

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:	14/12/16/3/3/2/967 14/12/16/3/3/2/963 14/12/16/3/3/2/962
Date	23 February 2017
Time	16:30
Venue	Community Hall, Matjiesfontein
Subject	Pubic Meeting for the Esizayo and Maralla Wind Energy Facilities
Client	BioTherm Energy (Pty) Ltd
Present	See Appendix A
Apologies	None
Distribution	As above

MATTERS ARISING

ACTION

1.0 WELCOME AND INTRODUCTION

- 1.1 Ashlea Strong (AS) welcomed the local community and apologised that the presentation was not visible due to the light coming in from the windows.
- 1.2 AS introduced the project team and explained their roles.

2.0 SCOPING & EIA PHASE

- 2.1 AS: As we are at the beginning of the Project we are still conducting the Environmental Impact Assessment (EIA) Process. Following the granting of the Environmental Authorisation (EA) the project will be submitted into the next Renewable Energy Independent Power Producer Programme (REIPPP) bidding window. Therefore, it is still 2 to 3 years until the project commences, if it receives preferred bidder status.
- 2.2 AS stressed that this meeting was for the EIA Phase we are running and jobs are not yet available, as the project is not yet approved.

3.0 TECHNICAL DESCRIPTION & LOCATION




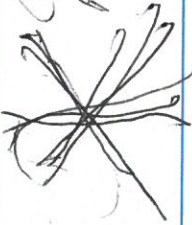

- 3.1 Mohammed Yusuf (MY) from BioTherm was asked to give an overview of the REIPPP and gave a short overview of BioTherm as company and that they have 3 existing operational facilities, 2 solar facilities in the Northern Cape and 1 WEF in the Western Cape.
- 3.2 MY: BioTherm are applying to build three WEFs. In order for us to do this we need to first obtain the EA. This is where we are now. Once we have the EA we will wait until the government announces a new bidding window and then BioTherm will submit their bid. We then wait for the government (Department of Energy) to select a preferred bidder and then the project will commence. This can take a number of years.
- 3.3 If BioTherm are awarded preferred bidder status for one of these 3 WEF then they will come back to the community and provide an update.

MATTERS ARISING	ACTION
3.4 There are a number of other projects being planned in the area and any of them may be awarded preferred bidder status. Right now we are just looking at the potential environmental impacts.	
4.0 IMPACT IDENTIFICATION AND ASSESSMENT	
4.1 Specialist Studies:	
<ul style="list-style-type: none"> → Social, Land Capacity and Wetlands → Biodiversity → Avifauna → Bats → Heritage → Palaeontology → Visual → Social → Traffic → Noise 	
5.0 PROJECT LOCATION	
5.1 AS gave a short overview about where the projects are located in terms of Matjiesfontein location and which farms they are located on.	
6.0 PUBLIC PARTICIPATION PROCESS	
6.1 Public Participation undertaken to date: <ul style="list-style-type: none"> → Pre-application Consultation with DEA → Newspaper adverts in: <ul style="list-style-type: none"> ■ 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 (Laingsburg and Sutherland)- we didn't realise that there was such a big community in Matjiesfontein so we decided to hold a meeting here this time → DEIR out for 30 day comment and review (2 February – 2 March 2017). The document is available in the library. → Public Meetings- this is where we are now. We have met with the municipalities already. 	
7.0 DISCUSSION	
7.1 AS invited Simphiwe Kulu (SK) to come and talk about the socio-economic aspects of the projects.	
7.2 SK: Under the REIPPP there are certain requirements the Preferred Bidder will need to meet. These include: <ul style="list-style-type: none"> → Employment from the local community; → Economic Development; and → Enterprise Development. A percentage of the project revenue needs be committed to the local community. BioTherm focus on: <ul style="list-style-type: none"> → Community upliftment → Education 	
7.3 BioTherm have existing operational facilities, 2 solar facilities in the Northern Cape and 1 WEF in the Western Cape. For these projects we have focused on developing the communities through education, welfare and training. We currently have 30 students with Bursary's under BioTherm's bursary programme.	





MATTERS ARISING	ACTION
7.4 AS: We have agreed to supply the municipality with a list of skills that would be required for a WEF, not just for BioTherm but any facility that will received preferred bidder status. The list of skills is included in Appendix C .	
7.5 MY: Please read over the documents that are at the library and then ask any questions you may have.	
8.0 QUESTIONS	
8.1 Community member (CM): How will the bursaries work?	
8.2 SK: Bursaries are an example of one of the projects that we implement as part of our socio-economic development initiatives for our current operational projects. A project such as a bursary programme would only be implemented once the facility becomes operational and is earning a revenue, where a certain percentage is allocated for implementing socio-economic development projects in the communities surrounding the project site. Making specific reference to our current operational projects, the bursary programme is run internally. The programme is advertised within the community through posters detailing information on the bursary and inviting candidates that meet the criteria to apply. This is then evaluated internally and all qualifying candidates are informed whether they are successful or not. Please note that this was merely an example of the type of projects that could be implemented and a decision of implementing such a project is always dependent on the socio-economic needs of the community at a given point in time.	
8.3 AS: The attendance register that everyone signed will be used to notify the community if the project is awarded preferred bidder status and moves forward.	
8.4 CM: Can all information please be sent to Jerome as the information will stop at the municipality. We don't trust them.	
8.5 AS: Yes sure please make a mark next to Jerome's name so that we can contact him.	
8.6 CM: How many jobs will be created?	
8.7 MY: We don't know at this point. It varies with every project.	
8.8 CM: Is there an age restriction with jobs?	
8.9 MY: No not that they are aware of.	
8.10 CM: Will these jobs and bursaries be separate from the municipality or will the municipality select the people?	
8.11 MY: Yes it is separate from the municipality, BioTherm work directly with the community.	
9.0 CLOSING	
9.1 AS thanked the community for listening and reminded everyone to sign the attendance register to ensure that they are registered on the database	
9.2 Meeting closed at 17:00.	

Appendix A: Attendance Register


ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
Aurice Smith		Tel: 0727086198 Fax: Mobile: Email:	
ARAM Boodo		Tel: 0728003564 Fax: Mobile: Email:	
WARREN HORN		Tel: Fax: Mobile: 0611403352 Email:	
JEROME HORN Warren's	Contact person. 	Tel: Fax: Mobile: 0632248443 Email:	




ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
Mohammed Jusuf Yusuf	BioTherm Energy	Tel: 011 367 4600 Fax: Mobile: 076 765 2789 Email: myusuf@biothermenergy.com	
ADAM BOBBEREE		Tel: Fax: Mobile: Email: 0838839144	
SERAPHINE APPOLLIS ERICO JEMONE		Tel: 0746869167 Fax: Mobile: Email:	
Phillipus Nel		Tel: 076 5892007 Fax: Mobile: 076 5892009 Email:	






ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
Cameron Goliath		Tel: 083 883 7445 Fax: Mobile: Email:	
Christiaan Baadjies		Tel: 064 498 1047 Fax: Mobile: Email: <i>christiaan.baadjies@wsp.co.za</i>	
Richard-lee Misset		Tel: 078 598 8323 Fax: Mobile: Email:	
CHRISTA SWATH		Tel: 076 8144 744 Fax: Mobile: Email:	



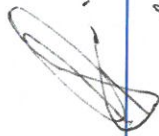

ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
Sereny Van Schaik		Tel: 0762204982 Fax: Mobile: Email:	S.V.S
Mitchell Curiso		Tel: 0235613014 Fax: Mobile: Email:	
Graham-Blair		Tel: 023 5613014 Fax: Mobile: Email:	
Hamilton Visagie		Tel: 0652685852 Fax: Mobile: Email:	

ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
GERALD M. J.		Tel: Fax: 0838127848 Mobile: Email:	
Hannelie Willemsse		Tel: Fax: Mobile: 0630846061 Email:	
Natasha Herder		Tel: 0119260274 Fax: Mobile: Email:	
Lynette Jacobs Claudia Jantjes		Tel: 083 6949281 Fax: Mobile: 0603783737 Email: claudia.jantjes@gmail.com	 





ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
Bronwyn Fisher	WSP ENVIRONMENTAL	Tel: 021 481 8700 Fax: 021 481 8799 Mobile: Email: Bronwyn.fisher@wspgrp.co.za	
JONATHAN CURRIDO		Tel: Fax: Mobile: Email:	
Granville Smith		Tel: 078 163 9426 Fax: Mobile: Email:	
Catherine de Bruyn		Tel: 082 485 0565 Fax: Mobile: Email: Sedbruy@quail.com	

ATTENDANCE REGISTER 23 February 2017



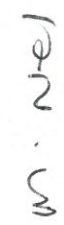
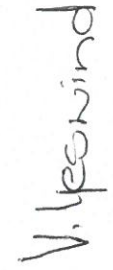
Name	Company Name	Contact Details	Signature
JESSICA MINNIES		Tel: Fax: Mobile: 064 292 3034 Email:	J. Minnies
DANILENE KLANIE		Tel: Fax: Mobile: 0791727519 Email:	
Suretta Baayesen		Tel: Fax: Mobile: 0788 707278 Email:	S. Baayesen
Lizbeth Lupido		Tel: Fax: Mobile: Email:	

ATTENDANCE REGISTER 23 February 2017



Name	Company Name	Contact Details	Signature
D. Johannes		Tel: 0728003564 Fax: Mobile: Email:	
CHRISTOLENE THOMAS		Tel: 0235613046 Fax: Mobile: Email:	
JENNIFER Cupido		Tel: / Fax: Mobile: Email: cupidjenet@gmail.com	
Nelouque Cupido		Tel: / Fax: Mobile: 0718010972 Email:	
Mary-Anne Cupido			M. Cupido

ATTENDANCE REGISTER


23 February 2017

Name	Company Name	Contact Details	Signature
A Strong	WSP	Tel: 04 361 1392 Fax: Mobile: Email: ashlea.strong@wspgroup.co.za	
H. VERKUIS		Tel: Fax: Mobile: Email:	
M. Nel		Tel: Fax: Mobile: 0731781729 Email:	
V. Keeswind		Tel: Fax: 0760882804 Mobile: Email:	

ATTENDANCE REGISTER 23 February 2017

Name	Company Name	Contact Details	Signature
IRUS van Schalkwyk		Tel: Fax: Mobile: 063 083 6258 Email:	
WINIFRED NEL		Tel: Fax: Mobile: 0723742957 Email:	W. NEL
VANESSA VAN SCHALKWYK		Tel: Fax: Mobile: 064 315 1018 Email:	V. Schalkwyk
Lydia Olifant		Tel: Fax: Mobile: 0798163886 Email:	


Appendix B: Presentation



BioTherm Wind Energy Developments

Public Meeting

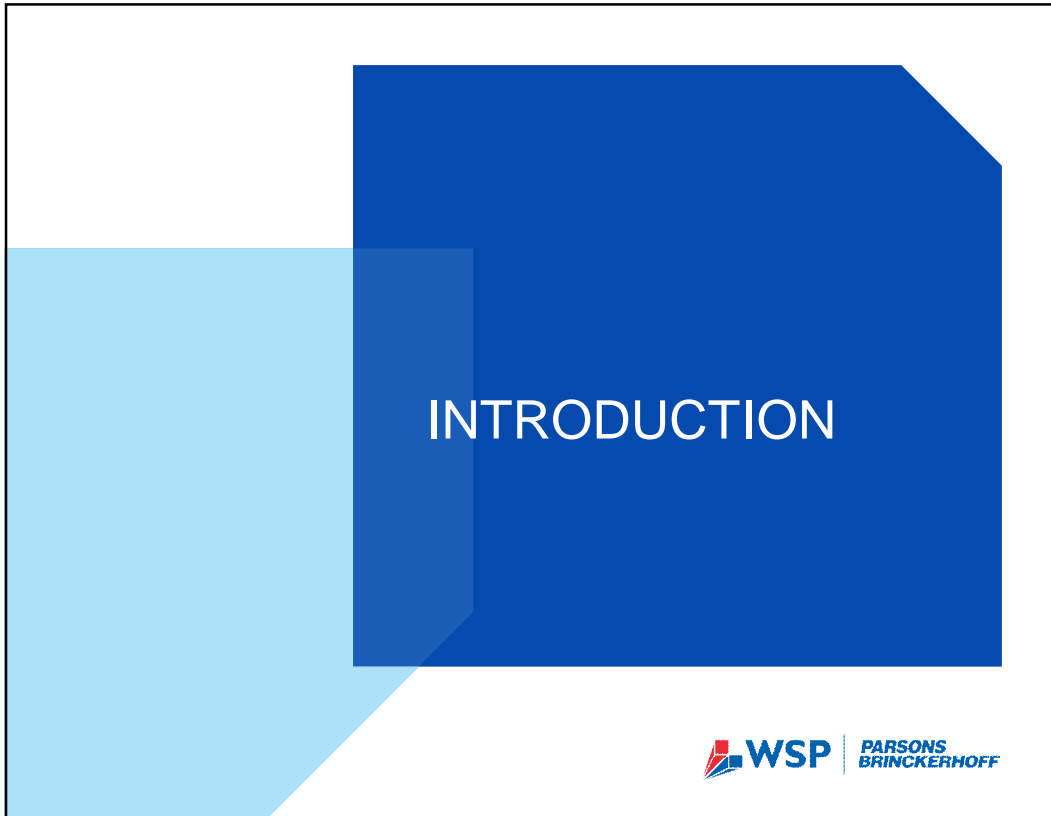
Date: 23 February 2017
Time: 16:30 – 18:30
Venue: Matjiesfontein Community Hall



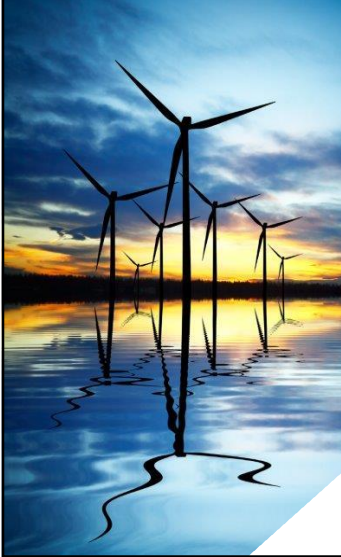
AGENDA



- 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

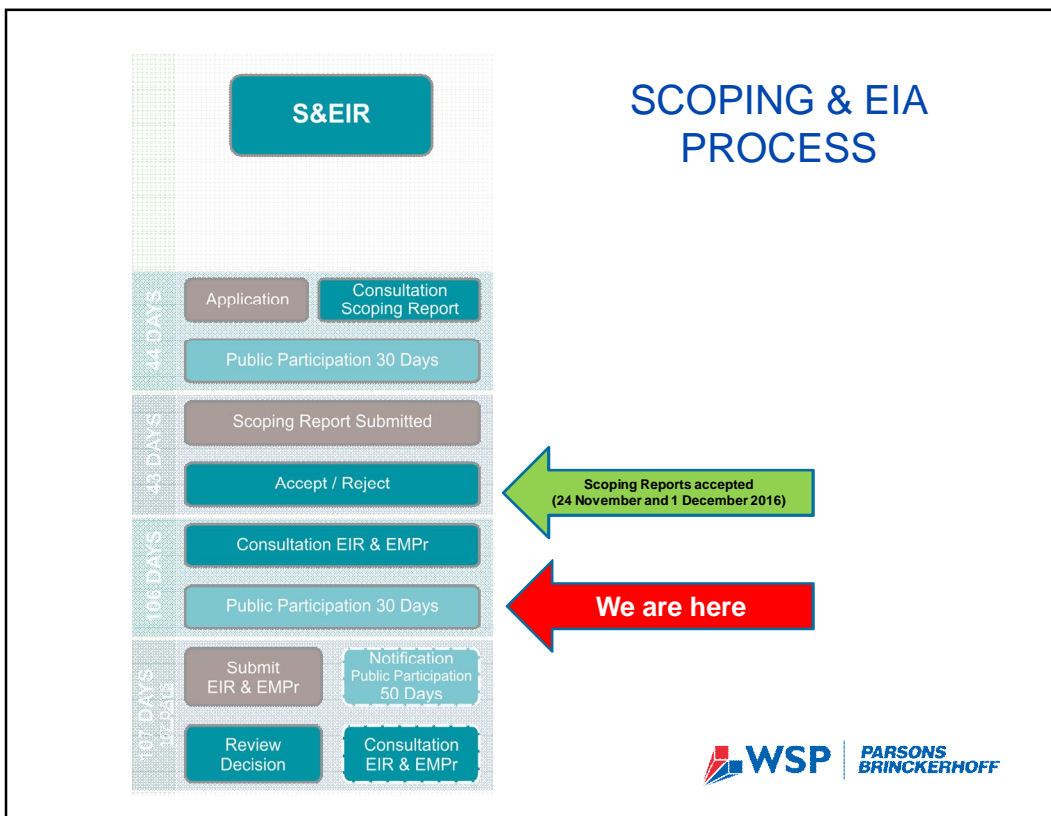



RESPONSIBILITIES CONT.

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





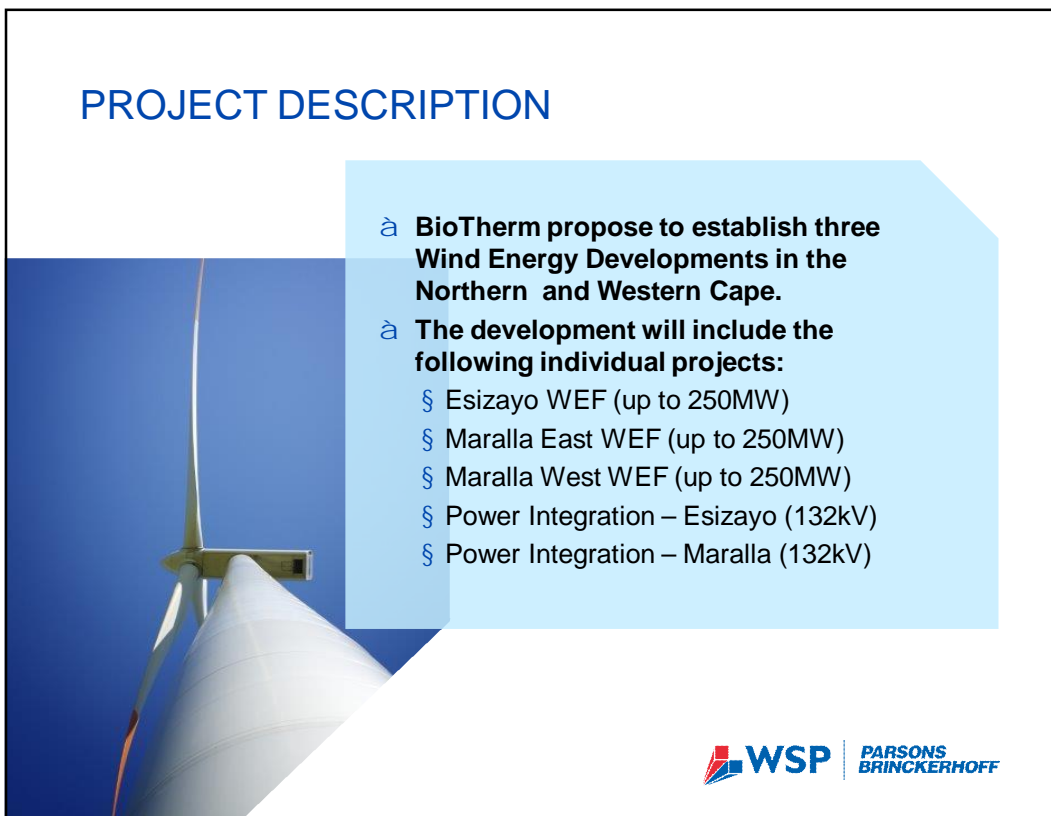
The slide features a dark blue background with a light blue geometric shape on the left. The text is centered in white and yellow.

PROJECT DESCRIPTION

Project and Technical Description and Locality




WSP | PARSONS BRINCKERHOFF



The slide features a background image of a wind turbine against a blue sky. The text is overlaid on a light blue geometric shape.

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)



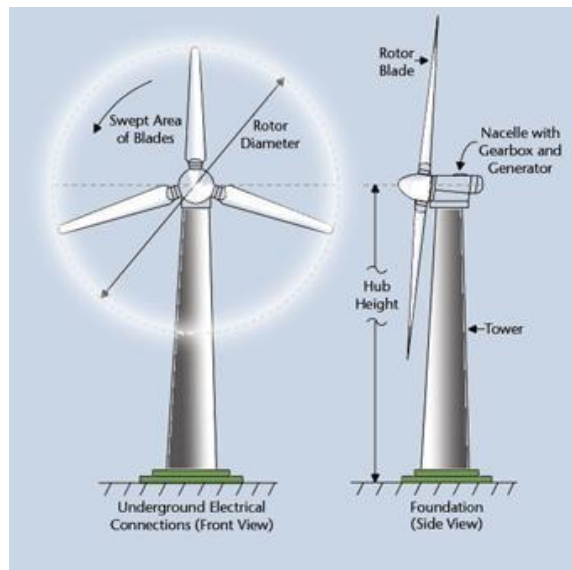
WSP | PARSONS BRINCKERHOFF

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

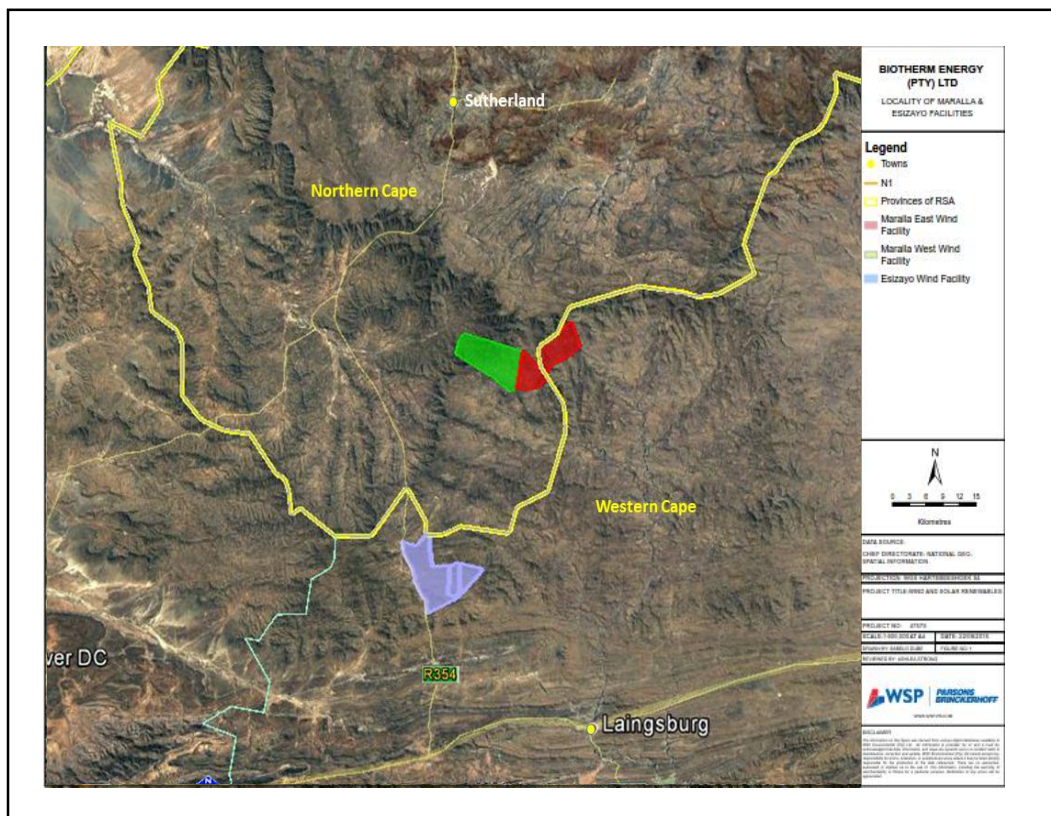
FARM NAME & NUMBER	FARM SIZE (HA)
Portion 1 of Aanstoot Farm No. 72	762.42 ha
Annex Joseph's Kraal Farm No.84	913.32 ha
Aurora Farm No. 285	4 385.29 ha

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

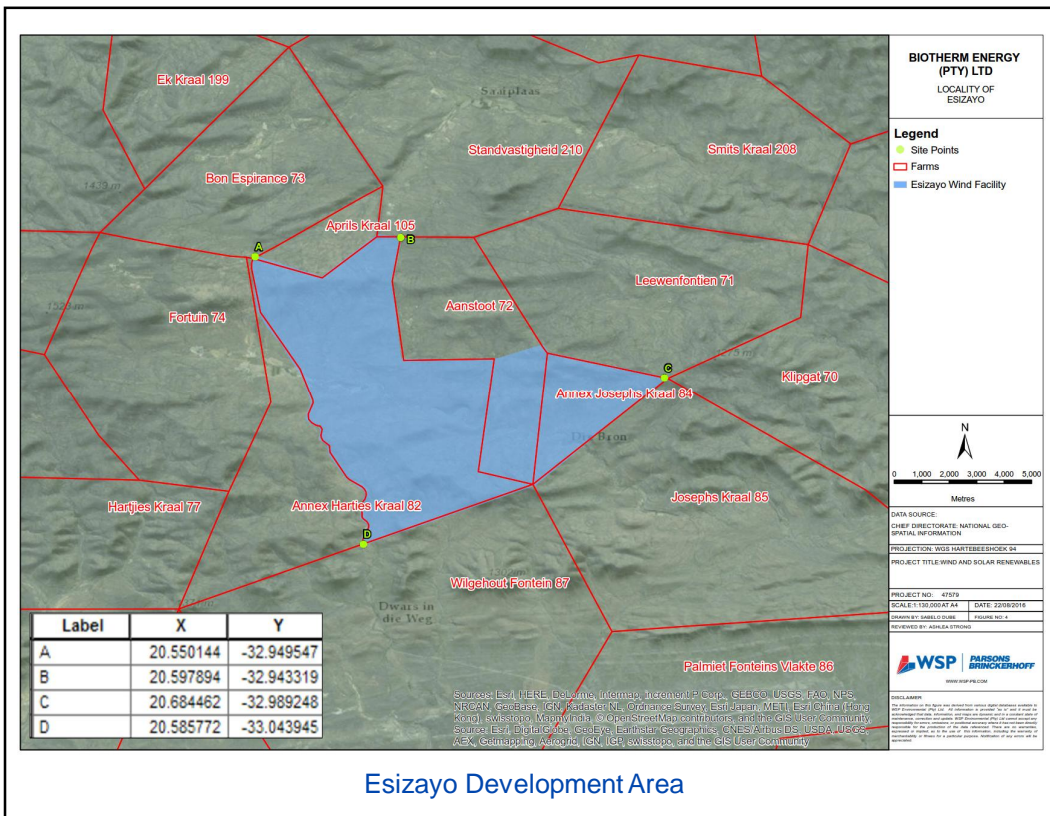


PROJECT LOCATION- ESIZAYO



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

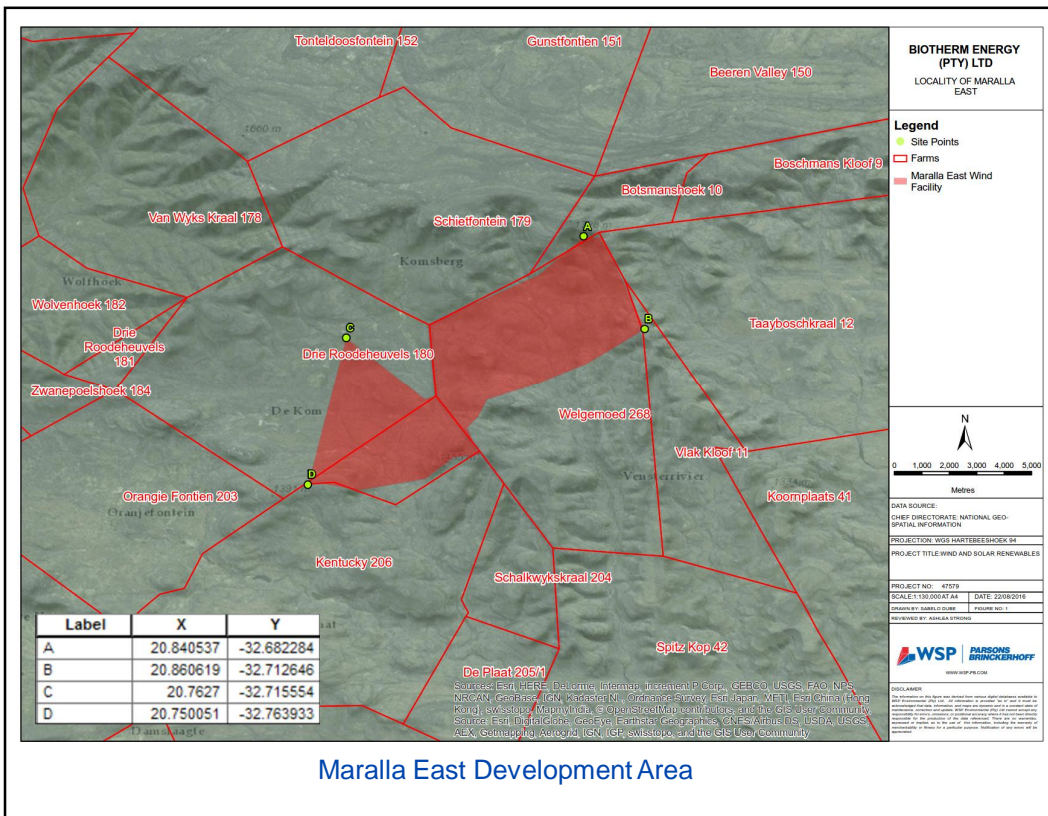
- § Farm Aanstoot 1/72
- § Farm Annex Joseph's Kraal 84
- § Farm Aurora 285
- § Approximately 70km south of Sutherland
- § Laingsburg Local Municipality
- § Central Karoo District Municipality
- § Western Cape



PROJECT LOCATION- MARALLA EAST



- à **The Maralla East Wind Energy Development will be located:**
- § Farm Welgemoed RE/268
 - § Farm Schalkwyskraal RE/204
 - § Portion of Farm Drie Roode Heuvels RE/180
 - § Approximately 34km southeast of Sutherland
 - § Laingsburg and Karoo Hoogland Local Municipalities
 - § Central Karoo and Namakwa District Municipalities
 - § Northern and Western Cape

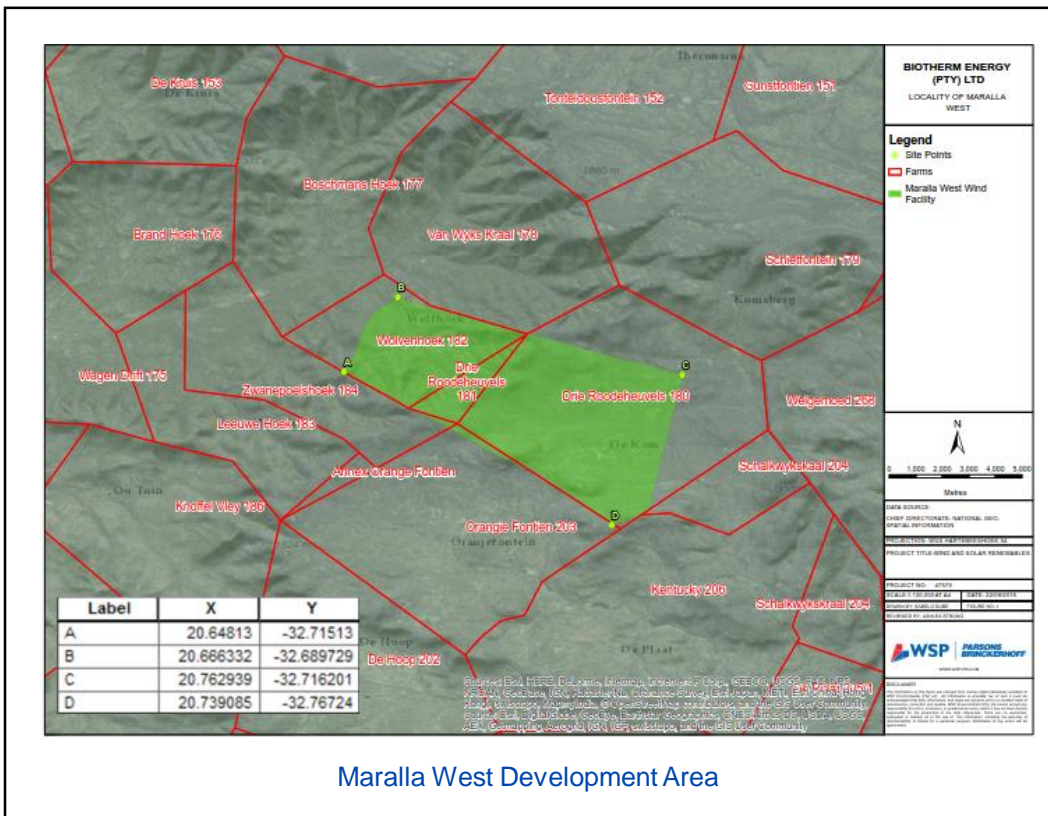


PROJECT LOCATION- MARALLA WEST



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 located 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.

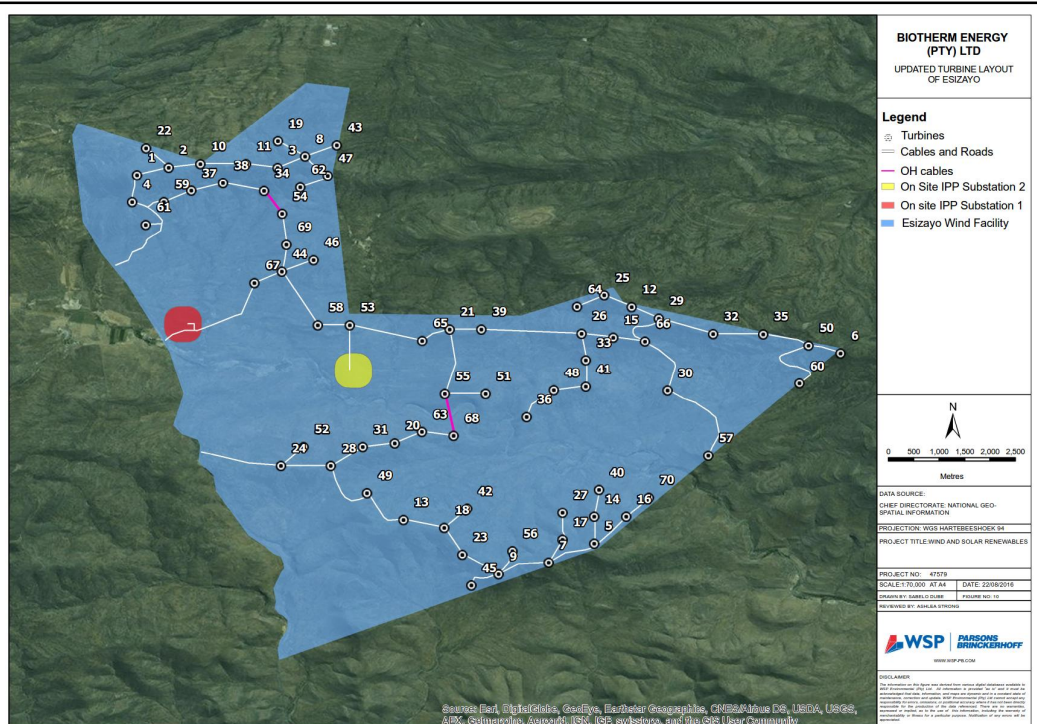
- Environmental Factors**
 - Google Earth
 - SANBI BGIS
 - FEPA, SEA
 - Other EIAs
- Resources Factors**
 - Satellite Data
 - Onsite Measurements
- Grid Factors**
 - Current Capacity
 - Future Capacity
 - Stability
 - Substations/Powerlines
- Other Factors**
 - Climate
 - Topography
 - Site Access
 -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

WSP | **PARSONS BRINCKERHOFF**

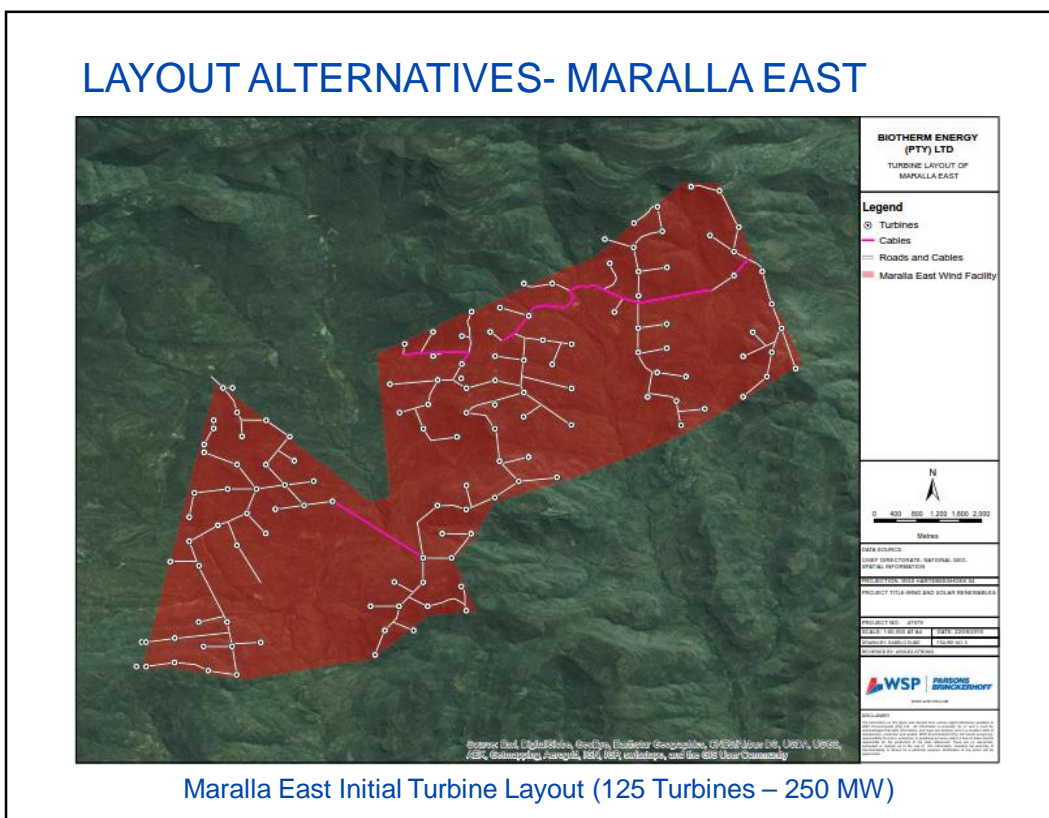
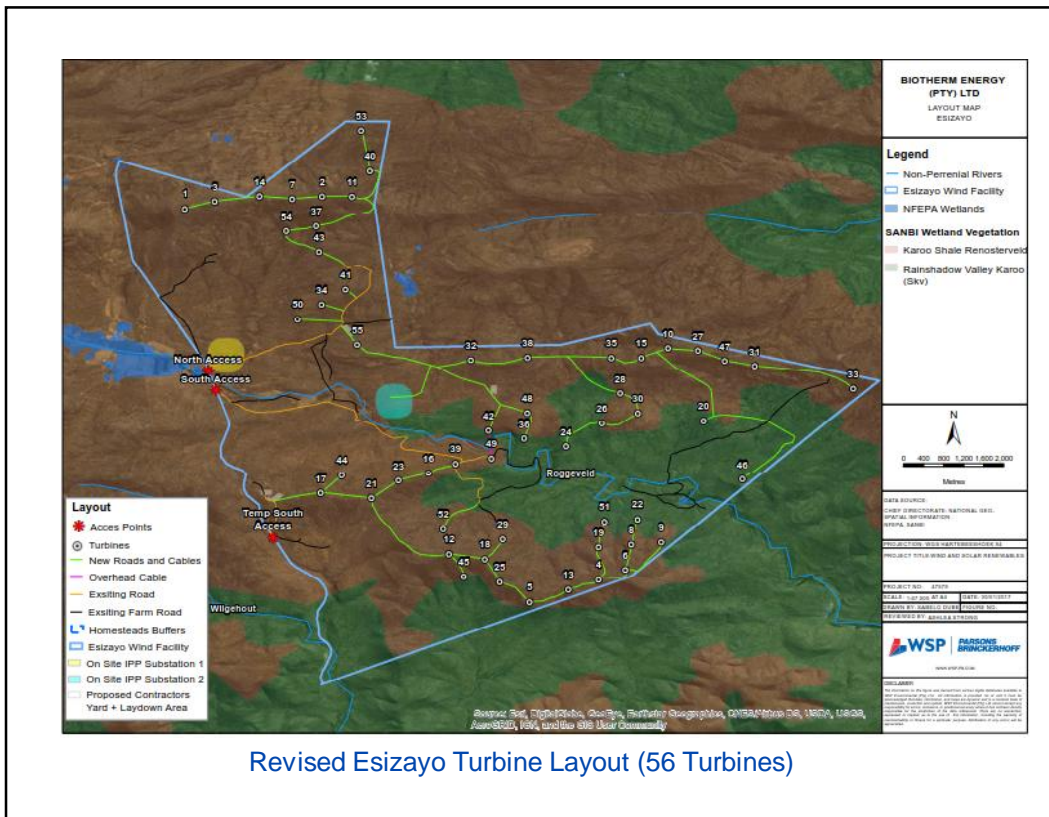
LAYOUT ALTERNATIVES- ESIZAYO

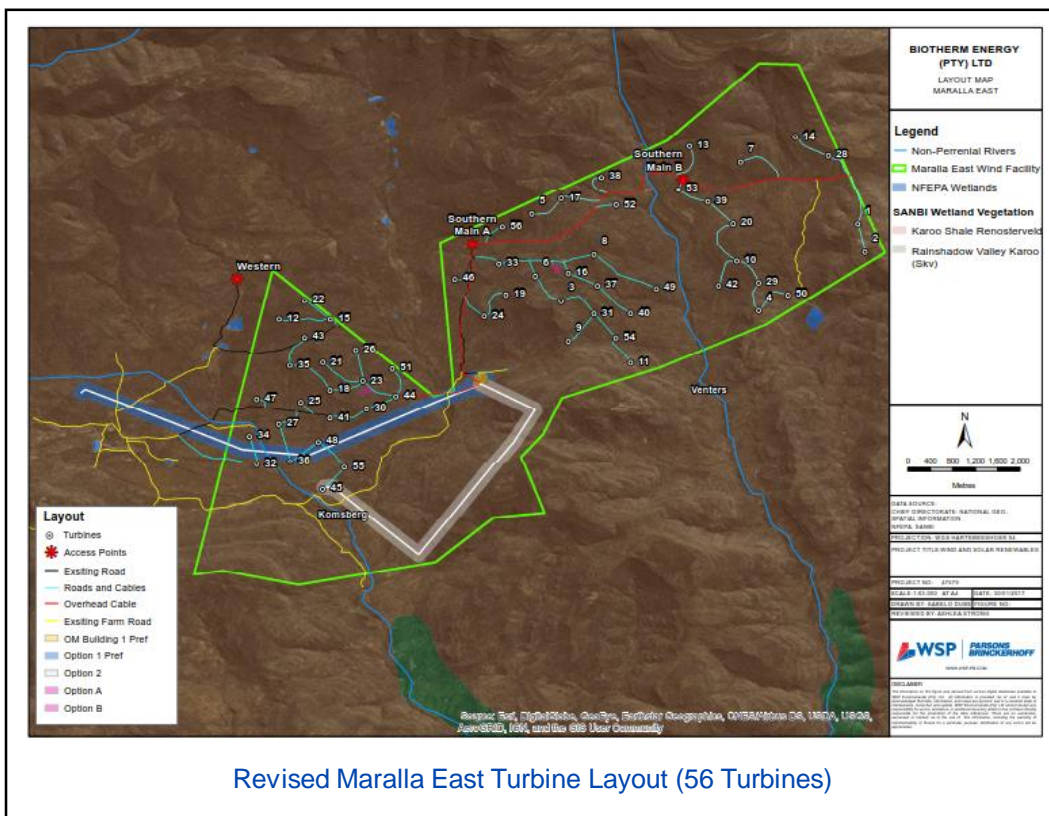
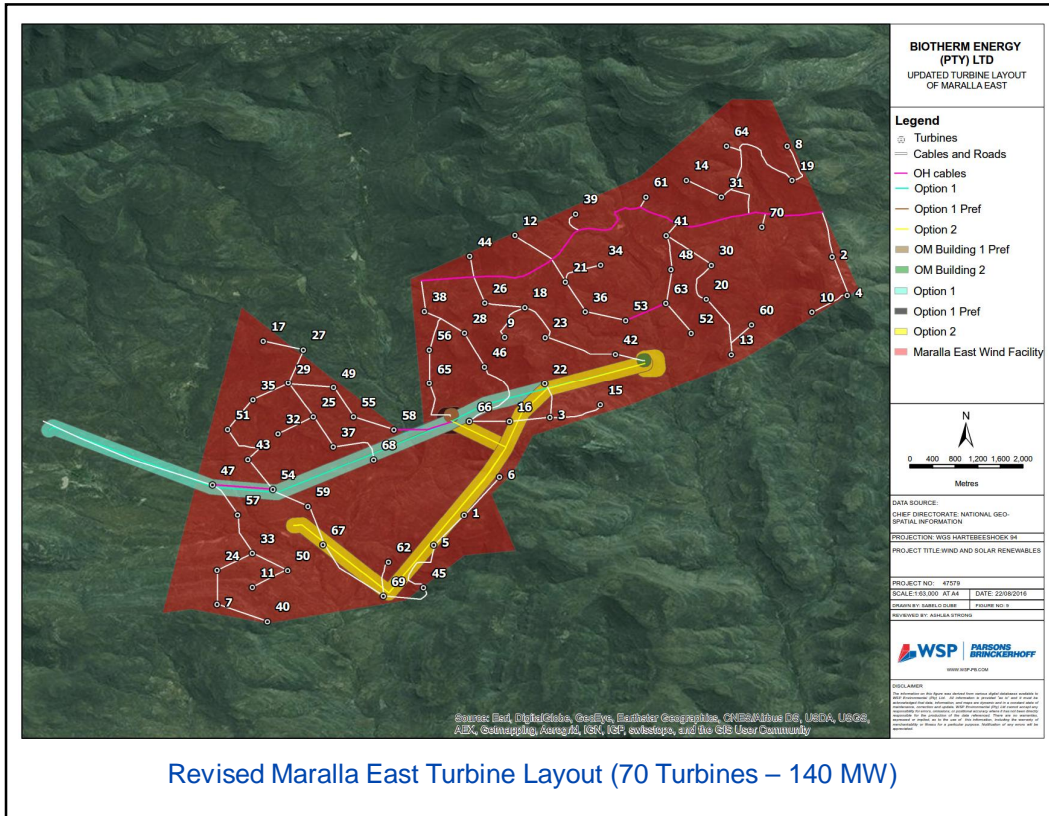


Esizayo Initial Turbine Layout (125 Turbines – 250 MW)



Revised Esizayo Turbine Layout (70 Turbines – 140 MW)

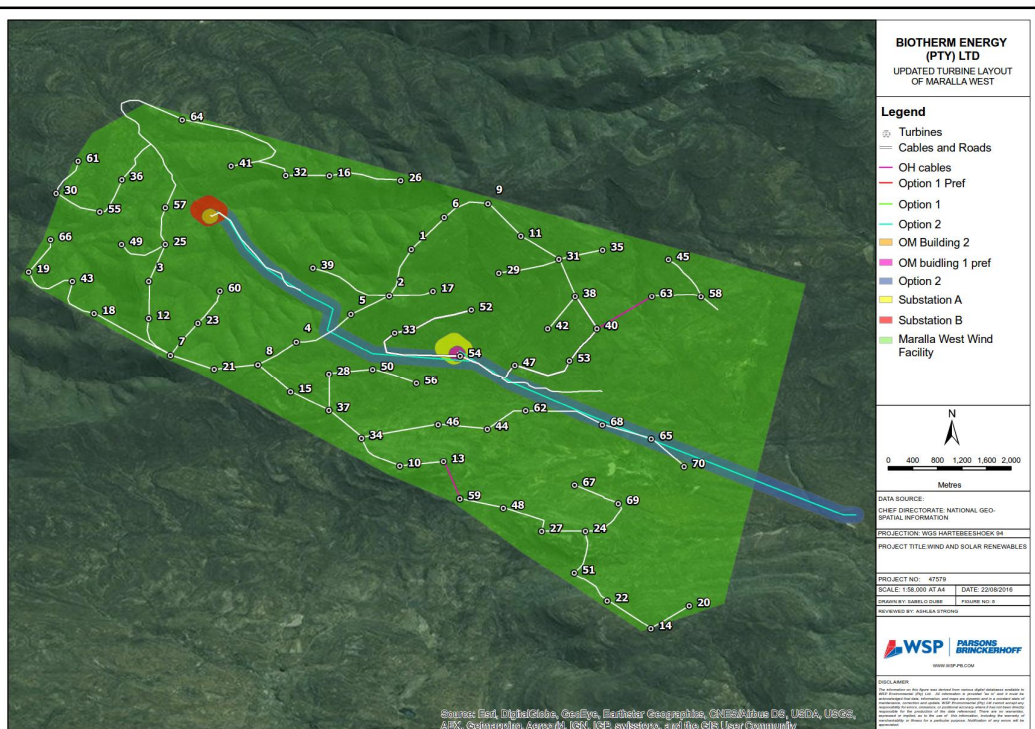




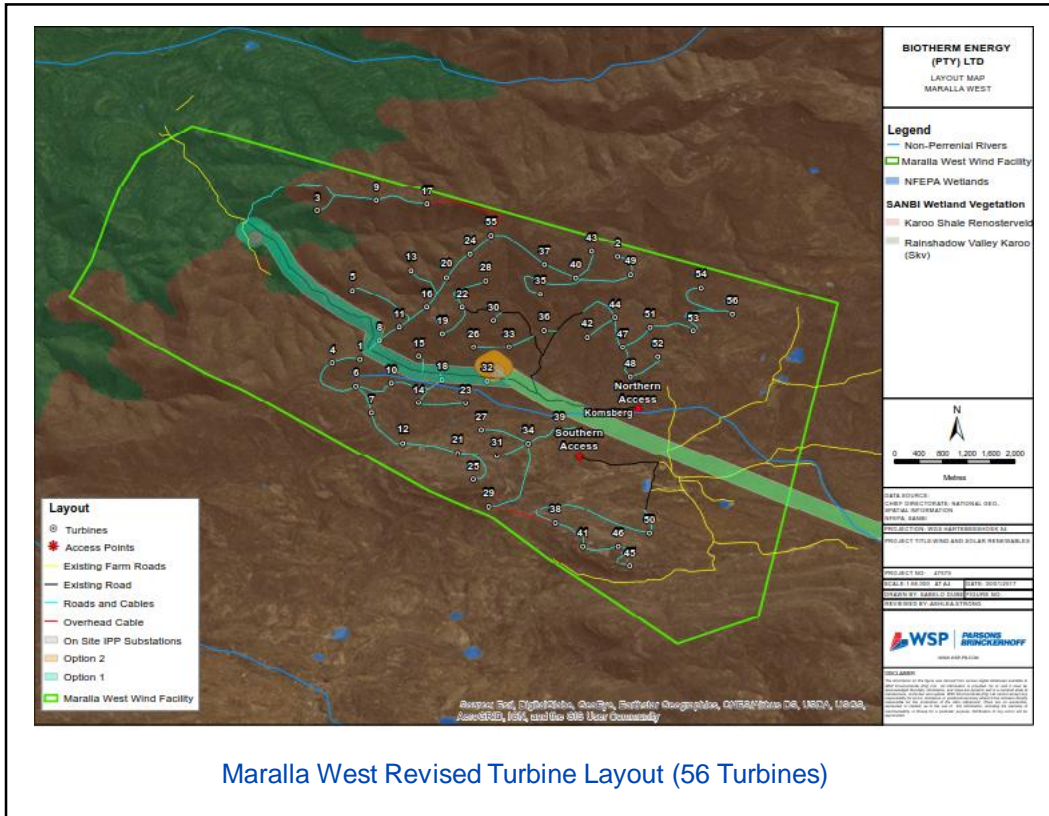
LAYOUT ALTERNATIVES- MARALLA WEST



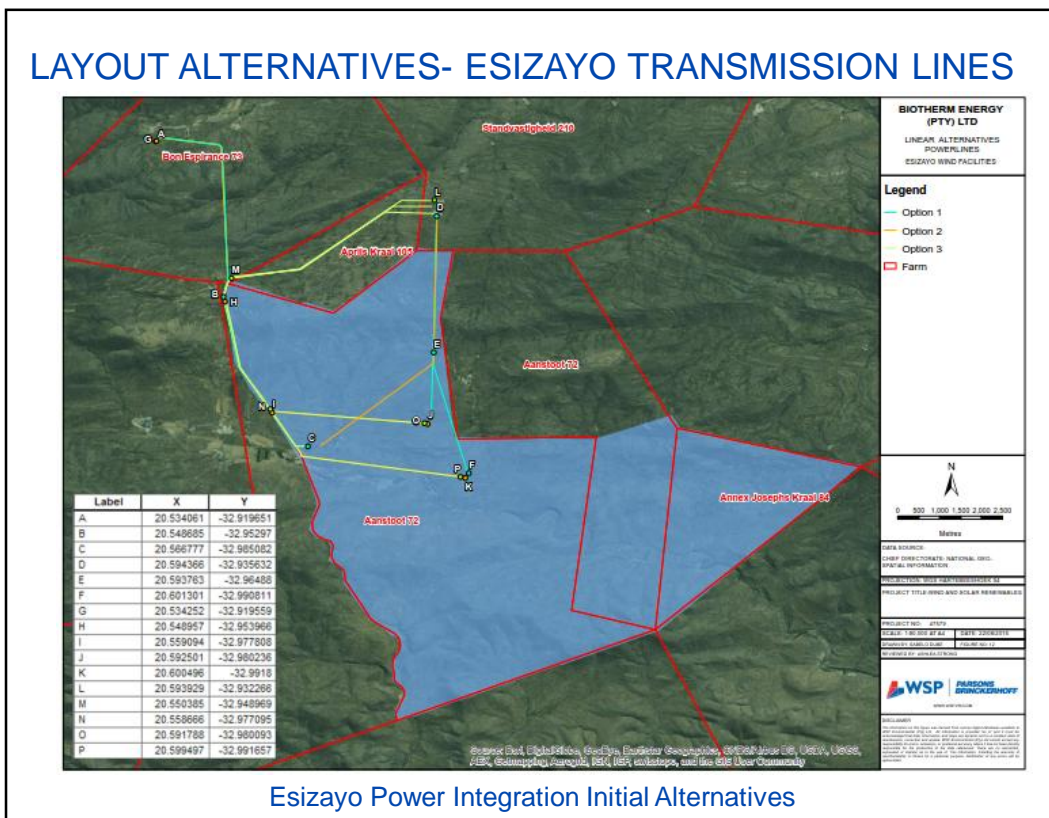
Maralla West Initial Turbine Layout (125 Turbines – 250 MW)



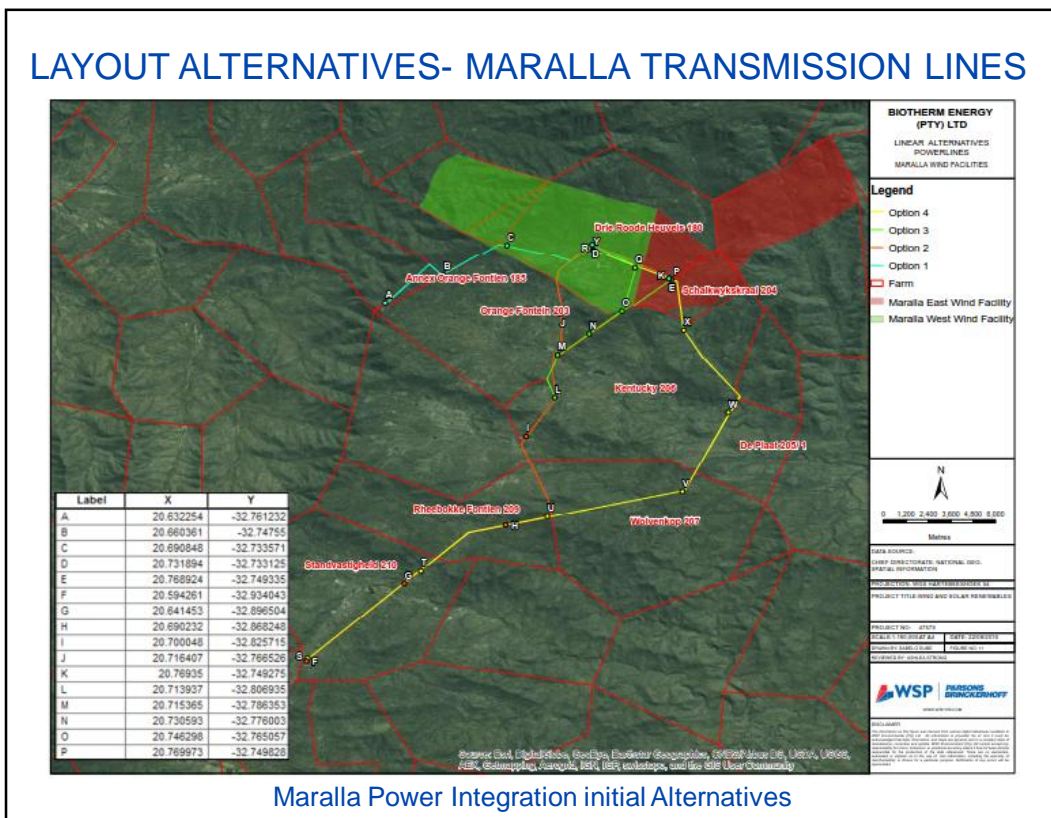
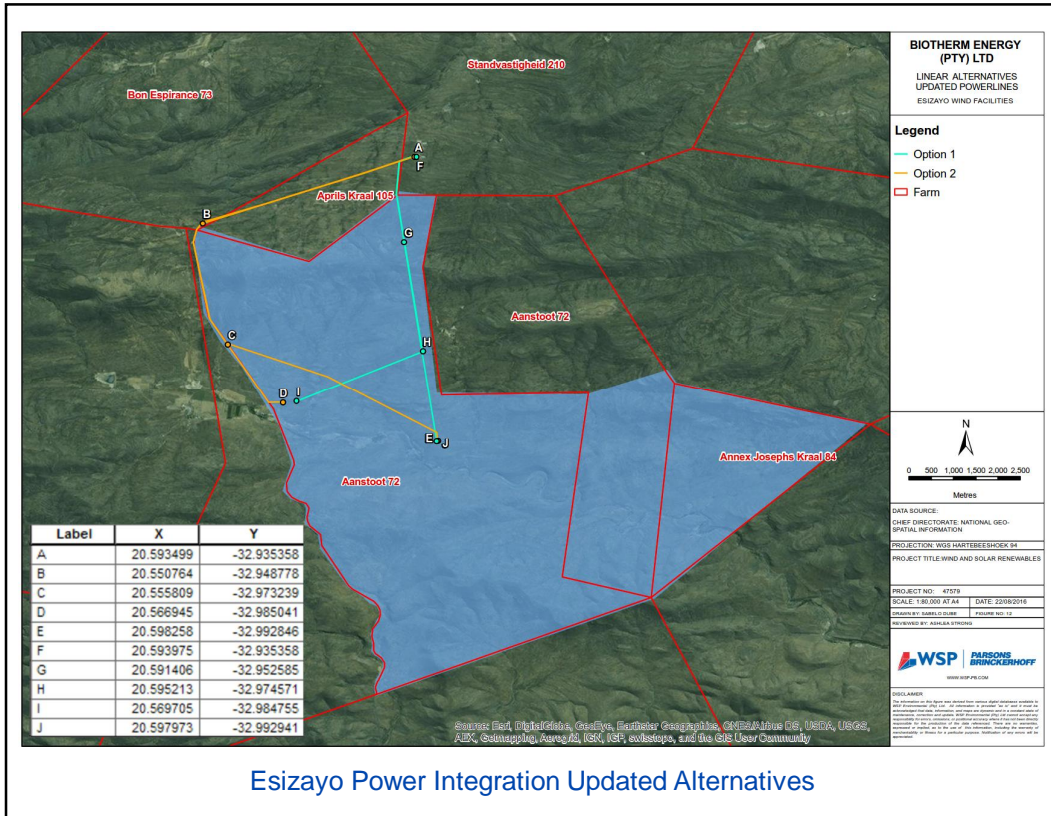
Maralla West Revised Turbine Layout (70 Turbines – 140 MW)



Maralla West Revised Turbine Layout (56 Turbines)



Esizayo Power Integration Initial Alternatives



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	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

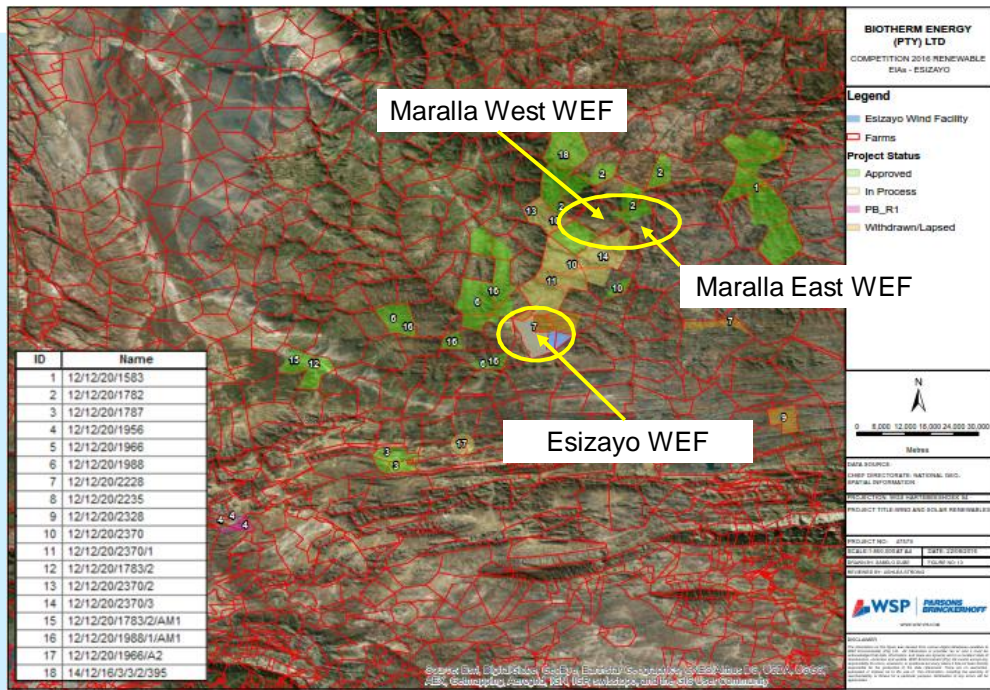


SOCIAL ENVIRONMENT

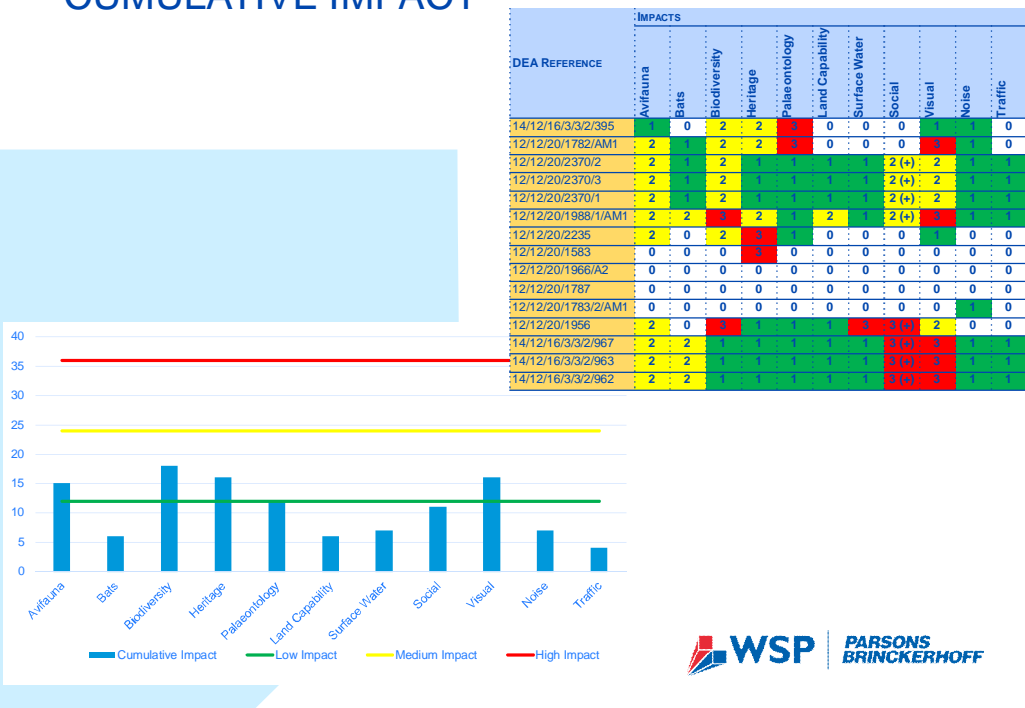
Ref.	Impact Description	Phase	Status	Significance (Pre-Mitigation)	Residual Significance (Post-Mitigation)
SE1	Increase in Employment Opportunities	Construction	Positive	Medium	High
SE2	Increased Economic Development Opportunities		Positive	Medium	High
SE3	Disruption due to influx of job seekers		Negative	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

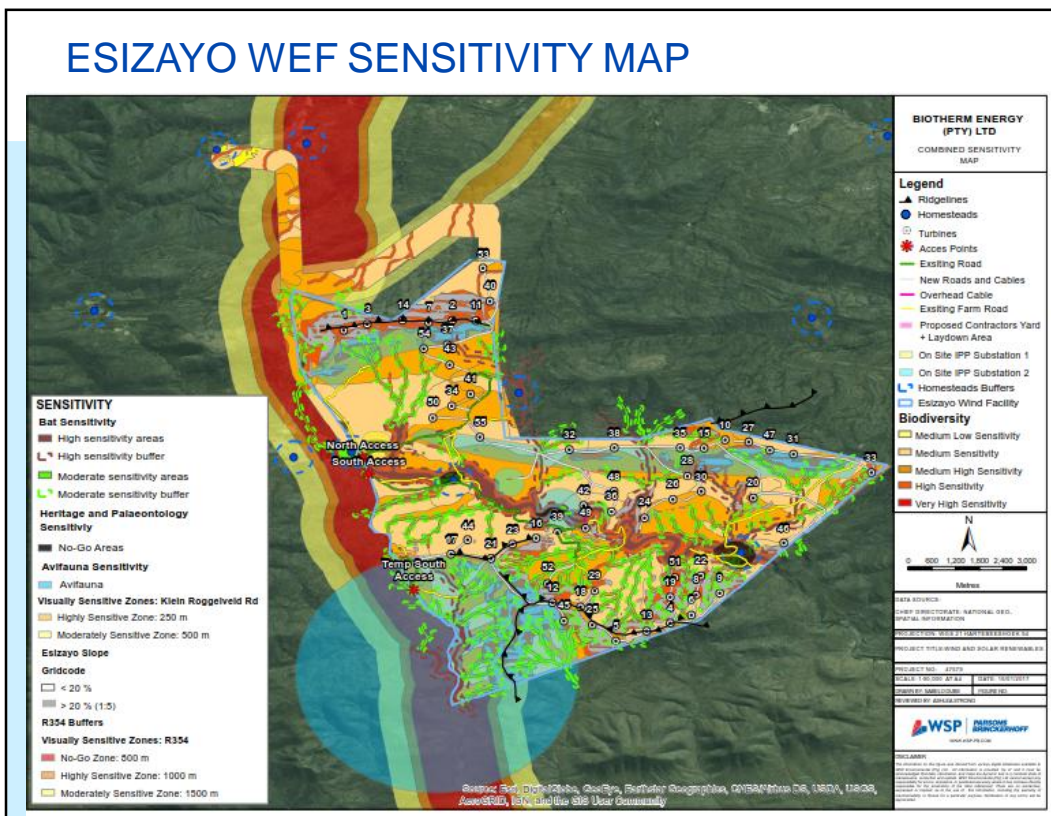
The impacts are the same for all three WEFs

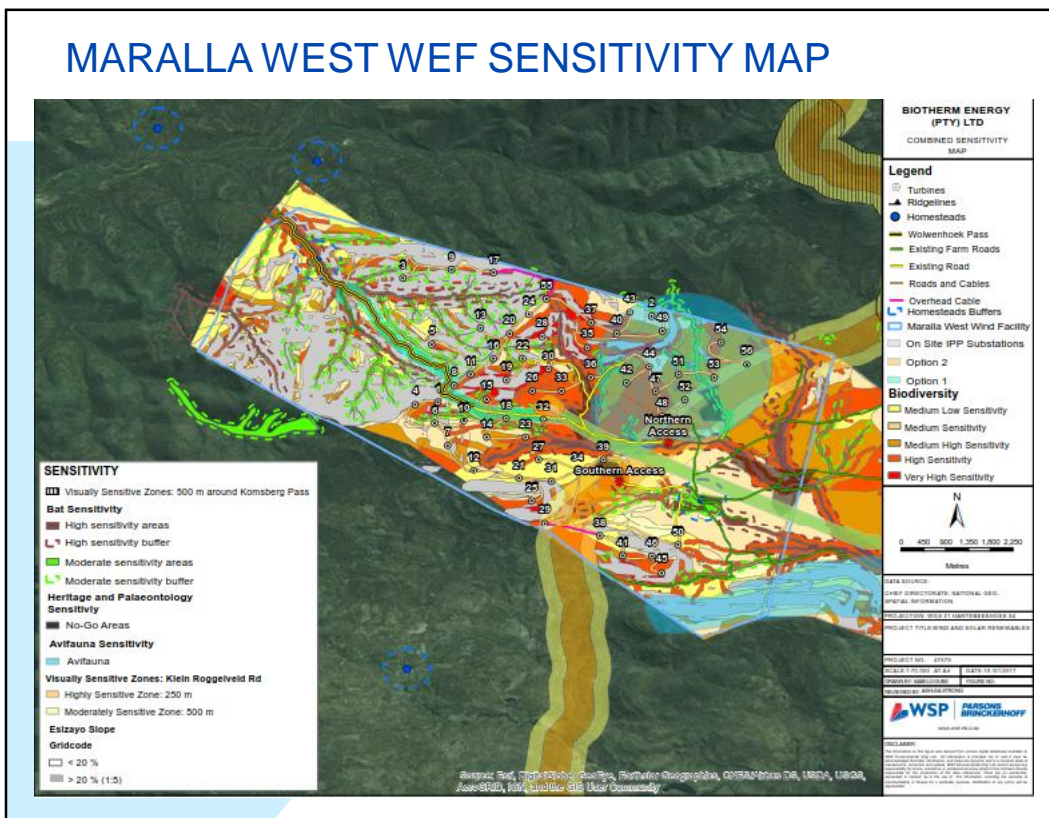
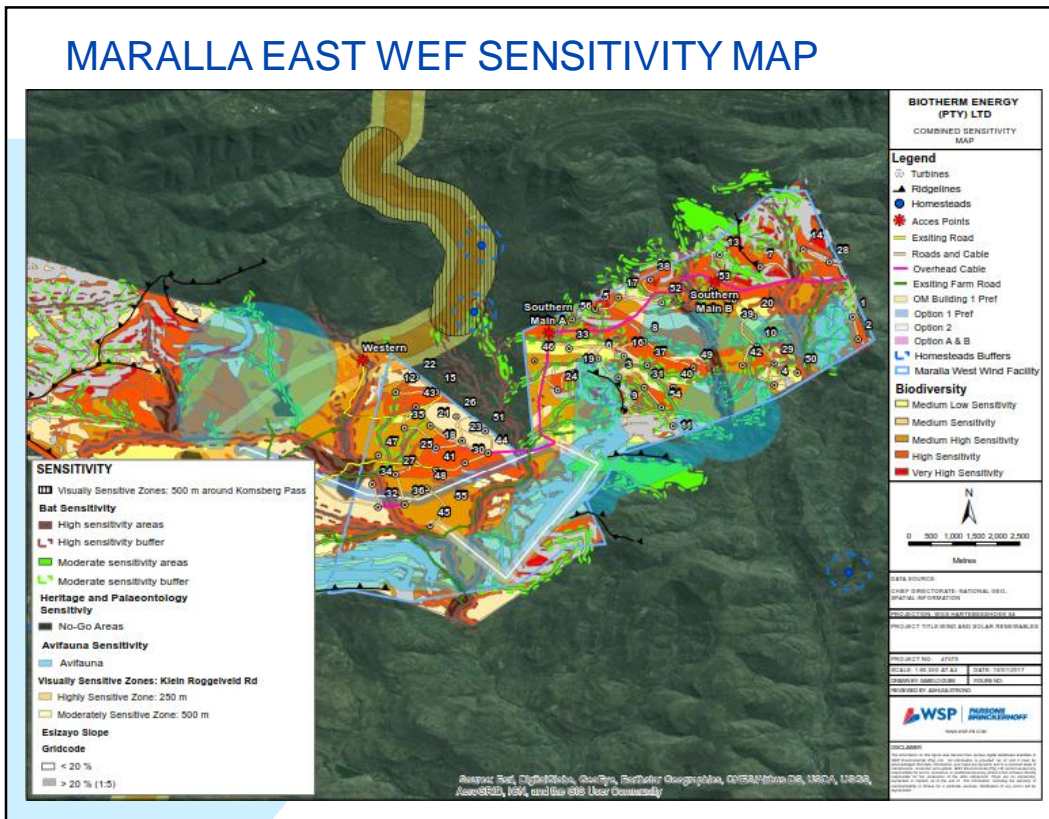
CUMULATIVE IMPACT





CUMULATIVE IMPACT









PUBLIC PARTICIPATION PROCESS

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	

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



Appendix C: List of Skills

Construction	Operation
<ul style="list-style-type: none"> • Environmental coordinator • Project manager • Director • Technical buyer • Engineering manager • Engineering director • Site manager • Engineer • Logistic project manager • Substation and OHL manager • Telecontroller/telecommunications • Management committee control • General labourer • HR/IR officer • HSE manager • Wind turbine technicians and assistants • Climber • Foremen/section foremen • Carpenter • Site supervisor • Truck driver • Surveyor • Operator • Managing director • Site administrator • Supply chain manager • Buyer senior • Commercial manger • Construction manager • Contract manger • Sub-station site manager • Site admin clerk • H&S representative • Bricklayer • Ecologists 	<ul style="list-style-type: none"> • Ecologists • General workers • Buyers • Security guards • Operations managers • Bird specialists • Bat specialists • Data sorters • Office assistants • Office Administrators • Technician/Junior technicians • Assistant Engineer • HR Director • Operations and Maintenance Manager • Buyer Seniors • ED Director • Commercial manager • Engineers