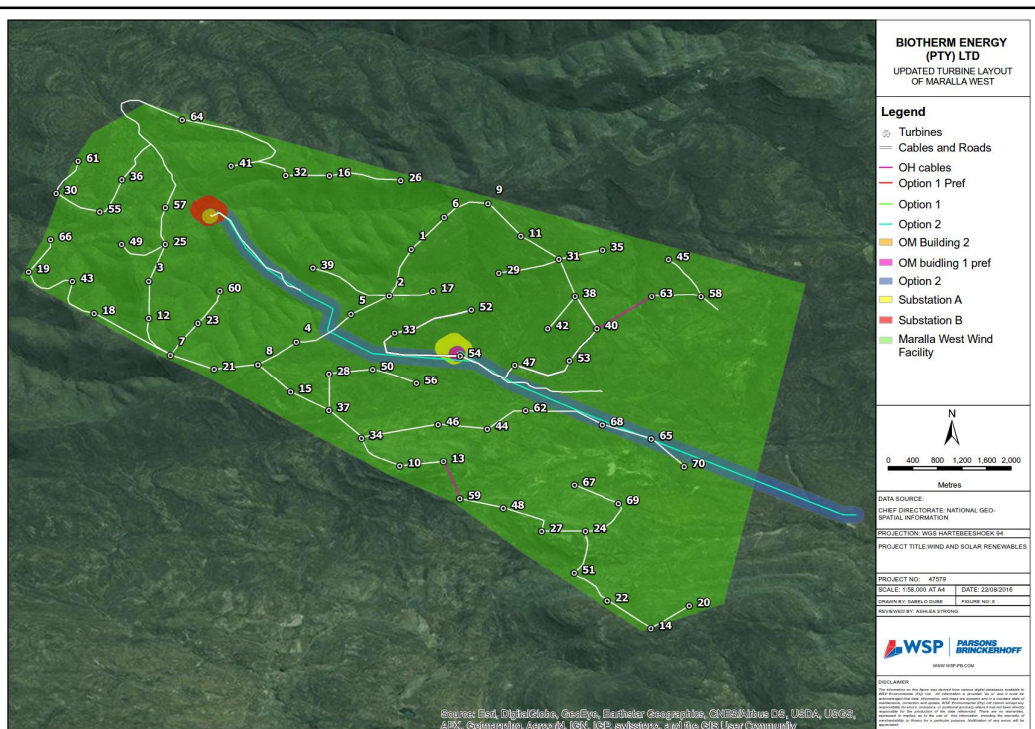




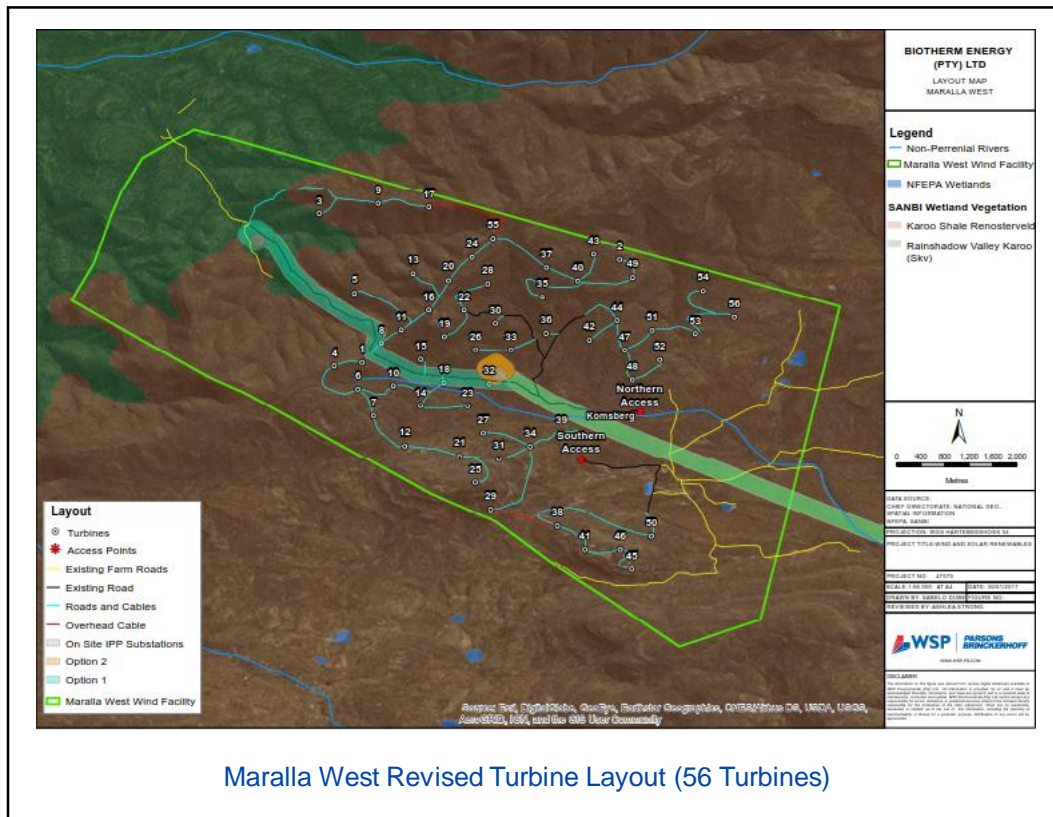
LAYOUT ALTERNATIVES- MARALLA WEST



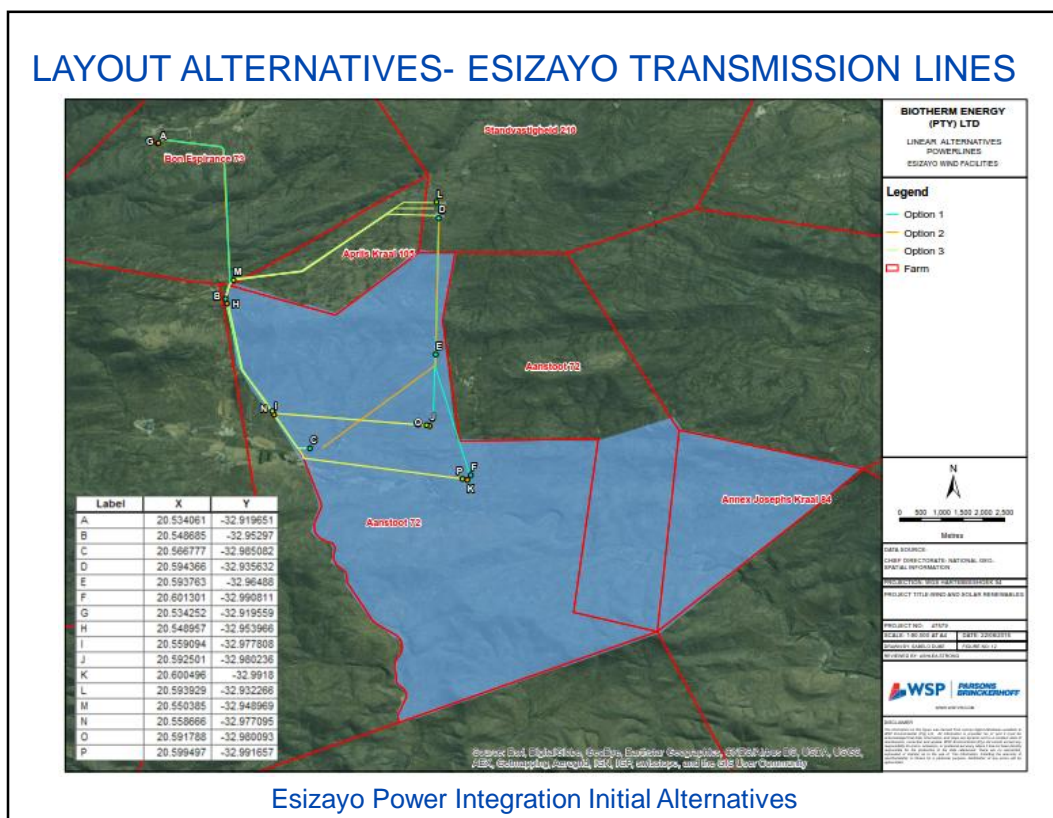
Maralla West Initial Turbine Layout (125 Turbines – 250 MW)



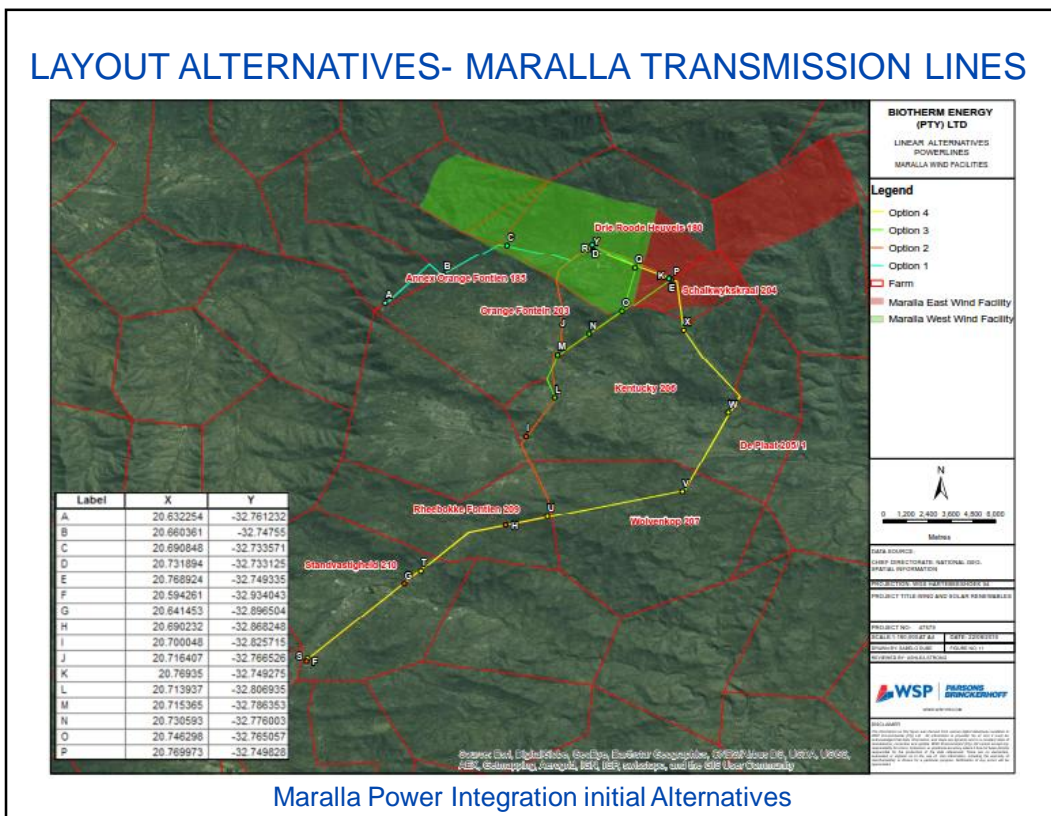
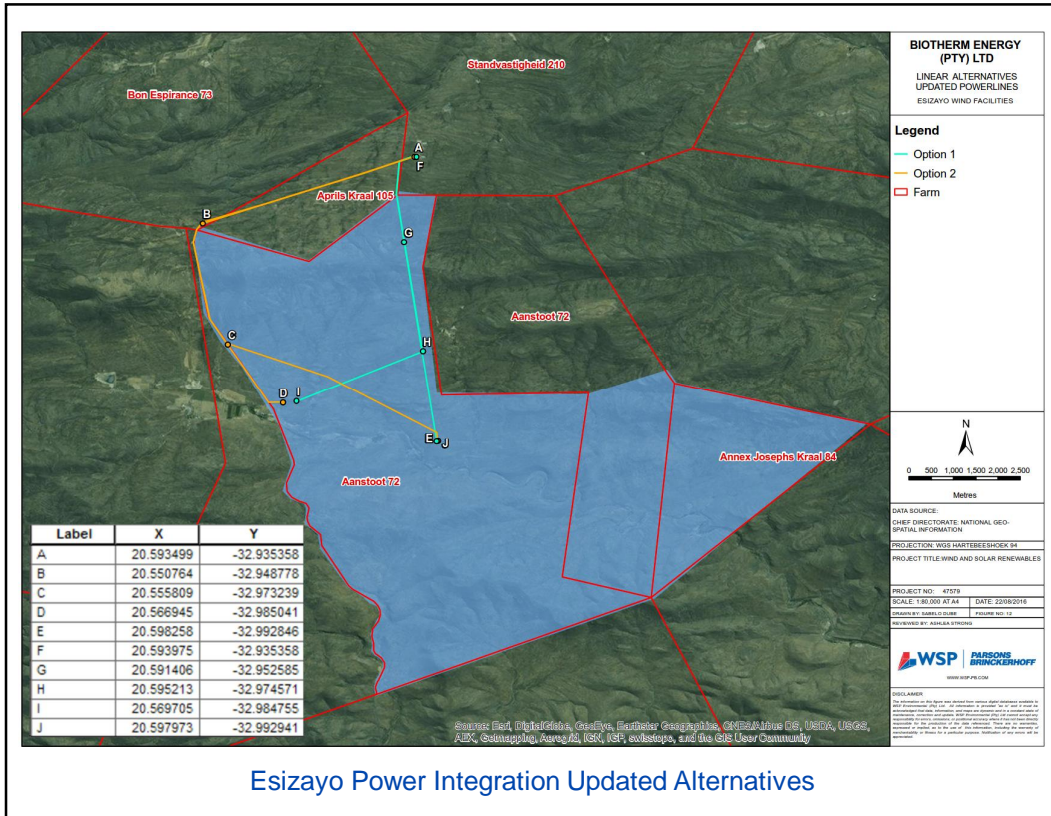
Maralla West Revised Turbine Layout (70 Turbines – 140 MW)

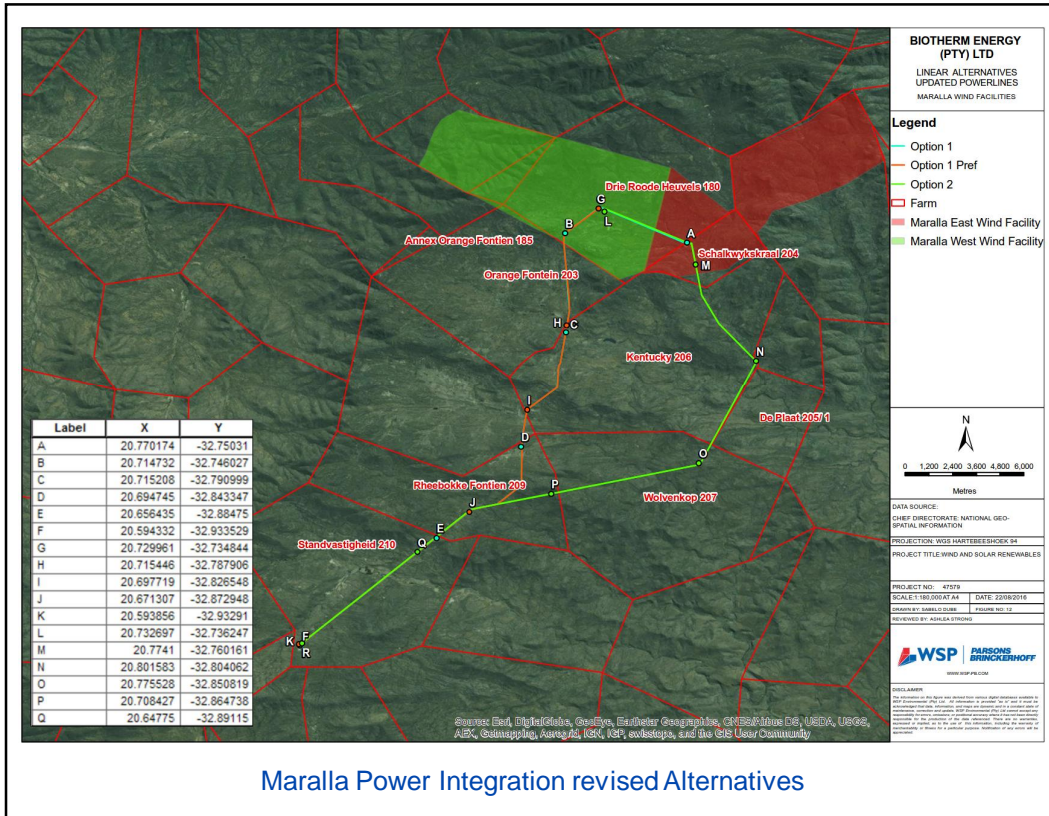


Maralla West Revised Turbine Layout (56 Turbines)



Esizayo Power Integration Initial Alternatives





IMPACT ASSESSMENT

SPECIALIST STUDIES

| SPECIALIST FIELD | COMPANY NAME | TEAM MEMBERS | ASSESSMENT IN EIA PHASE |
|------------------------------------|-----------------------------|---|-------------------------|
| Soil, Land Capability and Wetlands | WSP Environmental (Pty) Ltd | Bruce Wickham, Gerg Matthews | Yes |
| Biodiversity | Simon Todd Consulting | Simon Todd | Yes |
| Avifauna | Chris van Rooyen Consulting | Chris van Rooyen, Albert Froneman | Yes |
| Heritage | ACO Associates | Tim Hart, Lita Webley, David Halkett | Yes |
| Palaeontology | Natura Viva | John Almond | Yes |
| Visual | - | Belinda Gebhardt | Yes |
| Social | WSP Environmental (Pty) Ltd | Danielle Sanderson, Hillary Konigkramer | Yes |
| Traffic | WSP Group Africa (Pty) Ltd | Christo Bredenhann | Yes |
| Noise | WSP Environmental (Pty) Ltd | Kirsten Collett | Yes |



SOILS AND LAND CAPACITY

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|--|------------------|----------|-------------------------------|---|
| SLC1 | Loss of land (including wetlands) previously used for grazing. | Construction | Negative | Medium | Low |
| SLC2 | Vegetation clearance, soil disturbance and high traffic movement on site, resulting in a higher potential for soil erosion | | Negative | Low | Low |
| SLC3 | Potential spillage of hazardous substances | | Negative | Low | Low |
| SLC4 | Loss of land (including wetlands) previously used for grazing. | Operation | Negative | Medium | Low |
| SLC5 | Vegetation clearance, soil disturbance, and increased traffic movement on site, resulting in a higher potential for soil erosion | | Negative | Low | Low |
| SLC6 | Potential land contamination from hazardous substances.. | | Negative | Low | Low |
| SLC7 | Increased potential of soil erosion due to soil disturbance and a high traffic movement on site. | De-commissioning | Negative | Low | Low |
| SLC8 | Potential spillage of hazardous substances | | Negative | Low | Low |

The impacts are the same for all three WEFs

NATURAL VEGETATION AND ANIMAL LIFE

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|---|------------------|----------|-------------------------------|---|
| BIO1 | Impacts on vegetation and protected plant species | Construction | Negative | Medium | Medium |
| BIO2 | Faunal impacts due to construction activities | | Negative | Medium | Medium |
| BIO3 | Increased Soil Erosion risk during construction | | Negative | Medium | Low |
| BIO4 | Faunal impacts due to operational activities of the wind farm such as noise, and human presence during maintenance activities | Operation | Negative | Medium | Medium |
| BIO5 | Erosion | | Negative | Medium | Low |
| BIO6 | Alien Plant Invasion | | Negative | Low | Low |
| BIO7 | Faunal impacts due to decommissioning of the wind farm such as noise, and operation of heavy machinery on-site | De-commissioning | Negative | Medium | Low |
| BIO8 | Erosion | | Negative | Medium | Low |
| BIO9 | Alien Plant Invasion | | Negative | Medium | Low |

The impacts are the same for all three WEFs

AVIFAUNA

| Ref. | Impact Description | Phase | Status | Esizayo WEF | | Maralla East and West WEF | |
|------|---|--------------|------------------|-------------------------------|---|-------------------------------|---|
| | | | | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
| AV1 | Displacement of priority species due to disturbance during construction operations | Construction | Negative | Medium | Medium | Medium | Medium |
| AV2 | Priority species mortality due to collision with the turbines | Operation | Negative | High | Medium | High | Medium |
| AV3 | Displacement of priority species due to habitat transformation | | Negative | Medium | Low | Medium | Low |
| AV4 | Priority species mortality due to collision with the on-site powerlines | | Negative | Medium | Medium | High | Medium |
| AV5 | Priority species mortality due to electrocution on the on-site powerlines | | Negative | Medium | Low | Medium | Low |
| AV6 | Displacement of priority species due to disturbance during decommissioning operations | | De-commissioning | Negative | Low | Low | Low |

BATS

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|--|------------------|----------|-------------------------------|---|
| BAT1 | Destruction of bat roosts due to earthworks and blasting - | Construction | Negative | Medium | Low |
| BAT2 | Loss of foraging habitat. | | Negative | Medium | Low |
| BAT3 | Bat mortalities due to direct blade impact or barotrauma during foraging activities (not migration). | Operation | Negative | High | Medium |
| BAT4 | Artificial Lighting | | Negative | Medium | Low |
| BAT5 | Loss of foraging habitat. | De-commissioning | Negative | Medium | Low |

The impacts are the same for all three WEFs



SURFACE WATER

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|--|------------------|----------|-------------------------------|---|
| SW1 | Alterations of flow regimes of watercourses, | Construction | Negative | Medium | Low |
| SW2 | Increased potential of soil erosion due to vegetation clearance, soil disturbance and a high traffic movement on site. Subsequent potential sedimentation of watercourses. | | Negative | Low | Low |
| SW3 | Potential land contamination from hazardous substances.. | | Negative | Low | Low |
| SW4 | Temporary potential degradation of wetland habitat due to the proposed positioning of road access | | Negative | Medium | Low |
| SW5 | Alterations of flow regimes of watercourses | | Negative | Medium | Low |
| SW6 | Increased potential of soil erosion due to vegetation clearance, and more run-off from harden surfaces (i.e. roads). Subsequent potential sedimentation of watercourses. | Operation | Negative | Low | Low |
| SW7 | Potential land contamination from hazardous substances. | | Negative | Low | Low |
| SW8 | Alterations of flow regimes of watercourses, in close proximity to the site, or that is proposed to be traversed by roads. | De-commissioning | Negative | Medium | Low |
| SW9 | Increased potential of soil erosion due to soil disturbance and a high traffic movement on site. | | Negative | Low | Low |
| SW10 | Potential land contamination from hazardous substances. | | Negative | Low | Low |

The impacts are the same for all three WEFs

HERITAGE

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|---------------------|--|--------------|----------|-------------------------------|---|
| ESIZAYO | | | | | |
| H1 | Impacts to buried archaeological material and graves | Construction | Negative | Low | Low |
| H2 | Substation 1 will result in the destruction of South African War Military Outpost | | Negative | Medium | Low |
| H3 | Access road ,au damage or destroy the Nuwerus Cemetery | | Negative | Medium | Low |
| MARALLA EAST | | | | | |
| H1 | Impacts to ruined settlement and graveyard on public access road through De KOM | Construction | Negative | Medium | Low |
| H2 | Impacts to late Stone Age sites along river bed | | Negative | Medium | Low |
| H3 | Impacts to the Farm House of Wolvenhoek | | Negative | Medium | Low |
| MARALLA WEST | | | | | |
| H1 | Impacts to a graveyard on the Komsberg River, Sckalkwykskraal | Construction | Negative | Medium | Low |
| H2 | Impacts to a 19 th century stone stockpost and kraal on the Komsberg River, Sckalkwukskraal | | Negative | Medium | Low |
| H3 | Impacts to graves and a rock art site on Venters River, Welgemoed | | Negative | Medium | Low |



PALAEONTOLOGY

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|--|--------------|----------|-------------------------------|---|
| P1 | Disturbance, damage or destruction of fossils (direct, negative impacts) preserved at or beneath the ground surface within the development footprint during the construction phase, mainly due to surface clearance or excavation activities | Construction | Negative | Low | Low |

The impacts are the same for all three WEFs



VISUAL

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|--|--------------|------------------|-------------------------------|---|
| V1 | Visual impact during construction due to dust, vehicles and equipment | Construction | Negative | Medium | Low |
| V2 | Visual impact during construction due to vegetation clearing | | Negative | Medium | Low |
| V3 | Visual impact during construction on landforms | | Negative | Medium | Low |
| V4 | Intrusion on sense of place and rural landscape | Operation | Negative | Medium | Medium |
| V5 | Visual impact of wind turbines | | Negative | High | Medium |
| V6 | Visual impact of substation and other buildings and infrastructure | | Negative | Medium | Medium |
| V7 | Visual impact of shadow flicker | | Negative | Low | Low |
| V8 | Visual impact of lighting from facility | | Negative | Medium | Medium |
| V9 | Visual impact of additional roads and road widening | | Negative | Low | Low |
| V10 | Visual impact during decommissioning due to dust, vehicles and equipment | | De-commissioning | Negative | Medium |

The impacts are the same for all three WEFs



TRAFFIC AND TRANSPORTATION

| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|---|--------------|----------|-------------------------------|---|
| T1 | Noise, dust and exhaust pollution due to vehicle trips on-site | Construction | Negative | Low | Low |
| T2 | Noise, dust and exhaust pollution due to additional trips on the access roads | | Negative | Medium | Medium |
| T3 | Noise and exhaust pollution due to additional vehicle trips on the R354 | | Negative | Low | Low |

The impacts are the same for all three WEFs

NOISE

| Ref. | Impact Description | Phase | Status | Esizayo and Maralla West WEF | | Maralla East WEF | |
|------|--|------------------|----------|-------------------------------|---|-------------------------------|---|
| | | | | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
| N1 | Acoustic impact on residential receptors | Construction | Negative | Medium | Low | Medium | Low |
| N2 | Acoustic impact on residential receptors | Operation | Negative | Medium | Low | Low | Low |
| N3 | Acoustic impact on residential receptors | De-commissioning | Negative | Medium | Low | Medium | Low |

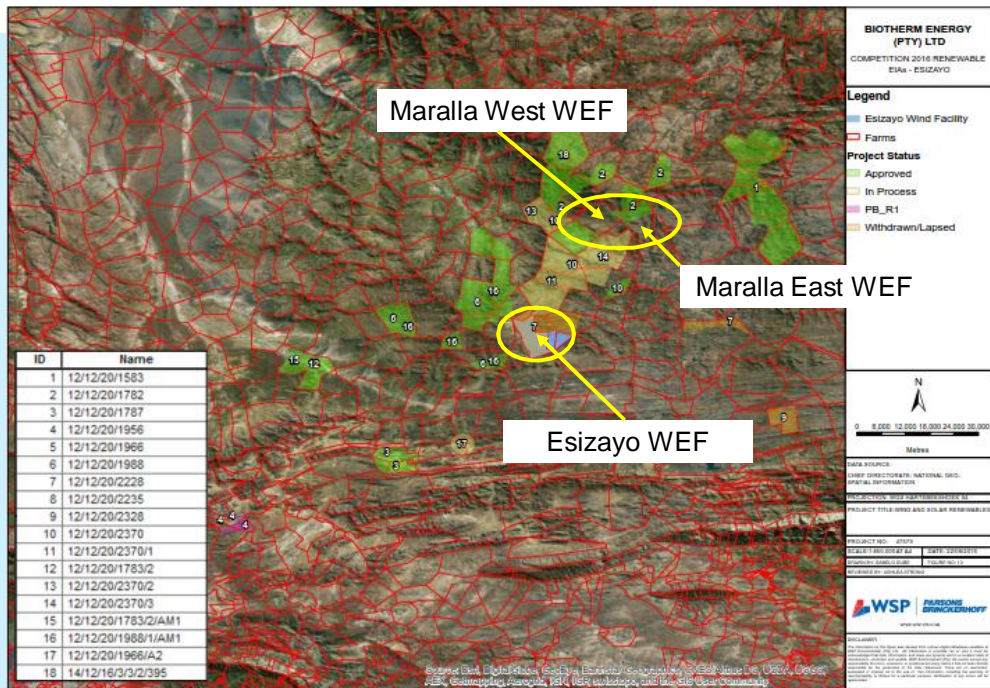


SOCIAL ENVIRONMENT

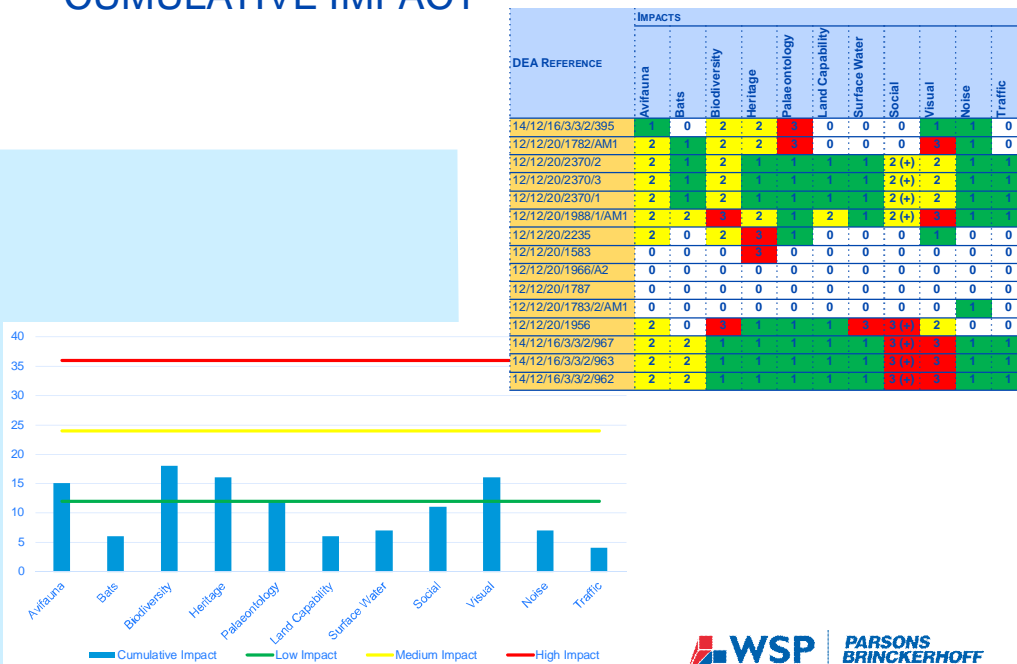
| Ref. | Impact Description | Phase | Status | Significance (Pre-Mitigation) | Residual Significance (Post-Mitigation) |
|------|---|------------------|----------|-------------------------------|---|
| SE1 | Increase in Employment Opportunities | Construction | Positive | Medium | High |
| SE2 | Increased Economic Development Opportunities | | Positive | Medium | High |
| SE3 | Disruption due to influx of job seekers | | Negative | Medium | Medium |
| SE4 | Increase in communicable diseases and reduced public health | | Negative | Medium | Medium |
| SE5 | Change in sense of place | | Negative | Medium | Low |
| SE6 | Nuisance from noise, dust and traffic disturbances | | Negative | Medium | Low |
| SE7 | Increased risk to neighbouring land users | | Negative | Low | Low |
| SE8 | Increased risk of veld fires | | Negative | Medium | Low |
| SE9 | Increased employment opportunities | Operation | Positive | Medium | High |
| SE10 | Increased economic development opportunities | | Positive | Medium | Medium |
| SE11 | Change in sense of place | | Negative | Medium | Medium |
| SE12 | Loss of permanent employment | De-commissioning | Negative | Medium | Low |
| SE13 | Gain of short term employment | | Positive | Low | Medium |
| SE14 | Nuisance from dust, noise and traffic | | Negative | Low | Low |
| SE15 | Increased risk to neighbouring land users | | Negative | Low | Low |
| SE16 | Increased risk of veld fires | | Negative | Medium | Low |

The impacts are the same for all three WEFs


CUMULATIVE IMPACT

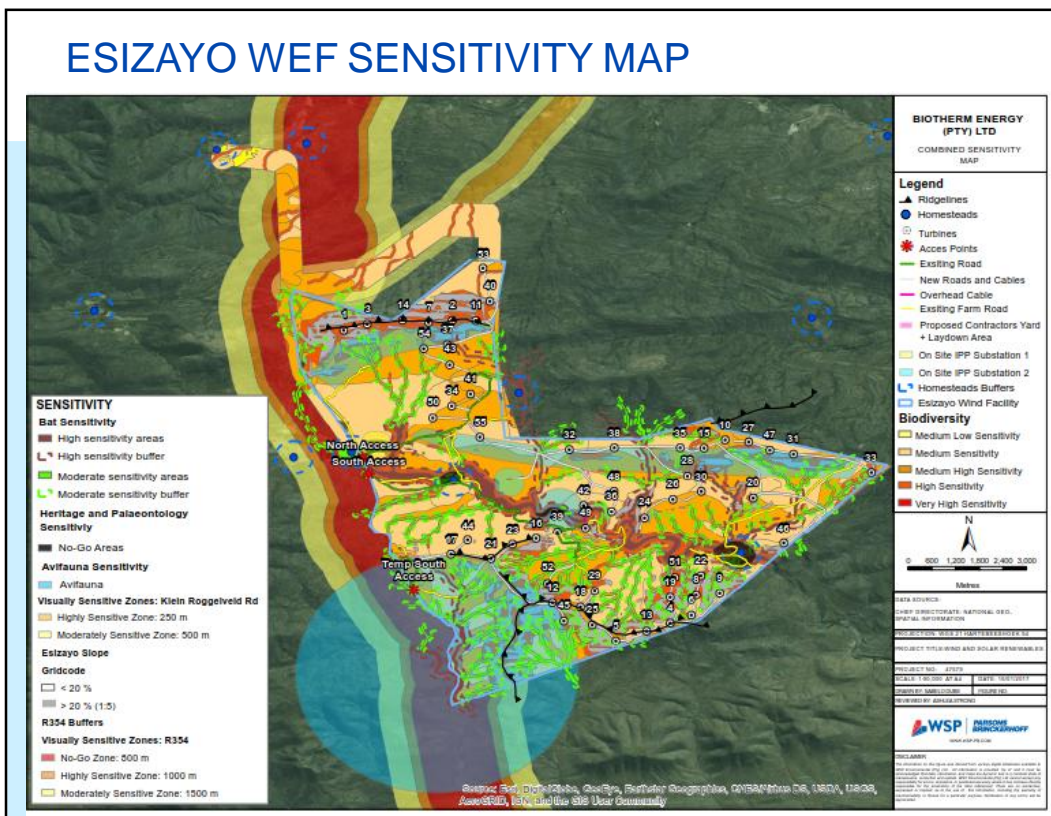


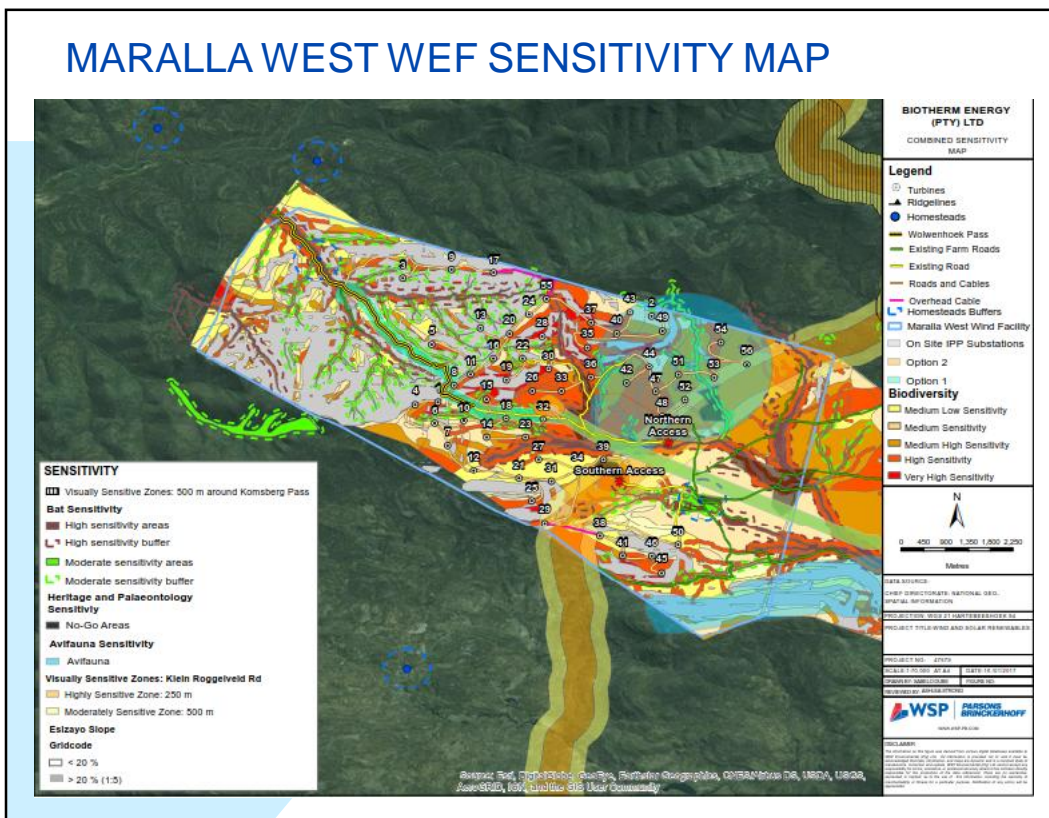
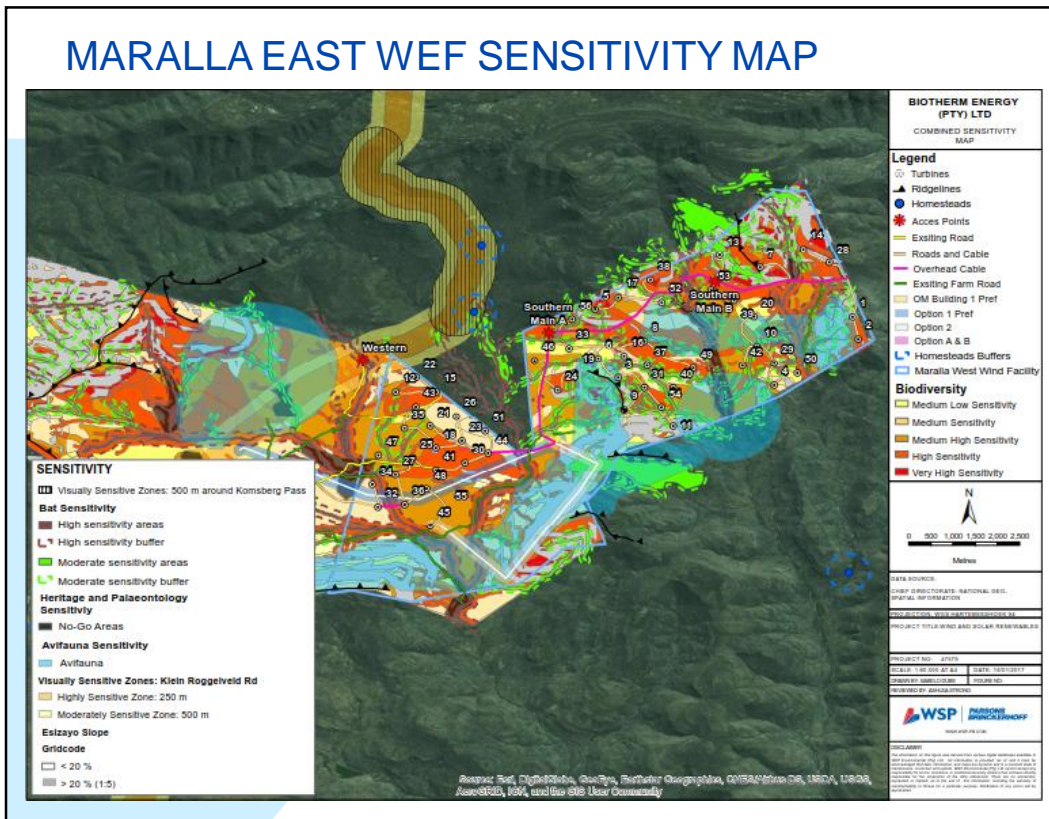
CUMULATIVE IMPACT




SENSITIVITY MAPPING








PUBLIC PARTICIPATION PROCESS


WSP | **PARSONS BRINCKERHOFF**

PUBLIC PARTICIPATION PROCESS

| | | |
|-----------------|--|---|
| Pre-Application | Pre-application consultation with DEA | P |
| | Newspaper Adverts | P |
| Scoping | Submit Application | P |
| | Notification of IAPS | P |
| | Newspaper Adverts | P |
| | Site Notices | P |
| | Draft Scoping Report – 30 days | P |
| | Submit Final Scoping Report | P |
| EIA | EIR – 30 Days | P |
| | Submit EIR for Decision | |
| Appeal | Notification of decision | |
| | Appeal Process | |
| | Must be submitted within 20 days from date of decision | |


WSP | **PARSONS BRINCKERHOFF**

PUBLIC PARTICIPATION PROCESS TO DATE



à The Public Participation process has consisted of:

- § Pre-application Consultation with DEA
- § Newspaper adverts in:
 - The Courier (9 September 2016)
 - Die Noordwester (8 September 2016)
- § Email notification of I&APs
- § Site Notices placed at the entrance to the site
- § DSR for 30 day public review
- § Public Meetings
 - 29 September 2016 – Laingsburg
 - 30 September 2016 - Sutherland
- § DEIR for 30 day public review
- § Public Meetings
 - 23 February 2017 – Matjiesfontein
 - 24 February 2017 - Sutherland



WAY FORWARD



WAY FORWARD

| Activity | Anticipated Timeframe |
|--|--------------------------------|
| Stakeholder Meetings | 21 – 24 February 2017 |
| Close of public review period | 2 March 2017 |
| Finalisation of DEIR and submission to authorities | 3 - 28 March 2017 |
| Authority review | 31 March – 17 July 2017 |
| Receipt of Environmental Authorisation (EA) | Mid – end July 2017 |
| Appeal Period | 20 days from receipt of the EA |



WSP Environmental (Pty) Ltd
Contact Person: Ashlea Strong
Tel: 011 361 1380
Email: Ashea.Strong@wspgroup.co.za

