

The Municipal Manager
Beaufort West Municipality
112 Donkin Street
Beaufort West
6970

Dear Mr C Wright

15 December 2022

Land development application: Consent use ***Koup 1 wind energy facility***

Genesis Eco-Energy Developments (Pty) Ltd., through a Special Purpose Vehicle, is establishing the *Koup 1 wind energy facility* as a grouping of renewable energy structures in the Beaufort West and Prince Albert municipal areas. The entire facility constitutes six (6) properties and straddles the relevant municipal boundary.

Genesis Eco-Energy Developments (Pty) Ltd. (hereafter referred to as Genesis) submits this land development application for the land use rights to establish part of the *Koup 1 wind energy facility (WEF)* as consent use on five (5) properties located in the Beaufort West municipal area. These contiguous properties are located about 55 km south of Beaufort West and borders on the municipal boundary with the Prince Albert Municipality. The remaining part of the *Koup 1 WEF* is located on a property next to the municipal boundary in the Prince Albert municipal area. A similar application will be submitted to this Municipality to obtain the relevant land use rights for this property.

We apply for:

1. Consent use to accommodate part of the *Koup 1 wind energy facility* (including appurtenant infrastructure) on five (5) properties zoned as Agriculture Zone 1.
2. Municipal approval to register servitudes and/or lease agreements in favour of the Special Purpose Vehicle over the relevant properties.

Please find attached to this land development application all the documents and/or information required in terms of section 38 of the municipal land use planning bylaw.

If you have any questions or require clarity on any of the issues, please do not hesitate to contact me.



B P Rode
Managing Director

Municipal Land Use Planning Bylaw

Land development application (consent use)

Koup 1 Wind Energy Facility

Location

On the following properties:

***(1) Remainder of Portion 11 of the Farm Brits
Eigendom No. 374 (2) Portion 15 of the Farm Brits
Eigendom No. 374 (3) Portion 5 of the Farm No. 380
(4) Portion 11 of the Farm No. 380 (5) Remainder of
Portion 10 of the Farm No. 380***

**in the Registration Division of Beaufort West,
Western Cape**

Applicant

Genesis Koup 1 Windfarm (Pty) Ltd.

**(as a company created by *Genesis* as Special Purpose
Vehicle)**

Assisted by

RodePlan (Pty) Ltd.

Date:

December 2022

Applicant:

Genesis Koup 1 Windfarm (Pty) Ltd
P.O. Box 363, Newlands, Cape Town, 7725
39 De Villiers Road, Kommetjie, 7975

Contact person: Ms A von der Heyden
Tel: +27 (0)83 460 3898
E-mail: ashleigh.vonderheyden@genesis-eco.com

Assisted by:

RodePlan (Pty) Ltd
2 Brandwacht Street
Stellenbosch
7600

Contact person: Mr B. Rode
Tel: 082 658 7545
Email: berchtwald@rodeplan.co.za

Local municipality

Beaufort West Municipality
112 Donkin Street
Beaufort West
6970

Tel: 023.4148100

Contact person: Mr C. Wright
E-mail: christopher@beaufortwestmun.co.za

Table of contents

Executive summary

Section I: Preamble

1. Introduction	5
2. Project proponent	6
3. Location and development site	6
4. Renewable energy rationale	8
5. Objectives	10
6. Preparatory work	11
7. Fees	11
8. Advertising process	12
9. Report structure	12
10. List of tables and figures	12

Section II: Legislative and development framework

11. Land use legislation	
11.1 Municipal Land Use Planning Bylaw and Zoning Bylaw	13
11.2 Other relevant legislation	13
12. Policy guidelines (development)	
12.1 National and provincial	14
13. Investment directives	17
14. <i>Project response</i>	18

Section III: Spatial directives

15. Spatial rationale	20
16. Spatial Development Frameworks	21
17. <i>Project response: Site selection</i>	23

Section IV: NEMA application

18. Environmental impact assessment	24
-------------------------------------	----

Section V: Development context

19. Receiving environment	
19.1 Regional and local context	25
20. Development specifics	
20.1 Site information	26
20.2 Leasehold area information	27
20.3 Wind facility layout	28
20.4 Infrastructure	29
20.5 Development impacts	31
20.6 Title deed	32
20.7 Benefits of the proposed development	32

Section VI: Development parameters

21. Land-use parameters	33
-------------------------	----

Section VII: Communication and participation

22. Interested and Affected Parties	34
-------------------------------------	----

Section VIII: Conclusion

23. Wording of land use change	35
24. Desirability	35

Section IX: Annexures

Annexure 1:	Powers of Attorney and trust resolutions
Annexure 2:	Conveyancer's certificates and title deeds
Annexure 3:	SG diagrams
Annexure 4:	Application form
Annexure 5:	Set of maps
Annexure 5.1	Location to nearest REDZ
Annexure 5.2	Site locality
Annexure 5.3	Regional locality
Annexure 5.4	Preliminary layout
Annexure 6:	Critical Biodiversity Area
Annexure 7:	Basic Assessment Report
Annexure 8:	Specialist studies: Agriculture, Geotechnical, Visual, Ecological, Heritage, Archaeological, Transportation
Annexure 9:	Comment received: BGCMA, Cape Nature, DFFE, WC DEA
Annexure 10	Environmental Authorisation
Annexure 11:	Pre-application form
Annexure 12:	Email correspondence

Executive summary

Genesis Eco-Energy Developments (Pty) Ltd., through a Special Purpose Vehicle, is establishing the *Koup 1 wind energy facility* as a grouping of renewable energy structures in the Beaufort West and Prince Albert municipal areas. The entire facility constitutes six (6) properties and straddles the municipal boundary.

The aim of this land development application is to obtain the land use rights to allow renewable energy generation, transmission and distribution as consent use on land zoned for agriculture.

Location and development proposal

This application concerns part of the *Koup 1 wind energy facility* on the following five (5) contiguous properties in the Beaufort West municipal area:

1. Remainder of Portion 11 of the Farm Brits Eigendom No. 374
2. Portion 15 of the Farm Brits Eigendom No. 374
3. Portion 5 of the Farm No. 380
4. Portion 11 of the Farm No. 380
5. Remainder of Portion 10 of the Farm No. 380.

These titled and privately-owned properties are about 55 km south of Beaufort West and borders on the municipal boundary with the Prince Albert Municipality. The properties are also bordering the southern boundary of the Beaufort West Renewable Energy Development Zone (REDZ).

The five (5) properties have a combined land extent of 4010 ha and up to 24 wind turbines will be constructed on these properties as part of the *Koup 1 WEF*. The development footprint (or turbine hard standing areas) will be 5.4 ha. Hence, the extent of land used for the proposed renewable energy structures will be minimal considering the combined land extent.

The key components of the *Koup 1 wind energy facility* include wind turbines, internal and external electric grid connections, compacted hardstanding areas, battery energy storage system, building infrastructure, roads, construction laydown area, fencing and additional infrastructure (e.g. substation). The entire facility, i.e. including properties in the Beaufort West and Prince Albert municipal areas, will have up to 28 wind turbines with a combined generating capacity of up to 184 MW. The generated power will be connected to a proposed new on-site 33/132kV substation via medium voltage (33kV) cables from where the power will be fed into the national grid via a 132kV overhead power line to the proposed Galenia substation.

Land ownership

The five (5) properties belong to four (4) different landowners. These landowners have issued Powers of Attorney for the submission of this land development application to the Beaufort West Municipality.

Environmental impact assessment

The *Koup 1 wind energy facility* was the subject of an environmental impact assessment in terms of the 2014 Regulations under the National Environmental Management Act, 1998 (Act No. 107 of 1998, with amendments). Please note that an Environmental Authorisation (EA) has been issued after completion of the

environmental impact assessment process and based on the final Basic Assessment Report as submitted to the Department of Forestry, Fisheries and the Environment. During this process, Registered Interested and Affected Parties were invited to review and provide comment on the Environmental Impact Assessment Report.

Please also note that amendment(s) to an EA is/are regularly sought by a project proponent because of advances in technology and new project-specific findings. If applicable, and after any amendments to the relevant EA, such amendments will be communicated to the Municipality as an amendment to the land development application in terms of section 52 of the bylaw, i.e. prior to the approval thereof.

Land use rights

The development proposal of a renewable energy facility implies a non-conforming land use on land zoned as Agriculture Zone 1. Hence, as provided for in the Land Use Planning Bylaw of the Beaufort West Municipality read together with the Western Cape Land Use Planning Act, 2014 (Act 3 of 2014), a land development application is being made to add the land use of 'renewable energy structure' as consent use to the current zoning of the properties concerned. The aim is to change the land use in accordance with the provisions made in the Zoning Scheme Bylaw.

We are also applying for municipal approval to conclude lease agreements over each of the properties. The long-term leases will be notarially executed and registered against the title deeds of the properties at the Deeds Office. If required, ministerial consent to register the lease agreements in terms of the Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970) will be obtained from the national Department of Agriculture, Land Reform and Rural Development.

Site selection

The site selection process conducted by Genesis that resulted in the siting of the wind energy facility as potential project, included the identification of other 'suitable' sites for renewable energy facilities throughout the Western Cape Province. This process was also informed by the findings in the environmental impact assessment and by the national government's intervention to identify preferred areas for establishing large-scale wind and solar PV energy facilities, i.e. Renewable Energy Development Zones.

The 'selection' of the sites by Genesis was based on several factors, including (but not limited to):

- Wind resources
- Site extent
- Grid access
- Land suitability
- Nature reserves
- Local economic stimulation
- Current land use
- Existing use rights, e.g. prospecting and mining rights
- Landowner support.

We mention the Renewable Energy Development Zones as the preferred areas for large-scale renewable energy development and the roll-out of supporting transmission and distribution infrastructure.¹ The proposed *Koup 1 wind energy facility* is adjacent to such a zone, i.e. *providing certainty in decision making*. In this regard, the development site lends itself to renewable energy generation as also evidenced by the issuing of the EA, the approval and operation of prominent renewable energy features and infrastructure in proximity.

Wind energy facility layout

Through the environmental impact assessment process, which, as mentioned, includes various stakeholder and specialist inputs, a number of issues relating to the design and layout of the renewable energy facility have been identified and considered. This has led to several layout alternatives in order to balance the technical and financial objectives of maximising the output of the proposed facility with the critical environmental, topographical and social constraints.

Parts of the plans and layouts provided for the purposes of this application may be subject to amendment if required by the EA and/or technological advances. In this regard, an iteration process was and still is inevitably part of this land development application. Final layouts will be submitted to the Municipality as part of the building plans approval prior to construction.

Benefits of the proposed development

The proposed facility will form part of the Renewable Energy Independent Power Producer (REIPP) Procurement Programme rolled out countrywide, or the initiative by Government to allow larger-scale power producers to generate and sell-on unlimited electricity through registration without a generation licence.

Both these initiatives are intended to promote the use of renewable energy in the national energy mix of supply that is severely constrained. It is stated that rolling blackouts are here to stay for at least another 12 months, even if Government presses ahead with President Ramaphosa's recently announced energy plan. In this regard, Government plans to move with speed to register and approve new renewable energy projects that can feed electricity into the national electricity grid. In addition to such electricity-related benefits, the development of a renewable energy facility contributes to income generation and (local) job creation.

Development parameters

We believe this kind of renewable energy facility is complex in application and requires specialist knowledge and insight to best determine and adjudicate build and operational restrictions/parameters. We take note of the development parameters set for renewable energy structures in the Zoning Scheme Bylaw.

Desirability

Government must assess renewable energy generation initiatives by considering a wider-than-normal perspective on long-term structural changes, e.g. climate change, energy security and other shifts. In this regard, impacts are certain to happen. Planners must become aware of the need to take a broader look at

¹ Strategic Environmental Assessment for wind and solar photovoltaic in South Africa, 2105 as published in Government Gazette No.41445, 16 February 2018.

spatial planning and land use management by, for example, considering buffer areas around existing installations as suitable locations for renewable energy infrastructure.

In this context and when applying the principles of economies of scale and highest and best use of land, the rationale for wind energy generation on the properties becomes clear. The proposed development (1) blends with the particular type of land(scape), (2) promotes the (better) economic use of land and infrastructure and (3) conforms to the outcome of socio-political interaction. This is best demonstrated by the approval and operation of similar facilities in proximity and the location of the *Koup 1 WEF* bordering a Renewable Energy Development Zone.

However, the proposed development will introduce a site-specific land use (on each of the properties) that is different to (but not incompatible with) the established land use of farming. We believe the proposed land use is moderately compatible with the rural landscape and conforms to past land-use conversion initiatives in the area, e.g. high-voltage power lines, substations and renewable energy generation infrastructure. It is foreseen that the impact on on-site and adjacent land use because of the proposed facility will be very low if mitigating measures are applied.

It is also clear that the proposal conforms to the intention of the development principles listed in section 7 and section 58 of the Spatial Planning and Land Use Management Act, 2016 (Act 16 of 2013) and the Western Cape Land Use Planning Act, 2014 (Act 3 of 2014), respectively.

This motivation report includes sufficient information regarding the criteria as listed in section 65 of the municipal bylaw, which must be considered in decision making on a land development application.

Section I – Preamble

1. Introduction

National policy and implementation provide for an unprecedented optimism amongst investors and the public alike, concerning the government's commitment towards finding and supporting credible solutions in the transition to a low carbon economy. A recent World Bank statement declared South Africa as one of the world's largest greenhouse gas emitters and stated that because government's fiscal capacity is limited, the domestic private sector and external financing will be required for the transition.²

Implementation by Government includes the release, on 4 November 2022, of the Just Energy Transition Investment Plan which is funded through grant funding and concessional loans. The bulk of these funds, about 70%, will be allocated to the electricity sector to decommission coal-fired power stations, expanding and strengthening the transmission grid, and bringing online new renewable energy generation capacity. Importantly, these directives are in line with the gazetted Integrated Resource Plan (IRP), which envisions the bulk of the increase in the country's total electricity-production capacity coming from renewable sources.

Government also recently announced a set of radical actions and measures to respond to South Africa's energy crisis and the transition away from coal to cleaner energy sources.³ These actions include the accelerated procurement of new generation capacity from Independent Power Producers (IPP) as part of the Renewable Energy Independent Power Producer (REIPP) Procurement Programme. This programme has outperformed all targets and is supplemented by the mapping of a preferred geographical distribution for power-generating facilities and the future electricity grid, i.e. Renewable Energy Development Zones (REDZ).⁴

The REDZs were 'demarcated' based on high level integrated spatial analysis of the best available environmental, technical and social data. *In this context (and even if sited within a REDZ), it is still up to each developer to source (local and site-specific) data and spatial directives through planning and environmental processes. Also, suitable wind and solar PV development is still promoted across the country and any proposed development must be considered on its own merits.*

Genesis, through its Special Purpose Vehicle, submits this report with annexures as land development application for the land use rights to establish part of the *Koup 1 wind energy facility* (including appurtenant infrastructure) as consent use

² Source: [SA needs R8.5 trillion to reach zero carbon emissions by 2050 – World Bank \(citizen.co.za\)](https://citizen.co.za), viewed on 3 November 2022.

³ SA is primarily powered by locally mined coal, which generated nearly 90% of the country's total electricity supply of 224.63 terawatt hours (TWh) in 2021 (source: [Gavin Maguire: How five African nations use energy offers hints for power generation \(businesslive.co.za\)](https://businesslive.co.za), viewed on 23 November 2022).

⁴ Strategic Environmental Assessment for wind and solar photovoltaic in South Africa, 2105 as published in Government Gazette No.41445, 16 February 2018.

on five (5) properties in the Beaufort West municipal area. The *wind energy facility (WEF)* is located adjacent to the Beaufort West REDZ.

This motivation report assists the decision maker in evaluating the merit of the proposed land use by providing qualitative and quantitative information and articulating outcomes.

2. Project proponent⁵

Genesis Eco-Energy Developments was established in 2001 **and** is one of South Africa's pioneering renewable energy companies providing project development, management and operations services across a range of renewable energy technologies. Its focus is on free fuel renewable energy (wind, solar PV and marine technologies) as well as bio-energy.

Genesis employs a team of highly experienced people who have worked locally and internationally in areas ranging from energy strategy, policy formulation, energy trading, financial services, land, agriculture and rural development, through to project design, development, management and implementation. The team has developed and implemented projects in a number of countries and bring this expertise and experience to bear when designing and implementing projects in South Africa and the SADC region.

We work with local communities, landowners, the farming community and investors to source and develop projects that make a difference. The company's projects aim to address a range of today's environmental, social and economic challenges as we work toward delivering a truly modern sustainable energy system for South Africa that delivers tangible benefits. The projects include the following wind farms: Jefferey's Bay, Loeriesfontein 2 and Khobab, Noupoot, Tooverberg and Perdekraal West.

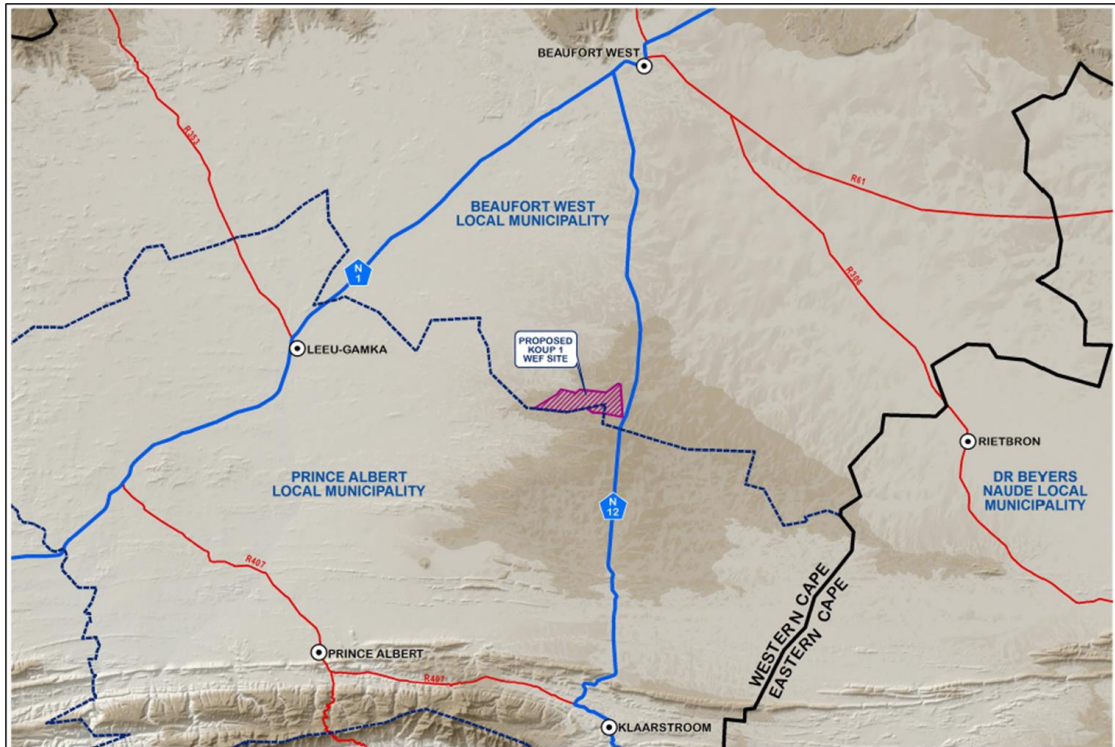
3. Location and development site

The proposed *Koup 1 WEF* (including appurtenant infrastructure) are located within the jurisdiction areas of the Beaufort West and Prince Albert Municipalities as local authorities, and the Central Karoo District Municipality as category-C Municipality.

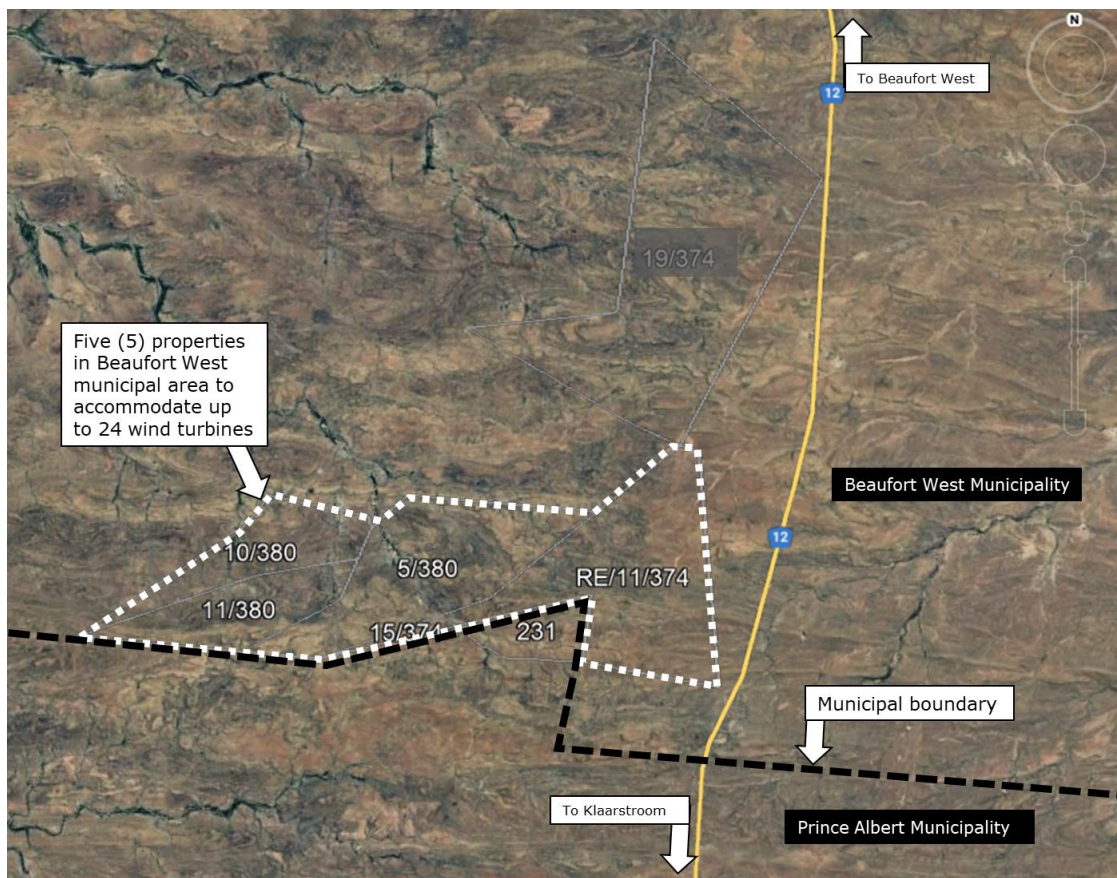
This land development application concerns the land use rights to establish part of the *Koup 1 wind energy facility (WEF)* as consent use on five (5) properties located in the Beaufort West municipal area. These contiguous properties are located about 55 km south of Beaufort West and borders on the municipal boundary with the Prince Albert Municipality (see **Maps 1** and **2**).

The five (5) properties have a combined land extent of 4010 ha and up to 24 wind turbines will be constructed on these properties as part of the facility. The development footprint (or turbine hard standing areas) will be about 5.4 ha. Hence, the extent of land used for renewable energy structures will be minimal considering the combined land extent (see **Map 3**).

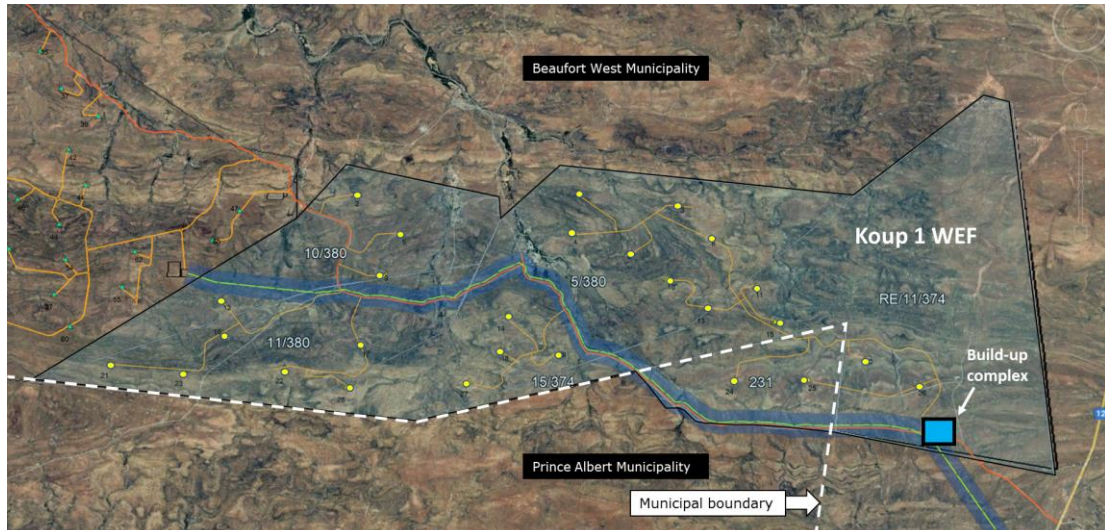
⁵ Source: [Who we are – Genesis Eco-Energy Developments \(genesis-eco.com\)](http://genesis-eco.com).



Map 1: Regional location



Map 2: Local orientation of the Koups 1 WEF



Map 3: Development areas and layout (approximate)

The properties are all zoned Agriculture Zone 1 with extensive grazing as the current land use. The table below lists the properties concerned and the relevant property specifics:

Table 1			
Properties associated with the <i>Koup 1 WEF</i>			
Property description	Land extent (ha)	Zoning of properties	
		Current	Proposed
Remainder of Portion 11 of Farm 374	1512	Agriculture Zone 1	Agriculture Zone 1 with consent use
Portion 15 of Farm 374	49	Agriculture Zone 1	Agriculture Zone 1 with consent use
Portion 5 of Farm 380	1225	Agriculture Zone 1	Agriculture Zone 1 with consent use
Portion 11 of Farm 380	612	Agriculture Zone 1	Agriculture Zone 1 with consent use
Portion 10 of Farm 380	612	Agriculture Zone 1	Agriculture Zone 1 with consent use
Total	4010		

The following coordinates are the approximate central coordinates of the properties on which turbines will be placed (also see **Annexure 7**):

- 32° 51' 35.02" S and 22° 28' 50.20" E as the central point of Portion 5 of Farm 380.

4. Renewable energy rationale

The South African economy — founded upon and maintained by the burning of fossil fuels⁶ — is faced with a medium-term low-growth scenario and confronted with, *inter alia*, an ever-increasing unemployment rate, continued reliance on fossil fuels and the need for social infrastructure, e.g. housing.⁷ The ability of Government to meet these economic, environmental and social challenges is, at best, allaying imminent fears of non-delivery. This is, however, in the face of widening inequalities, increasing community protest action over service delivery, ever-increasing electricity tariffs, decaying and inadequate electricity infrastructure and power shortages.

The National Development Plan identifies renewable energy infrastructure as a critical component in facilitating economic growth and sustaining economic activities country-wide. It is stated by many stakeholders that by including extensive renewable energy technologies in our power mix, great opportunities are offered for local job creation and for making the best use of our natural resource base. In this regard, Government's response in the Integrated Resource Plan (IRP) — gazetted on 18 October 2019 — is appropriately focused and through its response, Government recommits to international commitments, ambitions and reporting initiatives, e.g. Millennium Development Goals. More recently, the State President announced a set of radical actions and measures to respond to South Africa's yearslong energy crisis and to deregulate the energy sector. These actions included (1) accelerated procurement of new generation capacity and (2) the buying of surplus power from existing IPPs. Furthermore, the demarcation of Renewable Energy Development Zones solidified this commitment considering that it would take roughly 320 million solar panels or 37 000 wind turbines to add 100GW of renewable energy capacity to the national grid.⁸

We acknowledge the Renewable Energy Development Zones as the preferred areas for large-scale renewable energy development and the roll-out of supporting transmission and distribution infrastructure.⁹ *Please note that this designation does not preclude other areas from consideration.*

Procurement of electricity from Independent Power Producers

Government's IRP, as long-term energy plan, states the scale and pace of new electricity generation capacity to be commissioned over the next decade. It is stated in the IRP that wind energy will represent 17 742MW of installed energy capacity in the country by 2030, i.e. 55% of the South African power system and up from the 11 442MW or 15% stated in the draft IRP. This target will now change due to the recently announced actions. These actions include:

- Determining the remaining allocations in the Integrated Resource Plan 2019 and opening further bid windows on an expedited basis.
- Ensuring that all projects from Bid Window 5 of the renewable energy programme can start construction on schedule. This includes "taking a

⁶ Currently, coal plants generate 77% of electricity in the country.

⁷ The South African power system consists of the following generation options: 38GW installed capacity from coal; 1.8GW from nuclear; 2.7GW from pumped storage; 1.7GW from hydro; 3.8GW from diesel; 3.7GW from renewable energy.

⁸ Renewable Energy Development Zones (REDZ) were identified as areas of strategic importance where the development of large-scale wind and solar photo-voltaic energy facilities can be 'fast-tracked'.

⁹ Government Gazette No.41445, 16 February 2018 and Government Gazette No.44191, 26 February 2021.

pragmatic approach” to the local content requirements for these projects and prioritising the need to build new capacity as quickly as possible.

- Doubling the amount of new generation capacity procured through Bid Window 6 for wind and solar power from 2 600 MW to 5 200MW.
- Releasing a request for proposals for battery storage by September 2022, and a further request for gas power as soon as possible thereafter.

Please note that the current estimations in the IRP regarding the deployment of solar PV *and wind energy* will contribute up to 110 000 jobs over the next decade. This will now increase drastically.

After the first four bidding windows of the national procurement programme, the total in renewable energy procured is over 6300 MW – mobilising private investment of R168 bn from about 112 producers, leaving a further 14 376 MW to be procured until 2030. A fifth window was introduced in 2021 with an allocation of 2600 MW. The timeline to finalise project agreements for this bid window has been reached with 25 preferred bidders announced, while the extended bidding period for bid window 6 proposals closed on 3 October 2022. National Government also introduced the risk-mitigated programme in August 2020 because of the need for emergency energy supply. This programme has procured about 2000 MW of new generation capacity derived from different types of dispatchable power generation projects.

As significant as the introduction of the afore mentioned programmes, is the announcement by Government that Schedule 2 of the Electricity Regulation Act will be changed. This announcement has now been amended in that larger-scale power producers are allowed to generate unlimited power (and not up to 100MW power as previously announced) without having to go through a long-drawn-out licencing process, and even to sell excess power back into the grid.¹⁰

5. Objectives

This application is submitted in terms of section 15(d) and (o) of the applicable Zoning Scheme Bylaw (Provincial Gazette 8245, 5 June 2020) and municipal land use planning bylaw (Provincial Gazette 8046, 22 February 2018). The bylaws must be read together with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) (SPLUMA) and Western Cape Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA).

The application constitutes the following:

- In terms of section 15(2)(o): Obtaining the **Consent use** of ‘renewable energy structure’ to accommodate part of the *Koup 1 WEF* (including appurtenant infrastructure) on the following properties:
 - Remainder of Portion 11 of the Farm Brits Eigendom No. 374
 - Portion 15 of the Farm Brits Eigendom No. 374
 - Portion 5 of the Farm No. 380
 - Portion 11 of the Farm No. 380
 - Remainder of Portion 10 of the Farm No. 380

¹⁰ Embedded generation — when a company produces electricity for its own use or for use by others — is widely regarded as the quickest way to bring additional megawatts onto the grid.

- In terms of section 15(2)(d): Municipal approval for the purpose of registering servitudes and/or lease agreements over each of the properties concerned.
- Request the Municipality to certify in writing that the registration of servitudes and/or lease agreements for the provision or installation of on-site electricity transmission lines are exempt from an application in terms of section 15.

The **subdivision** of the land unit is not considered.

This document must also serve as **information document** for Interested and Affected Parties.

6. Preparatory work

RodePlan was appointed to compile and submit to the relevant authority an application in terms of the applicable municipal bylaw read together with SPLUMA and LUPA. A pre-application meeting was held on 13 December 2022.¹¹ The following actions/measures were discussed:

1. Legislation: A land development application must be submitted in terms of the Beaufort West municipal planning bylaw (read together with SPLUMA and LUPA) and the Zoning Scheme Bylaw that regulates the appropriate land use right.
2. Proposed land development application: A land development application to be submitted to the Beaufort West Municipality to obtain the applicable land use rights (viz. consent use of 'renewable energy structure') for the properties concerned. Consent use to be considered for the (long-term) duration of the facility with the developable extent (i.e. activity and footprint) based on an approved site development plan. We propose to submit final layouts to the Municipality as part of the building plans approval prior to construction.
3. Provincial government involvement in land development application:
Obtaining provincial approval: Only if the proposed activities substantially alter or impact agricultural land that has been irrigated or cultivated during the 10-year period immediately preceding the proposed land development.
Obtaining provincial comment on the application submitted to the Beaufort West Municipality: Comment to be requested.
4. Application fee: The application fee will be paid on instruction by the Municipality.
5. Submission: The application can be submitted in hard copies and by email.
6. Application process: The Beaufort West Municipality will inform the applicant regarding responsibilities and actions related to the notification process.
7. Information required: The application must include the information required in terms of section 38 of the municipal bylaw. The application submitted as part of the pre-application phase does not have to include a completed application form and proof of payment of application fees.

7. Fees

The application fee will be paid on instruction by the Municipality.

¹¹ Also see pre-application form and email correspondence attached as Annexures 11 and 12 respectively.

8. Advertising process

It is proposed that the municipality informs RodePlan, in writing, as to the responsibilities for notifying and advertising the application as required by the Municipality. Hence, we await written confirmation of receipt and completeness of the application and a breakdown of the notification process from the Municipality. Such letter will inform us of our responsibilities in this regard.

9. Report structure

This report is structured to firstly introduce the application process as well as the development proposal in the context of a rationale for renewable energy. Section II then describes the legal framework and Section III the spatial directives as parameters for the establishment of the wind energy facility. Section IV refers to the NEMA application. Sections V and VI interpret the receiving environment and provide detailed specifics of the development proposal.

Section VII provides information about the public participation process and we conclude, in Section VIII, by providing clarity on the wording of the land use change and desirability. Section IX includes reference to the annexures.

10. List of tables and figures

Table 1	Properties associated with the <i>Koup 1 WEF</i>
Table 2	Specifics of the properties earmarked for the <i>Koup 1 WEF</i>
Table 3	Measurement of possible impact
Map 1	Regional location
Map 2	Local orientation of the <i>Koup 1 WEF</i>
Map 3	Development areas and layout
Map 4	Spatial Planning Categories
Map 5	Renewable energy development zones in South Africa
Map 6	Beaufort West REDZ
Map 7	Location of <i>Koup 1 WEF</i> in relation to the Beaufort West REDZ
Map 8	Central Karoo region and municipalities
Map 9	Windfarm layout

Section II – Legislative and development framework

11. Land use legislation

11.1 Municipal Land Use Planning Bylaw and Zoning Bylaw

The Spatial Planning and Land Use Planning Act, 2013 (Act 16 of 2013) and the Western Cape Land Use Planning Act, 2014 (Act 3 of 2014) are the governing framework for spatial planning and land use management in the province; replacing Ordinance 15 of 1985. The former is effective, countrywide, since 1 July 2015 and the Provincial Act is implemented in the Beaufort West municipal area since 7 October 2015.¹²

In accordance with this governing framework, the Municipality approved the Municipal Land Use Planning Bylaw as published in the Provincial Gazette 8046 on 22 February 2019 — being constitutionally empowered to make and adopt detailed laws pertaining to land use management. This bylaw governs land use planning and management in the municipal area. Its purpose is to, *inter alia*, make provision for rezoning, subdivision, consent use and departure in respect of land use, decision making in this regard as well as to provide for spatial development frameworks and zoning schemes.

The development proposal of a wind energy facility implies a non-conforming land use on land zoned as Agriculture Zone I. Please note that there is no national directive regarding a land-use category to make possible the development of commercially-operated renewable energy generation facilities. Hence, this application has been structured according to previous municipal approvals and consultations with officials. In this regard, the Zoning scheme regulates the way in which land is used. The relevant zoning scheme bylaw was promulgated under Provincial Gazette 8245, 5 June 2020 and stipulates that the land use of renewable energy structure is a consent use on land zoned as Agriculture Zone 1.

11. Land use legislation (continued)

11.2 Other relevant legislation (in the context of this application)

Spatial Planning and Land Use Management Act, 2013

The Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) was enacted by the national Department of Rural Development and Land Reform on 5 August 2013 and came into effect on 1 July 2015.

SPLUMA aims to develop a new framework to govern planning permissions and approvals, sets parameters for new developments and provides for different lawful land uses in South Africa.¹³ SPLUMA is a framework law, which means that the law provides broad principles for a set of provincial laws that will regulate planning and clarify on how planning law interacts with other laws and policies.

¹² As published in Provincial Gazette No. 7509.

¹³ <http://www.customcontested.co.za/laws-and-policies/the-spatial-planning-and-land-use-management-act-spluma/>.

The Act emerged through the Green Paper and White Paper processes to replace (mainly) the DFA as the legislative instrument to regulate spatial planning and land use management in the country. As can be expected, the Act is all-encompassing and, amongst others, addresses the issue of putting in place a uniform, recognisable and comprehensive system of land use management to ensure economic unity and equal opportunity or equal access to government services. In this regard, the development principles as described in Section 7 are a key outcome. However, SPLUMA nor any other legislation determine or translate the legislated development principles into quantifiable outcomes, e.g. setting targets to counter long-term structural changes in the context of land use management.

SPLUMA, however, requires the use of land to be in accordance with the zoning of such land, *irrespective of the user*. Complying with SPLUMA, it is stated in LUPA that 'no person may utilise or develop land unless the utilisation or land development is permitted in terms of a zoning scheme or an approval consistent with this Act and applicable bylaws'.

National Environmental Management Act, 1998 (Act 107 of 1998)

See **Section IV**.

National Heritage Resource Act, 1999 (Act 25 of 1999)

Has been considered in the environmental impact assessment process.

Astronomy Geographic Advantage Act (No. 21 of 2007)

The Astronomy Geographic Advantage Act (No. 21 of 2007) provides for the preservation and protection of areas within South Africa that are uniquely suited for optical and radio astronomy; for intergovernmental co-operation and public consultation on matters concerning nationally significant astronomy advantage areas and for matters connected thereto.

In line with this act, the Northern Cape Province, excluding the Sol Plaatjie Municipality, was declared an astronomy advantage area in Government Gazette No. 33462. The Karoo Core Astronomy Advantage Area contains the MeerKAT radio telescope and the Square Kilometre Array (SKA) radio telescope that are used for the purposes of radio astronomy and related scientific endeavours. The proposed *Koup 1 WEF* falls outside any of the Core Astronomy Advantage Areas and are not subject to the various regulations and declarations protecting the SKA sites.

12. Policy guidelines

12.1 National and provincial

National

National Government's New Growth Path

The New Growth Path (NGP) reflects Government's commitment to prioritising employment creation in all economic policies and lays out strategies to enable South Africa to grow in a more equitable and inclusive manner in the future, fulfilling the promise of our democracy.

The centrepiece of the NGP is a massive investment in infrastructure and people through skills development, together with smart government and better coordination with the private sector and organised labour so that we can achieve our national goals. Infrastructure development is identified as a critical driver of jobs across the economy. The document identifies investments in five key physical and social infrastructure areas, namely energy, transport, communication, water and housing. The sustaining of high levels of public investment in these areas would create jobs in construction, operation and maintenance of infrastructure.

The green economy is one area for which the NGP sets out an ambitious programme to create jobs, through a series of partnerships between the state and the private sector. This includes expansions in construction and the production of technologies for solar, wind and biofuels.

The document recognises the need for a coordinated set of actions across a broad front and identifies a "development package" consisting of macroeconomic strategies, microeconomic measures and stakeholder commitments to drive employment and economic growth.

These actions include, *inter alia*, the following:

- A broad pact between business, labour and the government aimed at fostering employment creation whilst enhancing competitiveness and social equity and development goals.
- Measures to strengthen the capacity of the state and enhance the performance of the private sector to achieve the employment and growth goals, e.g. slashing unnecessary red tape, improving competition in the economy and stepping up skills development.
- Enhancing rural employment through the finalisation of a spatial perspective that sets out the opportunities available and the choices that we must make to lay the basis for aligning government spending, infrastructure and housing investment and economic development initiatives.

National Development Plan

National Development Plan is a wide-ranging document that sets the tone for government thinking over the next two decades. Electricity is identified as one of the core components of a decent standard of living.

In the context of renewable energy, the plan states that, 'by 2030, South Africa will have an energy sector that provides reliable and efficient energy service at competitive rates, is socially equitable through expanded access to energy at affordable tariffs and environmentally sustainable through reduced pollution'.¹⁴ In this regard, the development of additional electricity capacity would be required, i.e. roll out of additional electricity infrastructure.

Integrated Resource Plan

See §4.

Provincial

¹⁴ Integrated Resource Plan, August 2018.

Western Cape Land Use Planning Guideline: Rural Areas, 2019¹⁵

The Western Cape Land Use Planning Guidelines: Rural Areas was prepared as part of a provincially-driven initiative to guide spatial planning and land use management in the Western Cape. However, the Rural Area Guideline is not mandatory and binding and will not be enforced. This notwithstanding, this guideline has the following objectives:

- Promote sustainable development in appropriate rural locations and to ensure that the poor share in the growth of the rural economy.
- Safeguard priority biodiversity areas and the functionality of the Province's life supporting ecosystem services (i.e. environmental goods and services).
- Maintain the integrity, authenticity and accessibility of the Western Cape's significant farming, ecological, cultural and scenic rural landscapes, and natural resources.
- Assist Western Cape municipalities to plan and manage their rural areas more effectively, and to inform the principles of their zoning schemes.
- Provide clarity to the provincial government's social partners on what kind of development is appropriate beyond the urban edge, suitable locations where it could take place, and the desirable form and scale of such development.

The following principles underpin rural development in the context of this application:

- Decisions on rural development applications should be based on the spatial principles in the PSDF
- Accessibility should be a key consideration in all development decisions.
- No development should be permitted below the 1:100 flood line.
- Priority should be given to the re-use of previously developed sites in preference to greenfield sites.
- All development in rural areas should be in keeping and in scale with its location, and sensitive to the character of the rural landscape and local distinctiveness.
- Only activities that are appropriate in a rural context, generate positive socio-economic returns, and do not compromise the environment or ability of the municipality to deliver on its mandate is supported.
- The cumulative effect of all ancillary and non-agricultural land uses should not detract from the rural character of the landscape and the primary agricultural activities.
- Rural activities must have a focus on sustainability and be in harmony with the surrounding agricultural landscape.

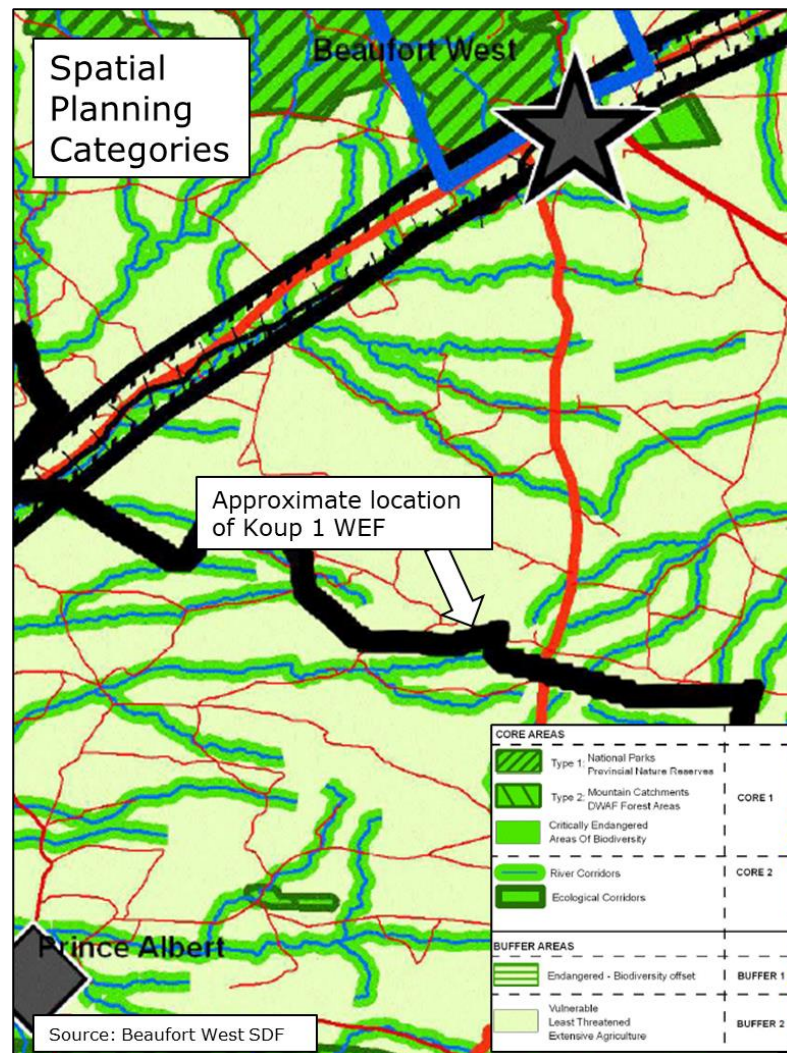
The document also states that rural development should not:

- Have a significant negative impact on biodiversity and ecological system services
- Lead to the loss or alienation of agricultural land or has a cumulative impact there upon
- Compromise existing or potential farming activities
- Be inconsistent with the cultural and scenic landscape within which it is situated
- Infringe on the authenticity of the rural landscape.

¹⁵ These guidelines received ministerial approval on 3 March 2019.

The provincial approach to managing development pressures for the rural land uses is covered in 9 categories of which we only list and discuss the application-specific category of 'infrastructure installations' – renewable energy facilities are identified as infrastructure installations and facilities that serve the broader community. This approach leads to ensuring that these essential public installations *can function effectively in suitable rural locations*.

The preferred location for infrastructure installations is within the settlement and buffer 2 spatial planning categories (SPC) with 'essential' installations to be accommodated within the agricultural SPC. However, note that suitable locations for new bulk installations would also be in the buffer areas around existing installations. The subject properties are not located in any core areas (see **Map 4**).



Map 4: Spatial Planning Categories

13. Investment directives

This application – submitted to a municipality as the authority of first instance – is guided by a suite of plans, ultimately informing decisions regarding land development. In this regard, the two most important municipality-driven 'plans'

are the Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of each of the relevant category-C and B municipalities, viz. Central Karoo District Municipality and Beaufort West Municipality. The IDPs guide the municipality-wide and needs-based operations of *all three tiers of government*, whereas, an SDF is an issue-specific informant of the IDP which provides regulatory directives for land development investment (we discuss the SDFs in **§16**).

The following plans were considered but like most municipality-driven interventions, these plans do not qualify or quantify the available and/or required (local) investment offerings:

- Central Karoo District Municipality Integrated Development Plan (CKIDP), 2022-2027
- Central Karoo Local Economic Development Strategy (CKLED)
- Central Karoo Growth and Development Strategy (CKGDS)
- Beaufort West Municipal Integrated Development Plan 2022 – 2027.

Investment priorities

The CKIDP states that, apart from the Karoo National Park, renewable energy generation is possibly the only noticeable and prominent economic feature in the Central Karoo area.¹⁶ The document includes the 'action' by government to remove constraints on growth, investment and job creation, including energy generation. The favourable local conditions and potential economic contribution (direct and indirect linkages) of renewable energy generation are acknowledged in the context of possible changes to the composition and character of the towns (and rural areas). It is stated that at least 20 000MW of renewable energy should be contracted by 2030.

The CKLED also identifies 'renewable energy generation' as an economic opportunity. The CKGDS covers the four themes of economic development, social development, strategic infrastructure development and spatial development as catalysts for growth and development. Renewable energy generation (and associated economic opportunities) is, however, not addressed in the CKGDS.

Investment geography

In the context of this application, spatial guidelines directing investment should be provided in the Central Karoo District Spatial Development Framework and the Beaufort West Municipality's Spatial Development Framework. See **Section 16** for a more detailed discussion in this regard.

14. Project response

We structure our response to the section on the regulatory environment by firstly addressing the national and provincial objectives regarding renewable energy generation and secondly the land use issue. In **§17** we deal with the regional and local site selection criteria.

¹⁶ A statement that is supported in the Beaufort West Municipality Integrated Development Plan, 2022-2027.

National and provincial objectives

We believe that the proposed wind energy facility promotes and supports all relevant legislative requirements, policy guidelines and development objectives/targets as formulated by the government in respect of renewable energy generation. There is a high level of support for these directives in local policy. This support has, however, not yet been transformed into guidelines to direct local investment, development and spatial preferences, notwithstanding the mapping of the Beaufort West REDZ as a preferred geographical distribution area for power-generating facilities.

Land use

Land is a finite resource and the way it is used is one of the principal drivers of environmental change, with significant impacts on quality of life and ecosystems as well as on the management of infrastructure. The use of land is influenced by a number of important drivers, *inter alia*, demography, economic development, resource availability, environmental conditions, development costs, transport infrastructure and regional and local planning policies. In this regard, land users and/or owners, continually decide on the quantum, quality and location of space required to meet specific (economic) objectives. Government's goals and regulatory mechanisms also influence the incentive to develop or use land, i.e. target-setting for biodiversity conservation, land reform, renewable energy generation, economic growth and poverty alleviation. We believe that the land use of renewable energy generation, considering its scale, form and operation, is closely associated with the land use description and guidelines of 'Infrastructure installations' in the 2019 Rural Guidelines (see **§.12.1**).

Each one of the mentioned drivers (and targets) merits detailed research and analysis but in the interests of brevity, we discuss only some of them as well as the land-use denominator of highest and best use¹⁷. We have already referred to the need for regional and local planning policy as directives to guide renewable energy development in the (rural) landscape. In this regard, the proposed development will introduce a land use different to existing site-specific land use of farming, but although structurally detached from renewable energy generation and any appurtenant infrastructure, this type of farming can continue to function optimally.

The area surrounding the properties is already home to transmission networks and substations. In a broader sense, the central Karoo area is subject to a number of development initiatives to construct and operate renewable energy facilities. Hence, we believe that the landscape has changed and are changing accordingly. It is foreseen that the impact on on-site and adjacent land use as a result of the proposed wind energy facility, would be very low if mitigating measures were to be applied. The introduction of renewable energy generation within the identified development areas is furthermore complemented by, *inter alia*, the availability of a natural resource and landowner support.

It is also known that land uses generally conform to a regular, predictable pattern and that the conversion of land use reflects changing relations / configurations within, *inter alia*, a rural setting. This locational condition ensures the highest and best use of land. The current highest and best use for large tracts of (rural) land

¹⁷ The most probable use of a property that is physically possible, appropriately justified, socially just, legally permissible, financially feasible and which results in the highest value of the property.

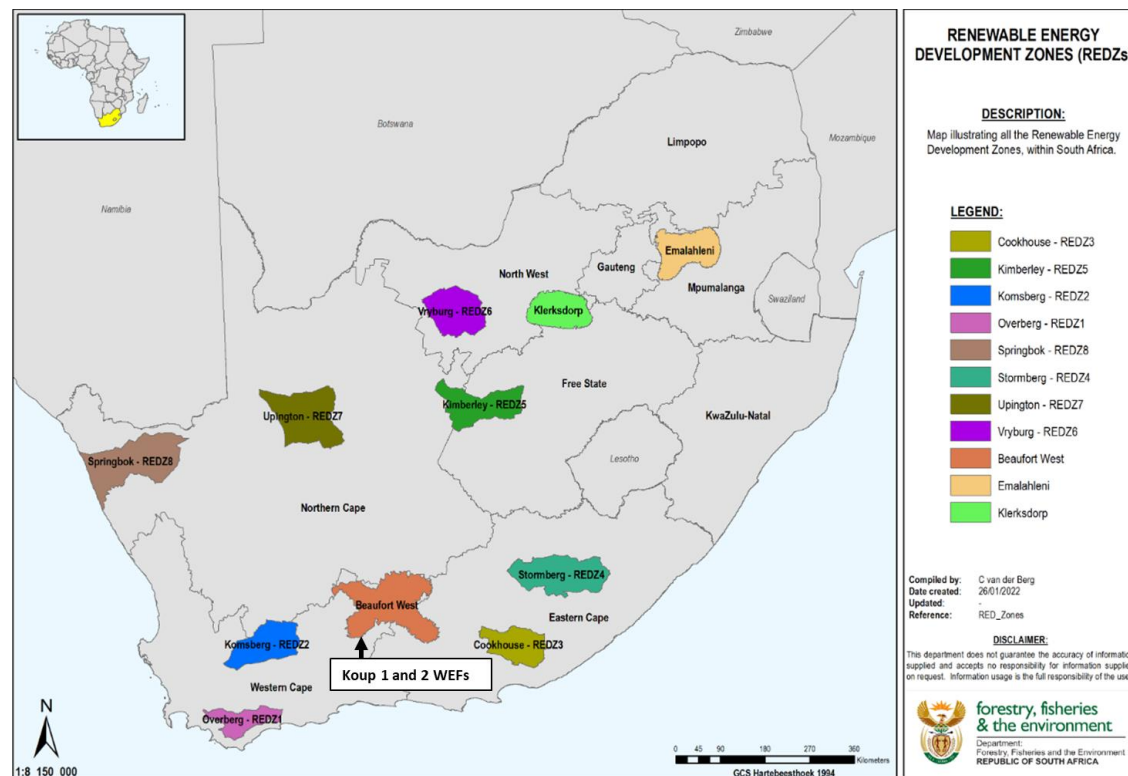
in the Klaarstroom area is extensive agriculture. It is notable that a negative change in economic and environmental conditions, can put an end to this use; signifying a volatile (economic) situation. Hence, current economic (as well as environmental) conditions and investment priorities point to alternative investment opportunities as highest and best use of certain land areas in this region – evidenced by the mapping of the REDZ and by the approval and operation of prominent renewable energy features and infrastructure in proximity.

Section III – Spatial directives

15. Spatial rationale

What determines the optimum location of a renewable energy facility?

In 2018 and in 2020, the relevant national Department commissioned the Council for Scientific and Research Council (CSIR) to identify, country-wide, focus areas best suited for the roll-out of renewable energy projects and electricity grid infrastructure (see **Map 5**).

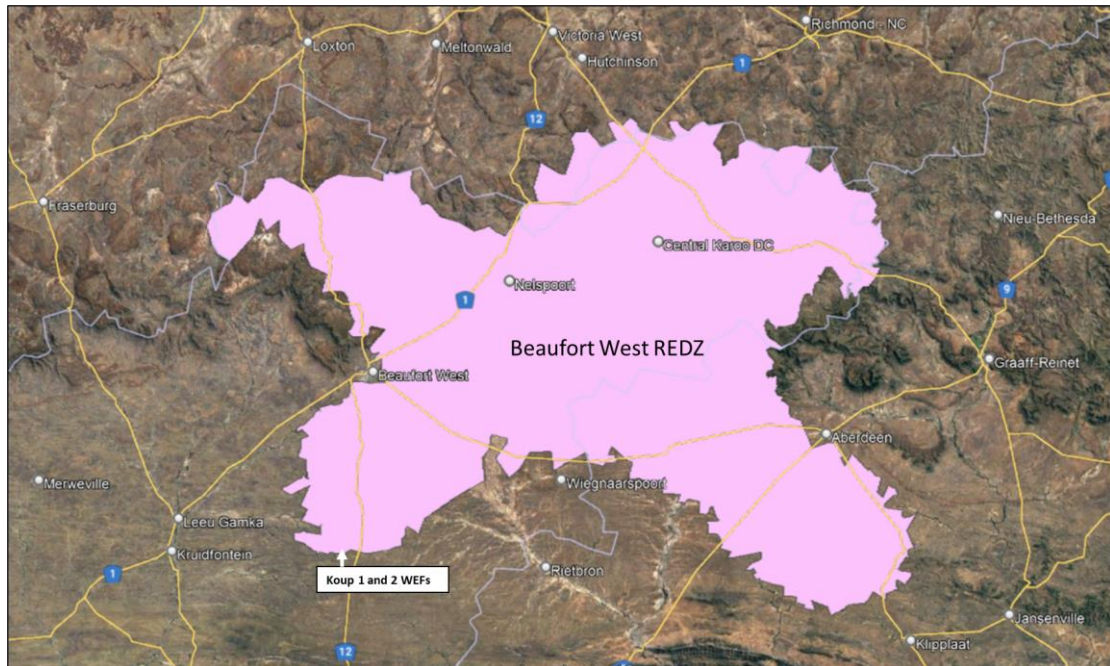


Map 5: REDZ in South Africa

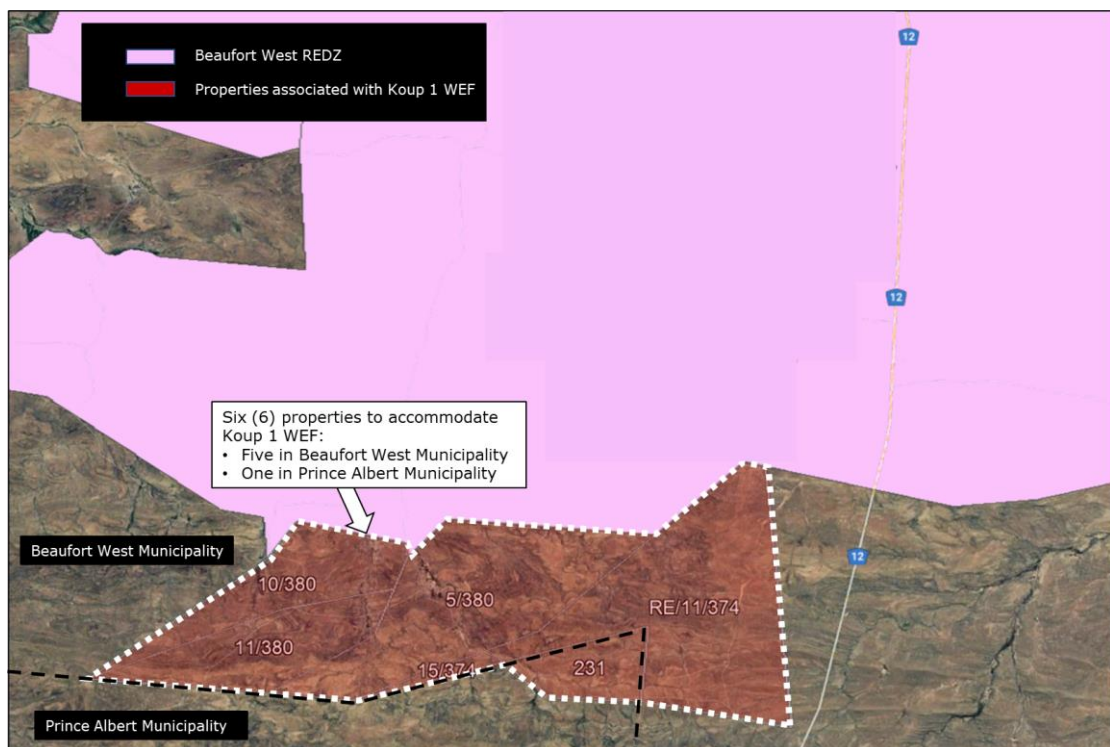
Renewable Energy Development Zones were identified as focus areas, and although grid investment would be prioritised in these areas, it is stated that such investment (by government) should not be limited to these areas. In this regard, 'suitable wind and solar PV development is still promoted across the country and any proposed development must be considered on its own merits'.

The proposed *Koup 1 WEF* is located adjacent to the Beaufort West REDZ and the central corridor of the proposed electricity grid infrastructure corridors as well as

alongside existing electricity infrastructure and several authorised renewable energy facilities (see **Maps 6 and 7**).



Map 6: Beaufort West REDZ



Map 7: Location of relevant properties in relation to the Beaufort West REDZ

16. Spatial Development Frameworks

Western Cape Provincial Spatial Development Framework (March 2014)

The methodology and procedure used to draft the PSDF, were based on a review of the 2009 provincial SDF and replacing it with a *transversal* Provincial framework. In this regard, three interrelated themes were used, i.e. sustainable use of spatial assets, opening up opportunities in the space-economy and developing integrated and sustainable settlements.

In taking the national and provincial agendas forward, the PSDF 2014 applies the following five spatial principles:

1. Spatial justice
2. Sustainability and resilience
3. Spatial efficiency
4. Accessibility
5. Quality and liveability.

Are these principles in line with the development principles in the Spatial Planning and Land Use Management Act as the 'rule' of how spatial planning (and land use management) should be done henceforth? Yes. However, there are slight nuanced differences in name and content. Note that, in SPLUMA, there are some additional principles and sub-principles as directives for, specifically, land use management. Basically, the same results should be achieved, if the SPLUMA and PSDF principles are 'considered' as concerns in decision making, and by using the means provided in SPLUMA.

We refrain from any further interpretation and discussion of the PSDF based on the assumption that the provincial Rural Guidelines (2019) provides detailed guidelines for rural land use management in the spatial context ordered by the PSDF.

Central Karoo Spatial Development Framework

The district SDF divides the jurisdiction area into functional areas based on Spatial Planning Categories (SPCs) of the Bioregional Planning Framework (BPF) for the Western Cape. Basic guidelines for land use management for the SPCs are used in the District SDF as this supports alignment with the Western Cape Bioregional Planning Framework (BPF) and PSDF. The Central Karoo is structured into functional areas as follows:

- Rural areas
- Rural settlements
- Institutional settlements
- Local towns, and
- Main local towns.

It is particularly important to note, *inter alia*, the following conditions for agricultural areas, given the dominance of the sector in the Central Karoo:

- Care should be taken to maintain the rural character of non-urban areas.
- The formation of small rural towns should be avoided.
- Areas should provide for the development of alternative agricultural use, to make a positive contribution to sustainable economic growth.

Spatial provision has been made for renewable energy generation as the Central Karoo climate enables alternative energy solutions.

Beaufort West Municipality Spatial Development Framework, 2013

It is stated in the Spatial Development Framework (SDF) of the Beaufort West Municipality that it has broadly been accepted that the Bioregional Planning Framework (BPF) will guide spatial planning and management in the Western Cape. Hence, the formulation and demarcation of Spatial Planning Categories (SPCs) in the municipal area were based on the bioregional planning principles. It is envisaged to use the ensuing classification to develop land-use management guidelines for each SPC covering the entire municipal area. The SPCs for the rural area include the following categories, viz. core, buffer, intensive agriculture and urban settlement, with a basic description and preferred 'policy' provided for each category. However, we were only able to find very coarse-scale spatially-referenced evidence of 'demarcated' SPCs in the municipal SDF (see **Map 4**).

The SDF also does not provide a site level methodology for determining location and development of renewable energy sites to assist in both the detailed preparation of proposals by private-sector developers and assisting the local authority in assessing such proposals. In this regard, this motivation report provides qualitative and quantitative (site-specific) information and articulates outcome(s) to assist government in their response to this potential investment offering.

17. Project response: Site selection

The site selection process conducted by Genesis that resulted in the siting of the wind energy facility as a potential project, included the identification of other 'suitable' sites for renewable energy facilities throughout the Western Cape Province. This process was also informed by the outcome of the environmental impact assessment, the issuing of the EA and by the national government's intervention to identify preferred areas for establishing large-scale wind and solar PV energy facilities, i.e. Renewable Energy Development Zones.

The 'selection' of the site by Genesis was based on several factors, including (but not limited to):

- Wind resources
- Site extent
- Grid access
- Land suitability
- Nature reserves
- Local economic stimulation
- Current land use
- Existing use rights, e.g. prospecting and mining rights
- Landowner support.

We mention the Renewable Energy Development Zones as the preferred areas for large-scale renewable energy development and the roll-out of supporting transmission and distribution infrastructure.¹⁸ The proposed *Koup 1 wind energy facility* is adjacent to such a zone, i.e. *providing certainty in decision making*. In this regard, the development site lends itself to renewable energy generation as also evidenced by the issuing of the EA, the approval and operation of prominent renewable energy features and infrastructure in proximity.

¹⁸ Strategic Environmental Assessment for wind and solar photovoltaic in South Africa, 2105 as published in Government Gazette No.41445, 16 February 2018.

Section IV – NEMA application

18. Environmental impact assessment

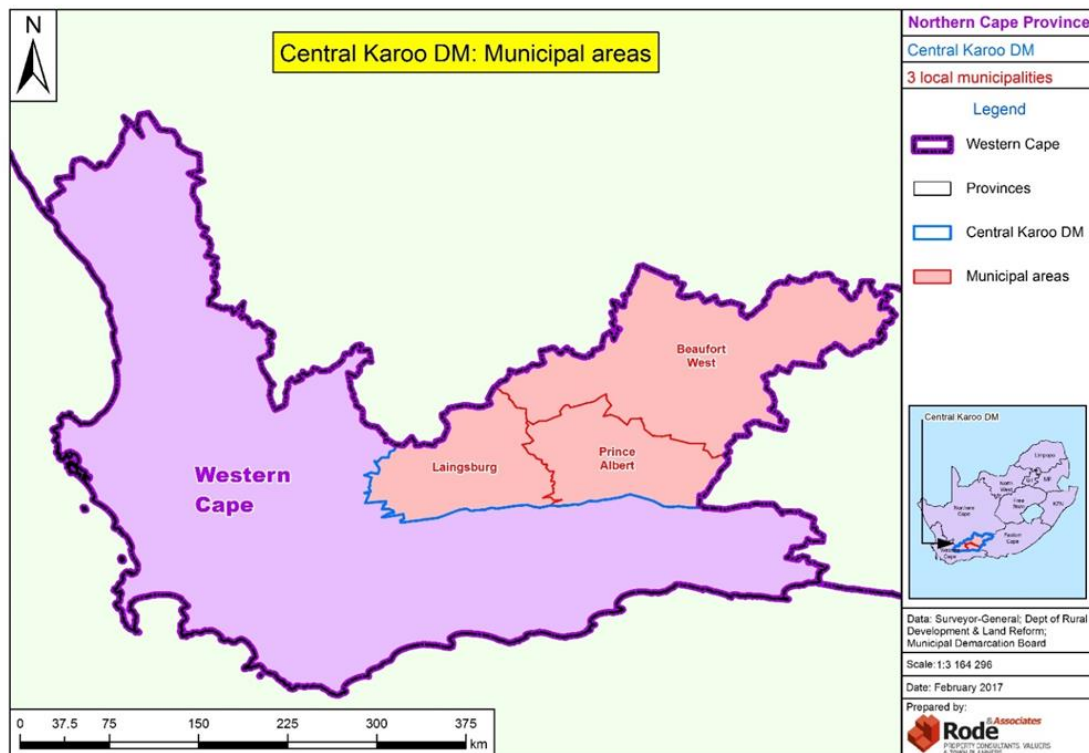
The *Koup 1 wind energy facility* was the subject of an environmental impact assessment in terms of the 2014 Regulations under the National Environmental Management Act, 1998 (Act No. 107 of 1998, with amendments). Please note that an Environmental Authorisation (EA) has been issued after completion of the environmental impact assessment process and based on the final Basic Assessment Report as submitted to the Department of Forestry, Fisheries and the Environment (DFFE). During this process, Registered Interested and Affected Parties (I&APs) were invited to review and provide comment on the Environmental Impact Assessment (EIA) Report.

Please also note that amendment(s) to an EA is/are regularly sought by a project proponent because of advances in technology and new project-specific findings. If applicable, and after any amendments to the relevant EA, such amendments will be communicated to the Municipality as an amendment to the land development application in terms of section 52 of the bylaw, i.e. prior to the approval thereof.

Section V – Development context

19. Receiving environment 19.1. Regional and local context

This land development application concerns properties in the jurisdiction area of the Beaufort West Municipality with Central Karoo District Municipality the category-C municipality (see map below).



Map 8: Central Karoo region with municipalities

The Central Karoo district can be described as having, *inter alia*, the following local characteristics:

- It is a small to medium-town sub-region with a low level of development despite the strategic location in terms of the road and rail national transport corridor.
- Sparsely populated towns with a number of larger towns serving as “agricultural service centres”; spread evenly throughout the district as central places.
- High rate of unemployment, poverty and social grant dependence.
- Prone to significant environmental changes owing to long-term structural changes (such as climate change, energy crises and other shifts).
- Geographic similarity in economic sectors, growth factors and settlement patterns.
- Economies of scale not easily achieved owing to the relatively small size of towns.
- A diverse road network with national, trunk, main and divisional roads of varying quality.

- Potential and impact of renewable energy resource generation.
- Potential and impact of 'fracking', i.e. the possible exploration for shale gas.

20. Development specifics

20.1. Site information

The next section includes extracts from the Basic Assessment Report to describe, in brief, site-specific elements of the development site. Please see the relevant annexures for more detailed descriptions thereof.

Land use

Agricultural activity in the area is restricted by the arid nature of the local climate and areas of cultivation are largely confined to relatively limited areas distributed along drainage lines. Please note that the development site is totally unsuitable for cultivation, and agricultural land use is limited to low density grazing.

Livestock (mostly sheep) and game farming are the dominant activities although the climatic and soil conditions have resulted in low densities of livestock and relatively large farm properties across the area.

Climate

The development site is characterized by a hot semi-arid climate. Beaufort West receives a relatively low mean annual precipitation of 392 mm. The average lowest rainfall is received in June (15 mm) and the highest in March (57 mm), which is a seasonal variation of 42 mm. The maximum midday temperatures for Beaufort West ranges from 31.7°C in January to 18°C in July. The minimum temperatures for Beaufort West ranges from 16.6°C in February to 4.4°C in July. The average temperatures vary during the year by 12.9°C.

Landscape features

The site proposed for the Koup 1 WEF is located in an area largely characterised by flat to gently undulating plains interspersed with low ridges and dry river courses. Areas of greater relief are largely concentrated to the south-east.

Geology and soils

The development site is underlain by rock units of the Teekloof Formation (Pt), which is underlain by rock units of the Abrahamskraal (Pa) Formation. These rock units form part of the Adelaide Subgroup of the Beaufort Group, of the greater Karoo Supergroup.

Hydrological context

The subject properties lie within the L12C catchment area which receives a mean annual precipitation of 152mm.

Vegetation

The subject properties fall entirely within the Gamka Karoo vegetation type and consists of open gravel plains and low hills dissected by numerous drainage lines. Vegetation cover is generally very low and dominated by low shrubs and

scattered low trees. In general, the vegetation of the Koup 1 site is considered low sensitivity and there are few species of concern present. In terms of fauna, the diversity of mammals, reptiles and amphibians is considered relatively low, even by Karoo standards. Although the site falls within the broad distribution of the Riverine Rabbit, the drainage lines of the site do not have extensive floodplains with dense riparian vegetation that represent the typical habitat of this species in the area. The Koup 1 site is therefore considered unsuitable for this species and the development is considered highly unlikely to have any impact on the Riverine Rabbit. The site also falls within the range of the Karoo Padloper and if present it would be associated with the hills of the site with sufficient loose rock and coarse rubble to provide shelter. The low vegetation cover and paucity of such habitat suggests that the site is not an important area for this species and no evidence of this species was observed on the site.

Protected areas

No formal protected areas were identified in the broader area.

Visual

The Koup 1 WEF and power line developments are not features of the natural environment but are rather a representation of human (anthropogenic) alteration. As such, these developments are likely to be perceived as visually intrusive when placed in largely undeveloped landscapes that have a natural scenic quality and where tourism activities are practised that are dependent on the enjoyment of, or exposure to, the scenic or aesthetic character of the area. Residents and visitors to these areas could perceive the development to be highly incongruous in this context and may regard the development as an unwelcome intrusion which degrades the natural character and scenic beauty of the area, and which could potentially even compromise the practising of tourism activities in the area. However, the area is not typically valued for its tourism significance.

20. Development specifics (continued)

20.2. Leasehold area information

The *Koup 1 WEF* involves five (5) properties to accommodate the wind energy facility and one (1) property to accommodate a collector substation. The details of these land parcels, farm names and owners are tabled below.

Table 2				
Specifics of the properties earmarked for the Koup 1 WEF				
Farm name	Portion	Size (ha)	Title deed	Landowner
Farm 374	Remainder of Portion 11	1512	T17094/2014	Bitflow Investments (Pty) Ltd
Farm 374	Portion 15	49	T8324/2018	JCM Beleggings (Pty) Ltd
Farm 380	Portion 5	1225	T8324/2018	
Farm 380	Portion 11	612	T40167/2009	J Pretorius
Farm 380	Portion 10	612	T40572/1983	J Bothma

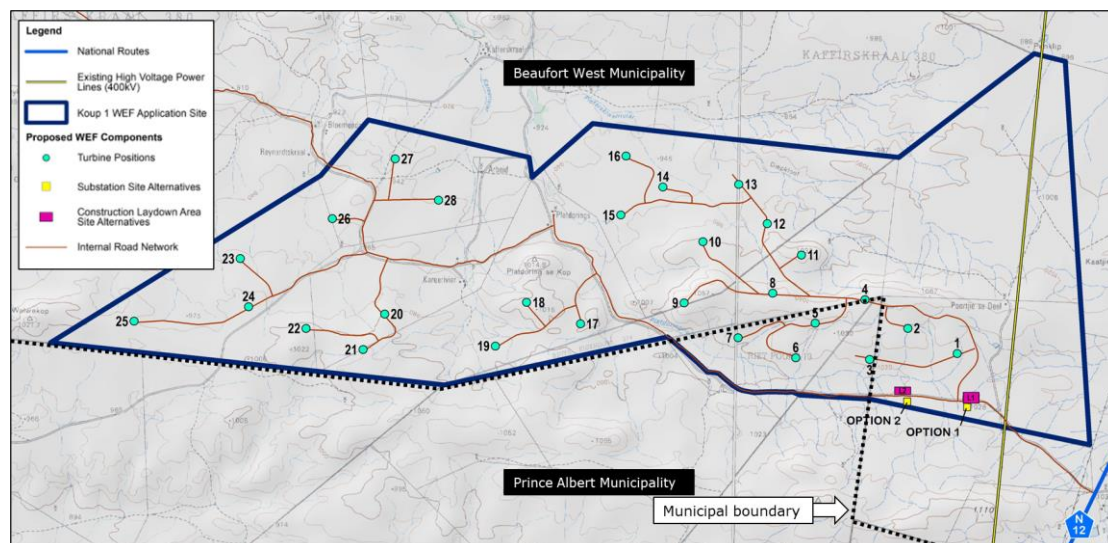
Genesis has secured the use of the land through long-term leasehold agreements i.e. the registration of lease agreements against the title deeds of the properties concerned. If required, ministerial consent to register the lease agreements in terms of the Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970) will be obtained from the national Department of Agriculture, Land Reform and Rural Development.

20. Development specifics (continued)

20.3 Wind facility layout

We state that wind turbines are sophisticated and operate at extremely high efficiencies. Hence, their positioning being important and exacting. For example, if positioned too close to each other, loss of energy generation through turbulence and wake loss becomes unacceptable and would also result in increased wear and physical damage to the turbine. The current location of the 28 turbines (of which 24 are in the Beaufort West municipal area) was chosen to maximize the distance between turbines ensuring a high efficiency and energy output.

It is important to note that parts of the layout provided for the purposes of this application may be subject to amendment. In this regard, an iteration process is inevitably part of the land development application. Amended layouts and plans would be submitted once the recommendations and alternatives from the EA process have been 'reworked' into micro-siting considerations. However, we do not anticipate that any of the turbine locations would shift by more than 50 m from the positions provided in the provided SDP (see **Annexure 5.4** and **Map 7**).



Map 9: Windfarm Layout

The final design of the facility including the final layout, size, type and number of turbines will be determined by using:

- Information gathered from the wind measuring masts, giving information on wind strengths and directions at the site.
- The intensity of wind turbulence determined from on-site measurements and data modelling.
- The characteristics of the turbine model, including hub height, rotor diameter and generator size.

- Results of geotechnical surveys, construction design and civil engineering.
- Detailed wind turbine procurement with certified wind turbine manufacturers and models.
- Externalities to the wind resource and turbine-type like, *inter alia*, spatial/land-use demands, agricultural potential, environmental consideration and financial feasibility of the project.
- Specialist studies and public consultation completed during the statutory NEMA process and EA requirements.
- Provincial land-use policy directives.
- Balancing the technical and financial objectives of maximising the output of the proposed facility with the critical environmental, topographical and social constraints.

20. Development specifics (continued)

20.4. Infrastructure

The key components of the wind energy facility on the development site include the following, which are discussed in more detail below:

- Wind turbines
- Hard standing areas
- Electrical connections
- Substations
- Roads
- Temporary construction area
- Buildings
- Other infrastructure.

Wind turbines

The size of the wind turbines will depend on the buildable area and the total generation capacity that can be produced as a result. Note that the 'blade tip height' will be in line with the EA. The blade rotation direction will depend on wind measurement information. Each wind turbine will be supported by a concrete foundation. As mentioned, up to 24 of the 28 turbines will be sited in the Beaufort West municipal area. The electrical generation capacity for each turbine will be up to 6.6 MW depending on the final wind turbine selected for the proposed development. In total, the combined generation capacity of the WEF will be up to 184 MW.

Hard-standing areas

A hard-standing area will be established next to each wind turbine. These hard-standing areas will be utilised by cranes during the construction (and also possible maintenance) processes and retained for maintenance use throughout the life span of the project.

Electrical Connections

The wind turbines will be connected to the national grid. If overhead power lines are to be constructed, monopole tower structures will be used in combination with the steel lattice towers at bend points. The dimensions of the monopole structures will depend on grid safety requirements and the grid operator. The

exact location of the towers, the selection of the tower type and the final design will comply with the requirements of Eskom. Grid servitudes will be required on site.

Substations

The generated power will be connected to a proposed new on-site 33/132kV substation via medium voltage (33kV) cables from where the power will be fed into the national grid via a 132kV overhead power line to the proposed Galenia substation. The on-site substation will occupy an area of approximately 1.5 ha.

Battery Energy Storage System (BESS)

A Battery Energy Storage System will be located next to the onsite 33/132kV substation. Up to 40MW of batteries using solid state / liquid flow batteries with hazardous material of more than 80m³ will be used, but most likely will comprise an array of containers, outdoor cabinets and/or storage tanks.

Roads

Internal roads with a width of between 8m and 10m will provide access to each wind turbine. Existing site roads will be used wherever possible, although new site roads will be constructed where necessary. Turns will have a radius of up to 50m for abnormal loads (especially turbine blades) to access the various wind turbine positions. It should be noted that the proposed application site will be accessed via an existing gravel road from the N12 National Route (± 25 km of existing road, 31.27km of new roads to be constructed).

Temporary Construction Area

Temporary laydown areas will be established for the storage of wind turbine components, including the cranes required for tower/turbine assembly and civil engineering construction equipment. Laydown areas will also accommodate building materials and equipment associated with the construction of buildings.

Buildings

One (1) permanent Operation and Maintenance (O&M) building, including an on-site spares storage building, a workshop and an operations building to be located on the site identified for the construction laydown area.

Fencing

No new fencing is envisaged at this stage. Current fencing is standard farm fence approximately 1-1.5m in height. Fencing might be upgraded (if required) to be up to approximately 2m in height.

Water

Water will either be sourced from existing boreholes located within the application site or will be trucked in, should the boreholes located within the application site be limited.

20. Development specifics (continued)
20.5. Development impacts

See **Annexure 7** for the Basic Assessment Report that formed part of the environmental impact assessment process. Please note that based on these findings, the siting of the development site for the Koup 1 WEF were selected.

In the interests of brevity and in the context of this application, the table below includes only some measures to mitigate possible impact.

Table 3		
Measurement of possible impact		
Potential impact	Pre-mitigation	Post-mitigation
Planning phase		
Heritage	Negative medium	Negative low
Archaeological	Negative medium	Negative low
Cultural landscape	Negative very high to negative medium	Negative medium to negative/positive low
Noise	Negative low	Negative low
Construction phase		
Avifaunal	Negative medium	Negative low
Ecological	Negative medium	Negative medium to negative low
Bat	Negative medium to negative low	Negative low
Geotechnical	Negative low	Negative low
Surface water	Negative medium to negative low	Negative low
Cultural landscape	Negative very high to negative high	Negative medium to negative/positive low
Paleontological	Negative medium	Negative low
Noise	Negative medium	Negative low
Social	Negative high to negative low / positive medium	Negative medium to negative low / positive medium
Transportation	Negative medium to negative low	Negative low
Visual	Negative low	Negative low
Operational phase		
Avifaunal	Negative medium	Negative medium
Ecological	Negative medium	Negative low
Bat	Negative high to negative low	Negative medium to negative low
Geotechnical	Negative medium	Negative low
Surface water	Negative medium	Negative low
Cultural landscape	Negative very high to negative high	Negative medium to negative/positive low
Noise	Negative low	Negative low
Social	Negative high to negative low / positive medium	Negative medium to negative low / positive medium
Transportation	Negative low	Negative low

Visual	Negative medium	Negative medium
--------	-----------------	-----------------

20. Development specifics (continued)
20.6 Title deed

See **Annexure 2** for the title deeds of the relevant properties. A detailed deeds search was not completed as part of this application, but conveyancer's certificates are attached as **Annexure 2**.

20. Development specifics (continued)
20.7 Benefits of the proposed development

The proposed facility will form part of the Renewable Energy Independent Power Producer (REIPP) Procurement Programme rolled out countrywide, or the initiative by Government to allow larger-scale power producers to generate and sell-on unlimited electricity through registration without a generation licence.

Both these initiatives are intended to promote the use of renewable energy in the national energy mix of supply that is severely constrained. It is stated that rolling blackouts are here to stay for at least another 12 months, even if Government presses ahead with President Ramaphosa's recently announced energy plan. In this regard, Government plans to move with speed to register and approve new renewable energy projects that can feed electricity into the national electricity grid. In addition to such electricity-related benefits, the development of a renewable energy facility contributes to income generation and (local) job creation.

Section VI – Development parameters

21. Land-use parameters

We believe this kind of renewable energy facility is complex in application and requires specialist knowledge and insight to best determine and adjudicate build and operational restrictions/parameters. We take note of the development parameters set for renewable energy structures in the Zoning Scheme Bylaw.

The following section includes a development-specific response to these parameters with, if deemed appropriate, a rationale in the context of the development site.

Parameter 1: Number of turbines

Number of turbines: up to 28 (up to 24 as part of this application)

Parameter 2: Existing servitudes

Observe existing servitudes.

Parameter 3: Height applicable to Turbines

A maximum height as approved in the EA and measured from the mean ground level of the footprint of each structure to the highest point of the blade.

Parameter 4: Building lines applicable to Turbines:

- Next to critical infrastructure: to be a distance of 1.5 times the overall blade tip height of the turbine.
- Next to non-critical infrastructure: to be a distance of 100m.

Parameter 5: Building lines applicable to auxiliary structures:

To be 30 metres from all boundaries and access servitudes.

Parameter 6: Site Development Plan:

It is important to note that parts of the layout provided for the purposes of this application may be subject to amendment. In this regard, an iteration process is inevitably part of the land development application. We propose the submission of a final site development plan to the relevant authority before any construction activities commence, as a condition of approval.

Parameter 7: Visual and environmental impact

Visual and environmental impacts must be addressed according to the EA.

Parameter 8: Land clearing, soil erosion and habitat impact

Land clearing, soil erosion and habitat impact must be addressed according to the EA.

Parameter 9: Noise, Air quality and Nuisance

Noise must be addressed according to the EA.

Air Quality and Nuisance: Air quality and other possible disturbances must be addressed according to the EA.

Parameter 10: Finishing and colour

The colour of the turbines will be white or off-white. The visual impact must be addressed according to the EA.

Parameter 11: Appurtenant structures

Building plans must be submitted to the municipality for approval before the date of commissioning.

Parameter 12: Lighting

Lighting of the turbines must be according to the safety requirements of the Civil Aviation Authority.

Parameter 13: Signing and Advertising

Relevant signage regulation requirements must be fully observed.

Parameter 14: Modification

The local authority will be informed of any substantial changes to the development plans and the structures after approval of the consent use.

Parameter 15: Decommissioning

All measures as per the Implementation Agreement and financial obligations must be adhered to.

Parameter 16: Solid waste

Must be addressed according to the EA.

Parameter 17: Other land use

The land use on the property concerned must be in accordance with the leasehold agreements.

Section VII – Communication and participation

22. Interested and Affected Parties

We request the Municipality to inform the applicant of the requirements regarding the processing and notification of the application.

Section VIII – Conclusion

23. Wording of land use change

It is recommended that the applicable decision-making authority grant the following land use rights:

- **Consent use** of 'renewable energy structure' to accommodate part of the *Koup 1 WEF* (including appurtenant infrastructure) on the following properties:
 - Remainder of Portion 11 of the Farm Brits Eigendom No. 374
 - Portion 15 of the Farm Brits Eigendom No. 374
 - Portion 5 of the Farm No. 380
 - Portion 11 of the Farm No. 380
 - Remainder of Portion 10 of the Farm No. 380
- **Approval** for the purpose of registering servitudes and/or lease agreements over each of the properties concerned.
- **Section 24(2) certificate** that the registration of servitudes and/or lease agreements for the provision or installation of on-site electricity transmission lines are exempt from an application in terms of section 15.

24. Desirability

Government must assess renewable energy generation initiatives by considering a wider-than-normal perspective on long-term structural changes, e.g. climate change, energy security and other shifts. In this regard, impacts are certain to happen. Planners must become aware of the need to take a broader look at spatial planning and land use management by, for example, considering buffer areas around existing installations as suitable locations for renewable energy infrastructure. Naturally, this should apply to developments in the Central Karoo district with clear signs that climate change will affect the area quite significantly, implying lower rainfall and some dampening of the current pattern of agricultural production.

The efforts to better utilise natural resources must also be intensified, e.g. power generation and the utilisation of alternative energy sources. Government has responded to the threat of energy security by announcing a broad-ranging set of interventions designed to add additional private generation capacity to the grid.

In this context and when applying the principles of economies of scale and highest and best use of land, the rationale for wind energy generation on the properties becomes clear. The proposed development (1) blends with the particular type of land(scape), (2) promotes the (better) economic use of land and infrastructure and (3) conforms to the outcome of socio-political interaction. This is best demonstrated by the approval and operation of similar facilities in proximity, the issuing of the EA and the location of the *Koup 1 WEF* adjacent to a Renewable Energy Development Zone.

However, the proposed development will introduce a site-specific land use that is different to (but not incompatible with) the established land use of farming. We

believe the proposed land use is moderately compatible with the rural landscape and conforms to past land-use conversion initiatives in the area, e.g. high-voltage power lines, substations and renewable energy generation infrastructure. It is foreseen that the impact on on-site and adjacent land use because of the proposed facility will be very low if mitigating measures are applied.

We believe that this document includes sufficient evidence that the proposal and beneficiary/beneficiaries conform to the intention of the development principles listed in section 7 and section 58 of the Spatial Planning and Land Use Management Act, 2016 (Act 16 of 2013) and the Western Cape Land Use Planning Act, 2014 (Act 3 of 2014), respectively.

We also believe that this motivation report includes sufficient information regarding the criteria as listed in section 65 of the municipal bylaw, which must be considered in decision making on a land development application. The relevant response is given after each of the numbered criteria.

(1) When the Municipality considers an application, it must have regard to the following:

(a) the application submitted in terms of this Bylaw

- This application is submitted in terms of the municipal land use planning bylaw of the Beaufort West Municipality.

(b) the procedure followed in processing the application

- The Beaufort West Municipality will inform the applicant regarding the processing of the application.

(c) the desirability of the proposed utilisation of land and any guidelines issued by the Provincial Minister regarding the desirability of proposed land uses

- The desirability of the proposed utilisation of land, viz. wind energy generation, is explained in this report.

(d) the comments in response to the notice of the application, including comments received from organs of state, municipal departments and the Provincial Minister in terms of section 45 of the Land Use Planning Act

- The Beaufort West Municipality will inform the applicant regarding the processing of the application.

(e) the response by the applicant, if any, to the comments referred to in paragraph (d)

- The applicant will respond to any comments received from any Interested and Affected Party.

(f) investigations carried out in terms of other laws that are relevant to the consideration of the application

- This report includes reference to investigations carried out in terms of 'other' laws.

(g) a registered planner's written assessment in respect of an application for—

(i) a rezoning

(ii) a subdivision of more than 20 cadastral units

(iii) a removal, suspension or amendment of a restrictive condition if it relates to a change of land use

(iv) an amendment, deletion or imposition of additional conditions in respect of an existing use right

(v) an approval of an overlay zone contemplated in the zoning scheme;

(vi) a phasing, amendment or cancellation of a subdivision plan or part thereof

(vii) a determination of a zoning

(viii) a closure of a public place or part thereof

- This is the responsibility of the Beaufort West Municipality.

(h) the impact of the proposed land development on municipal engineering services

- Municipal services will not be used.

- (i) *the integrated development plan, including the municipal spatial development framework*
 - These plans have been assessed in this report to guide the desirability of the proposed wind energy facility.
- (j) *the integrated development plan and spatial development framework of the district municipality, where applicable*
 - These plans have been assessed in this report to guide the desirability of the proposed wind energy facility.
- (k) *the applicable local spatial development frameworks adopted by the Municipality*
 - These plans have been assessed in this report to guide the desirability of the proposed wind energy facility.
- (l) *the applicable structure plans*
 - Not applicable.
- (m) *the applicable policies of the Municipality that guide decision making*
 - These policies have been assessed in this report to guide the desirability of the proposed wind energy facility.
- (n) *the provincial spatial development framework*
 - This plan has been assessed in this report to guide the desirability of the proposed wind energy facility.
- (o) *where applicable, a regional spatial development framework contemplated in section 18 of the Spatial Planning and Land Use Management Act or provincial regional spatial development framework*
 - Not applicable.
- (p) *the policies, principles and the planning and development norms and criteria set by the national and provincial government*
 - These guidelines (where applicable) have been assessed in this report to guide the desirability of the proposed wind energy facility.
- (q) *the matters referred to in section 42 of the Spatial Planning and Land Use Management Act*
 - We are confident that the aspects to be considered in decision making by the relevant entity have been addressed in this report.
- (r) *the principles referred to in Chapter VI of the Land Use Planning Act*
 - We are confident that the aspects to be considered in decision making by the relevant authority have been addressed in this report.
- (s) *the applicable provisions of the zoning scheme*
 - The provisions in the zoning scheme have been adhered to.

Finally, we believe this document contains all the necessary information to enable the relevant authority to process and evaluate this consent use application.

Section IX – Annexures

Annexure 1:	Powers of Attorney and trust resolutions
Annexure 2:	Conveyancer's certificates and title deeds
Annexure 3:	SG diagrams
Annexure 4:	Application form
Annexure 5:	Set of maps
Annexure 5.1	Location to nearest REDZ
Annexure 5.2	Site locality
Annexure 5.3	Regional locality
Annexure 5.4	Preliminary layout
Annexure 6:	Critical Biodiversity Area
Annexure 7:	Basic Assessment Report
Annexure 8:	Specialist studies: Agriculture, Geotechnical, Visual, Ecological, Heritage, Archaeological, Transportation
Annexure 9:	Comment received: BGCMA, Cape Nature, DFFE, WC DEA
Annexure 10	Environmental Authorisation
Annexure 11:	Pre-application form
Annexure 12:	Email correspondence