APPENDIX C7(6): COMMENTS RECIEVED

Comments on Basic Assessment Report

Review period 04 March 2021 – 06 May 2021

(C&RR: Point 1)

Key Stakeholders and Interested & Affected Parties

African Rhino Community Centre Trust
T/A African Rhino Conservation Collaboration

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To Whom It May Concern,

Re : Objection to Fronteer and Wind Garden Wind Energy Facilities (WEF's)

ARCC is a registered trust, NPO and SARS registered PBO, in operation since January 2017. ARCC is located in the Eastern Cape of South Africa and operates an holistic conservation programme bringing together protection, awareness, wildlife management, community participation and law enforcement in a coordinated collaboration of individuals, rural communities, organisations and government to ensure the future of rhino and other wildlife in the wild.

On behalf of the Trustees of the ARCC, I should like to express our objection to the proposed Wind Energy Facilities (WEFs) above for the reasons provided in the statements below and linked to the pertaining relevant literature:

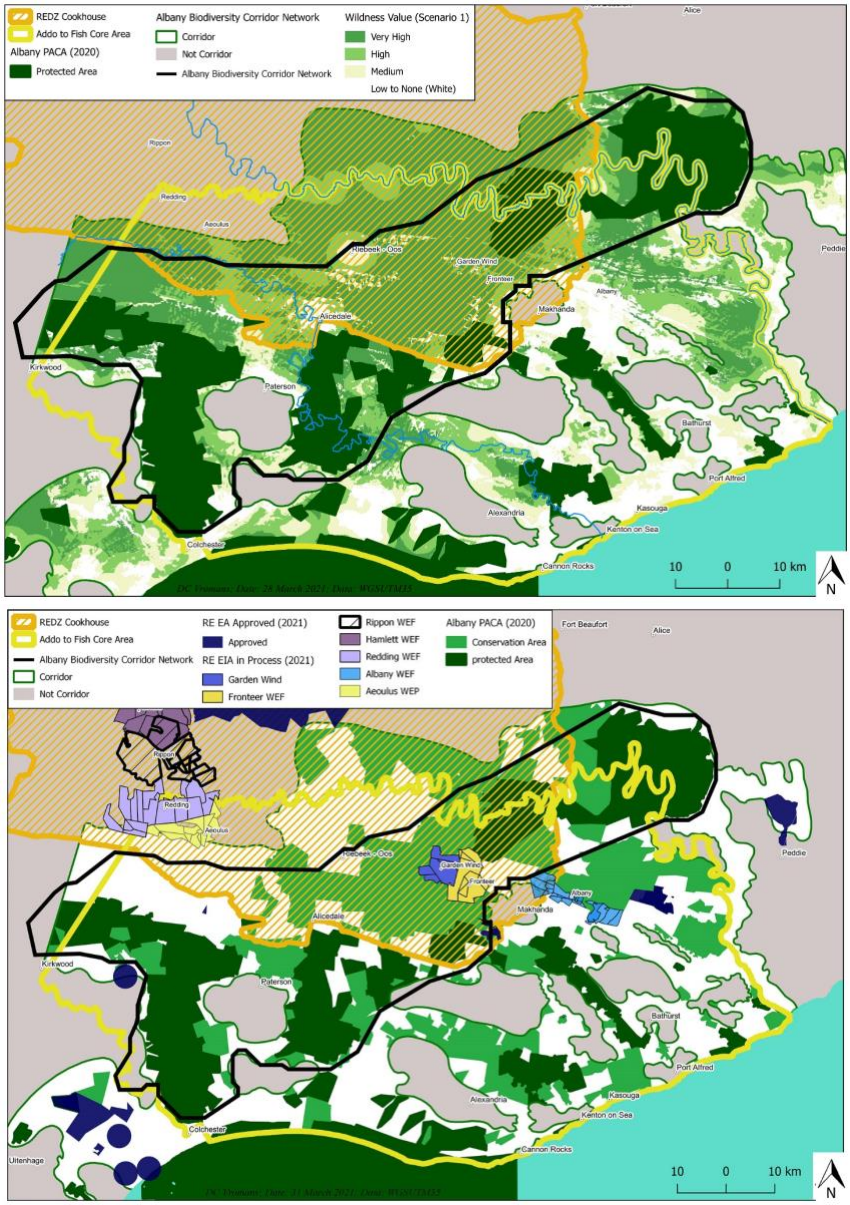
1. **The emergent consensus in literature suggests that the optimal location of WEFs ought to be between 10km and 56 km away from landscapes of high wilderness and tourism value**[i]

The proposed WEF's of Wind Garden and Fronteer are sited directly adjacent to landscapes of high wilderness and tourism value of which a significant area is already formally protected. These landscapes and protected areas that lie within 20-25km of the proposed wind energy developments and turbine locations and would have dire consequences for the existing ecotourism economy and jobs in this area based in that the sense of place of a very large area will be substantially transformed into an energy landscape. These landscapes and their wilderness character forms the basis of biodiversity stewardship based protected area establishment and management.

2. **Depending on landscape specificities, the optimal siting of WEFs might require focusing on already degraded landscapes or landscapes that are not restorable.**[ii]

The proposed WEF's of Wind Garden and Fronteer are sited on landscapes which are biodiversity rich, and where degraded, are for a large part in process of restoration, and in many areas are fully restorable, and they lie within the strategic footprint of the proposed Albany Mega Reserve and Albany Biodiversity Corridor (also referred to as Addo to Great Fish Corridor as set out in below figures).

The development of these WEF's would fatally compromise the main arm of the various proposed landscape corridors within the Albany Biodiversity Corridor. See map below showing the priority landscape corridor, the "Addo Indalo Great Fish Corridor Priority Area" including wilderness landscape relative to the location of the proposed WEF's.



3. **Although findings of studies relating to WEF and nature tourism are mixed, the majority of studies suggest that the economic effects of situating WEFs closer to landscapes of high aesthetic value include loss of ecotourism revenue, reduction in private funding for biodiversity conservation, and loss of current ecotourism jobs as well as future jobs in nature-based tourism and related enterprises.**[iii]

The proposed WEF's of Wind Garden and Fronteer are sited on properties directly adjacent to landscapes of high aesthetic value which will undoubtedly result in a loss of existing jobs as well as future sustainable job creation. In Desmet and Vromans (2020) "The Albany Biodiversity Corridor", Page 1 of the summary states "The analysis estimates that up to 150 000 ha of mapped biodiversity economy landscape will be visually impaired by the currently proposed WEF projects. The lost economic opportunity as a result of this WEF impact is estimated to be R955 million turnover per annum and 2535 full-time jobs. The nature-based tourism resource potential

analysis illustrates the importance of the natural sense of place as a valuable economic resource that should be valued as a national asset and considered more prominently in land use planning."

4. **Evidence suggests that business-people in the ecotourism industry might disinvest in an area following an accepted proposal for, or actual development of a WEF.**[iv]

This statement is locally supported by personal communication with three of the direct neighbours of the proposed WEFs who have expressed intent to disinvest partially or completely should the proposed WEF's be sanctioned. It should be noted that these property owners have already substantially invested in tourism infrastructure anad facilities.

5. **Evidence is mixed about the impact of WEFs on property prices in already degraded, inhabited or transformed landscapes**[v]**, but no study has examined the effect of property prices in landscapes of high wilderness value. Using evidence based on transformed landscapes in deciding to locate WEFs in untransformed landscapes is misleading.**

During the public participation process, it was admitted by one of the authors of the socio-economic impact assessment that not a single direct neighbour to the proposed WEF's of Fronteer and Wind Garden had been consulted in their assessment which is in direct contradiction to statement in the report that states quote: *"Targeted and structured one-on-one interviews were undertaken as part of the SEIA to collect information from two key groups that are likely to be affected by the proposed wind farm. The first being the landowners whose property will be directly impacted by the development of the wind farm, and the second being the surrounding landowners who may be indirectly impacted by the development of the wind farm."*

The admission by specialist is unfortuante and tarnishes the intergity of the report and EIA process as a whole, the report is biased and not did not consider input from any of the neigbouring landowners which will be directly impacted by this proposed development does not reflect or consider the effect on property prices of WEF's in landscapes of high wilderness value where livelihoods are supported by wildlife and nature tourism, hunting and other nature activities. Until a proper tourism impact assessment is undertaken that includes impact on current reserves and hunting operations the true socio-economic impact cannot be defensibly estimated. The current socio-economic impact assessment is flawed, the specialist is discredited as well as the study and should be withdrawn and the specialists removed from the team for the sake of maintaining the integrity of the EIA process. We impress upon you that the report need to be withdrawn failing which concerned property owners will take the necessary steps to have the socio-economic impact and EIA that relies thereon to be rejected by the competent authority.

6. **The best evidence suggests that where there is a land use conflict, the precautionary principle would require that policymakers avoid siting WEFs in localities whose socio-economic lifeline is ecotourism and whose landscapes are relatively pristine. Tourists are very sensitive to presence of WEFs in landscapes they cherish for recreational activities and spiritual upliftment.**[vi]

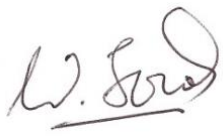
There is a devaluation of wildlife and nature tourism offering if WEFs (or any other highly intrusive developments) are allowed to encroach and this will have a substantial impact on livelihoods. There is a known and expressed conflict of interest between the WEF's and the majority of neighbouring properties and protected areas and nature torusim operations within the viewshed of the proposed WEFs. The statement that *"the proposed wind farm does not conflict with the current land use of the project site (i.e. the affected properties)"* is false as WEFs and wildlife and nature tourism are conflicting land uses and are mutually exclusive. Degradation of the environmental goods and services of reserves upon which nature and wildlife tourism product is based would imply a certain "disinvestment" in the nature and wildlife tourism sub-sector for the regions, the province and even on a national scale. Due consideration is to be afforded to the biodiversity stewardship that nature and wildlife tourism affords the national protected area estate. Therefore, the precautionary principle should require the competent authority to reject this WEF application.

7. **Evidence also suggests that the benefits of WEFs accrue mostly to international and regional economic hubs, but negative effects of WEFs are borne locally, especially in rural economies that are ecotourism dependent.** [vii]

The proposed WEF's of Wind Garden and Fronteer are stated to have little local benefit to permanent job creation and the local economy when compared to the biodiversity based economy that already exists let alone the growth trajectory pertaining to local employment and economic revenue which is evident in "A study of the conservation, economic and social activities of Indalo Private Game Reserves in the Eastern Cape" by Antrobus & Snowball (2019).

Given the volume of science pleading against the proposed WEF's, as well as the clear gaps in applicable data that exist in the understanding of the specific impact of these proposed WEF's, we strongly oppose the application for the development of these WEF's for the reasons listed above; as well as for all those reasons pertaining to impacts known and currently unknown on local fauna and flora, and, therefore, the unique and globally valuable natural biodiversity of this area.

Signed for, and on behalf of, the Trustees of the African Rhino Conservation Collaboration on 6th May 2021 in Makana, Eastern Cape



Dr C.W. Fowlds BVSc

ARCC : Trustee

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Conservation Landscapes Institute

Non-Profit Company : Registration Number - 2021/353777/08
Non-Profit Organisation : Registration Number - 255-922
Public Benefit Organisation : Registration Number - 930071799

6 May 2021

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To Whom It May Concern,

Re : Objection to Fronteer and Wind Garden Wind Energy Facilities (WEF's)

On behalf of the Directors and Partners of the Conservation Landscapes Institute NPC (CLI), I should like to lodge an objection to the location and construction of the Fronteer and Wind Garden Wind Energy Facilities in the Albany Region of the Eastern Cape.

CLI is a registered Non-Profit Company, established with the support of the Eastern Cape Parks and Tourism Agency, the Indalo and Buffalo Kloof Protected Environments; the Wilderness Foundation Africa (WFA), the Wildlife Ranchers Association, local NGOs and rural communities, to provide a dedicated vehicle to facilitate the process of forming ecologically connected Conservation Landscapes, and implementing the range of ecological and socio-economic projects in the Albany Biosphere that will expand a Nature -Based Economy for the area by :

"supporting and facilitating the promotion and advancement of nature conversation, rural socio-economic development and the sustainable utilisation of renewable natural resources; and more particularly, the establishment of the Albany Biosphere, including Conservation Landscapes, in a manner that ensures environmental and biodiversity conservation at a landscape scale; climate change mitigation, and the optimisation of the socio-economic development and economic empowerment of the peoples of the Eastern Cape."

In partnership with the above organisations, local and international academic institutions, and rural communities, the process of amalgamating the private game reserves, game ranches, State Protected Areas and community land into Conservation Landscapes that are of a scale that they can be managed as functional ecosystems, is well under way. Although the various forms of wildlife protected areas already contribute substantially to the conservation of what is a uniquely diverse ecosystem, and to a significant Nature-Based Economy, the Albany Biosphere, with its Conservation Landscapes, is, and will be, an internationally significant contribution to the global effort to avert climate change, biodiversity loss and alleviate poverty.

The construction of the Fronteer and Wind Garden WEFs, however, will have a substantial negative influence on one of the most significant economic drivers in the area, namely nature-based tourism and the sustainable utilisation of renewable, wild natural resources. The two maps below depict the main priority landscape corridor linking Addo Elephant National Park with the Great Fish River Nature Reserve as well as the relative location of the proposed WEF's within these landscapes. (Reference: Albany Biodiversity Corridor, Desmet & Vromans 2020)

In their impact on tourism, and the potential resulting conversion of land to large scale agriculture, which is particularly destructive of the unique biodiversity of the Albany Region, the WEFs will also negatively impact on the growing international interest in investment into ecosystem and biodiversity conservation, carbon sequestration and the attendant mitigation of climate change, that is being generated by the awareness of the state of the global environment, and recurring pandemics.

The loss, or diversion, of foreign and local business investment that will result from the withdrawal of existing investment[1] will also have a devastating effect on the opportunities created by a Nature-Based Economy to alleviate poverty through employment and entrepreneurial opportunity - opportunities that a wind farm most definitely does not create.

[1] As currently contemplated by two international investors in private game reserves should the wind farms be approved and developed

Renewable energy is central to the philosophy and efforts of CLI, but large scale WEFs, such as these, need to be located well away from sites where the option exists for environmentally sensitive and long-term sustainable alternatives. In this case, this is a location where the introduction of WEFs will have a destructive effect on a Nature-Based Economy that is already established and progressing rapidly to a level that will benefit both the local region, the country and the Planet - environmentally and economically.

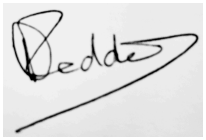
Locations such as the Albany Biosphere, which are uniquely biodiverse and a critical cog in the global plan to avoid the damaging effects of climate change and biodiversity loss, also lend themselves to an innovative application of renewable energy that will make an important contribution to the South Africa's energy supply security. The rural development and land use structure demanded by a Nature-Based Economy, offers the option to create numerous small to medium scale hubs of renewable energy with negligible environmental footprints - independent of, and relieving demand on, the national grid.

These sort of options, we would submit, are alternatives to this WEF proposal that will certainly have a major negative impact on a large rural area that is currently creating a model of socio-economic development that is sustainable; which contributes significantly to the global environmental and economic effort to build resilient systems, and which will attract considerable foreign investment that takes much of its "return on investment" in ecosystem services and biodiversity restoration.

It is also our contention, therefore, that inadequate consideration has been given to the direct impacts on the environment of the construction of large wind turbines of this design. The construction of the components is off-shore and energy intensive; the transport of these components is dependent on large quantities of fossil fuels and the materials of many of the very large components are not reusable nor biodegradable. These are factors which should come into consideration when the implementation of WEFs of the scale proposed and the location selected, have viable alternatives.

I should like to reiterate the opposition of the Conservation Landscapes Institute to these particular WEFs in the strongest possible terms. I also wish to express the hope that common sense prevails, and that the optimum land use and socio-economic development model provided by the Nature-Based Economy existing, and currently under innovative expansion, within and around the area proposed for these WEFs, prevails.

Signed for and on behalf of the Directors of Conservation Landscapes Institute NPC at Makana, Eastern Cape on 6th May 2021



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6 May 2021

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To Whom It May Concern,

Re : Objection to Fronteer and Wind Garden Wind Energy Facilities (WEF's)

I am writing this letter of objection to the proposed Fronteer and Wind Garden Wind Farms on behalf of all owners, staff, and interested parties of Buffalo Kloof Private Game Reserve. Buffalo Kloof is a protected area of 20 000ha, protecting a diverse array of fauna and flora, many of which are endangered. It is a privately owned and run business, and our objective is to provide a natural space for endangered animals to thrive and roam free. To sustain this model and fund our conservation projects we offer private Safari Experiences, ethical harvesting, photographic safaris, and an opportunity for guests to understand and contribute to first-hand conservation.

Our guests travel from far and wide to visit our reserve and to feel completely immersed in nature. Driving to Buffalo Kloof from either Port Elizabeth or East London the wind turbines will be highly visible. Our concern is that this will impact the quality of the tourism experience and without the income from tourists, we cannot support our staff, protect our wildlife, or support our neighbouring Yendella community, who also have land within Buffalo Kloof and rely on tourism. Many livelihoods depend on the survival of Buffalo Kloof Game Reserve.

Buffalo Kloof Private Game Reserve objects for the following reasons:

Visual amenity
Turbines are alien structures in such a picturesque and rural environment. They will become an immediate eyesore on the natural Eastern Cape landscape and ruin the historical views around Makhanda. The distractions will deter visitors from Makhanda as it will lose its valuable tourist appeal and impact local businesses.

Visual Impact
The proposed turbines would be visible for a significant distance,We can see the current wind turbines South West of Buffalo Kloof during the day and the flashing red strobe lights during the night, certainly not aesthetically pleasing.

Noise pollution during construction
Guests who visit Makanda for big events such as the Arts Festival and school sports festivals will be put off by the noise pollution and an increased number of construction vehicles congesting traffic. Which in tern means fewer day visits to our reserve with less tourism.

Disturbance due to increased traffic during construction
As said above, construction vehicles congesting already damaged roads.

Disturbance of delicate fauna and flora
Has a fauna and flora assessment / EIA been done without bias towards the wind farms or the landowners where the wind farms will be placed?
Have all fauna and flora species been identified in this area?

Have the following below been considered?

- a plant rescue and protection plan;
- a re-vegetation and habitat rehabilitation plan;
- an alien invasive species management plan;
- stormwater and fire management plans; and
- traffic and transport management plans for site access roads.

Bird Species which will be killed by the turbines
The blue crane which is a vulnerable bird species on the IUCN list, uses Buffalo Kloof and Kwandwe Game Reserve as nesting and breeding sights, traveling to and from. The wind turbines could contribute and accelerate their vulnerable status to endangered. A study must be done on the impact a wind farm would have on these birds.

Bats which will be killed by the turbines

The inevitability that more turbines will be constructed

Possibility of our elephant herds being negatively affected, due to the seismic vibrations according to various studies. Will a study be conducted? Kwandwe Private Game Reserve, Kariega Game Reserve, Pumba Game Reserve have elephants too.

Health
Several physicians from around the world - e.g., Amanda Harry in England, Robert McMurtry in Ontario, Robyn Phipps in New Zealand - have recorded a common set of health effects among people living near industrial-scale wind turbines. The symptoms began when local turbines began to turn, and they are relieved when the victims leave the area. The symptoms include : sleep disturbance, panic episodes, ear pressure, dizziness, vertigo, nausea, tachycardia, tinnitus. Dr. Nina Pierpont of New York has called it "wind turbine syndrome" and determined that its primary cause is the effect of low-frequency wind turbine noise on the organs. Dr. Pierpont's work has led her to recommend that large wind turbines not be sited closer than 2 kilometres (1-1/4 miles) from a home. It is also a severe risk to anyone with epilepsy.

Whilst we are not against the harnessing of natural energy in an attempt to lower carbon emissions, we do feel there is a strong case against the effects on local residences, tourism and other business.

I request that all local residents' issues and concerns raised are taken into account. Surely the protection of South Africa's endangered species, ecosystems, and habitats are critically important? Our eco-systems and wildlife are central to mankind's survival - without these, the wind farm is a fruitless endeavour. Please reconsider these wind farms, I am sure there are other areas more suited.

Warne Rippon
Owner of Buffalo Kloof Private Game Reserve

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Reference: We are commenting on the Wind Garden Wind Farm and Fronteer Wind Farm (DFFE Ref.No.:14/12/16/3/3/1/2314 and 14/12/16/3/3/1/2315 respectively)

Impact to Indalo Protected Environment, Albany Mega-Reserve and Addo Great Fish Corridor Protected Area Expansion

We are commenting on the Wind Garden Wind Farm and Fronteer Wind Farm (DFFE Ref.No.:14/12/16/3/3/1/2314 and 14/12/16/3/3/1/2315 respectively) as a concerned association of protected areas, as landowners, a concerned group of wildlife tourism operators which constitutes the Indalo Protected Environment.

Table: Private Game Reserves forming part of the Indalo Protected Environment

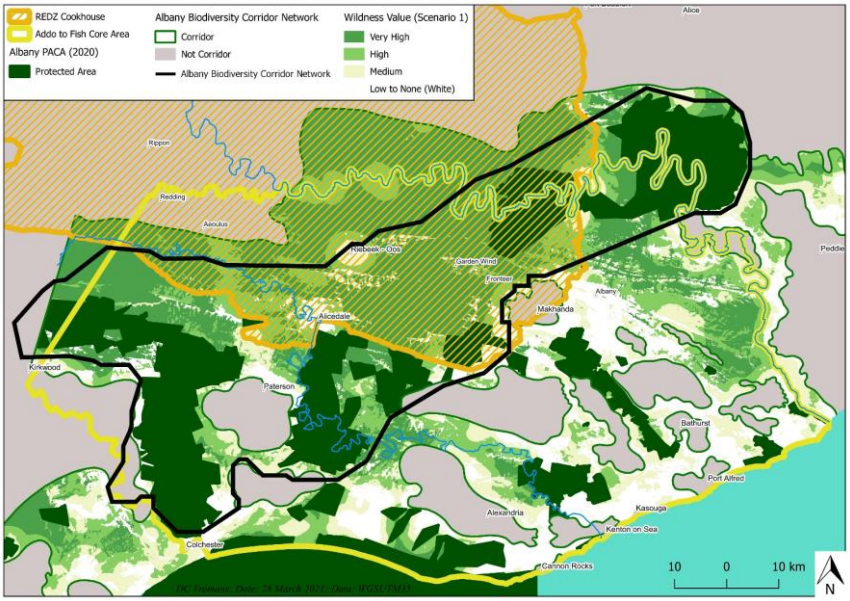
No	Name	Size hectares	Local Municipality
1.	Amakhala Game Reserve	9,733.7	Sundays River Valley, Makana
2.	Hopewell Game Reserve	2,730.94	Sundays River Valley
3	Kariega Game Reserve	7,936.78	Ndlambe, Makana
4.	Kwandwe Game Reserve	18,988.04	Makana
5.	Oceana Beach and Wildlife Reserve	724.72	Ndlambe
6.	Pumba Game Reserve	5,837.10	Makana
7.	Shamwari Game Reserve	20,338.58	Sundays River Valley, Makana
8.	Sibuya Game Reserve	1,785.23	Ndlambe
9.	Lalibela Game Reserve	8,001.46	Makana
	TOTAL	76,076.59	

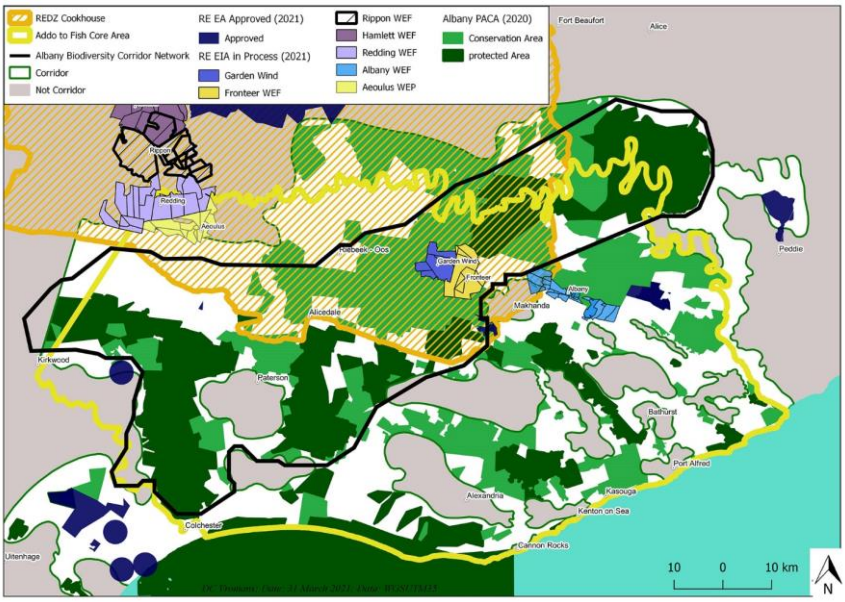
The Indalo Protected Environment is made up of the 9 private game reserves reflected in the Table below and consists of properties belonging to different landowners. These 9 private game reserves are located over 3 local municipalities in the Sarah Baartman District Municipality of the Eastern Cape Province of the RSA as indicated.

Based on government's Protected Area Expansion Strategy, buffer zones and Biodiversity Stewardship Programme, Indalo is currently actively working with local provincial and national partners including the Wilderness Foundation of South Africa, Eastern Cape Park and Tourism Agency and SA National Parks to expand areas under formal protection.

This is will be achieved through further amalgamation of the southern, central and northern nodes into large agglomerations (>50 000Ha) of private nature and game reserves in the central node and private/public nature and game reserves through public-private partnerships with Addo National Park and

Great Fish Provincial Reserves in the south and north respectively with common traversing agreements and unified conservation management as part of the so-called Albany Mega-Reserve (also referred to as Albany Biodiversity Corridor or Addo to Great Fish Corridor as set out in below figures).





Under cover of this letter, we detailed comment on the Draft BA EIR report and specialist studies supporting the application.

The Indalo Protected PGR Association as custodian of the Indalo Protected Environment herewith provides preliminary comment and places on record that the EIR and specialist studies are deficient to the extent that these inadequacies are covering up fatal flaws in the application, if these material deficiencies were to be addressed it would become clear that the development would obstruct the development of the Albany Mega-Reserve, degrade the scenic value of the area and devalue its unique nature and wilderness tourism

product and substantially impact on biodiversity which Indalo is obligated to protect. Accordingly, Indalo is categorically in favour of the outright refusal of the WEFs based upon the grounds set out in this comment on BAR.

In other words, Indalo favours the ultimate, most effective mitigation measure for the WEFs and the fatal flaws that they hold in terms of impact to the Indalo Protected Areas neighbouring game farms and their potential for expansion and integration into the larger Albany Mega-Reserve, is by avoiding the WEFs through their outright refusal.

Yours sincerely

Neale Howarth

Chairperson of Indalo Private Game Reserve Association

CC:
Mr Vuyani Dayimani
CEO Eastern Cape Parks and Tourism Agency
Mr Fundisile Mketeni
CEO South African National Parks Park

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PRELIMINARY COMMENTS ON THE WIND GARDEN AND FRONTEER WIND ENERGY FACILITY EIA PROCESS

INADEQUACIES IN EIR AND SPECIALIST STUDIES

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1. **INTRODUCTION**

1.1 The Indalo Protected Environment ("Indalo") is made up of the 9 Private Game Reserves ("PGRs") belonging to different landowners. The 9 PGRs are located over 3 local municipalities in the Sarah Baartman District Municipality of the Eastern Cape Province of the RSA as indicated and form a corridor between the Addo National Park (Addo") and the Great Fish River Provincial Nature Reserve ("Great Fish").

1.2 Based on government's Protected Area Expansion Strategy, Buffer zones and Biodiversity Stewardship Programme discussed in this Comment. Specifically the Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks ("Biodiversity and Buffer Zone Strategy"), applies.[1] Indalo is currently actively working with local provincial and national partners including the Wilderness Foundation South Africa, Eastern Cape Park and Tourism Agency ("ECPTA") and SA National Parks ("SANParks") to expand areas under protection. This includes further amalgamation of the southern, central and northern nodes of Indalo into large agglomerations (>50 000Ha) of private reserves in the central node and private/public reserves by forming public-private partnerships with Addo and the Great Fish (and various provincial nature reserves) in the south and north respectively.

1.3 Like Addo and the Great Fish, the Indalo Protected Environment and the PGRs that Is comprised of are concerned with nature and wildlife tourism as a key protected area goods and service (as are many other reserves in South Africa and in Africa in general). Likewise, the Indalo PGRs are managed according to a Protected Area Management Plan but instead of in part relying on public funds like Addo and Great Fish, they must secure funding from internal resources.

1.4 These resources are derived from nature and wildlife tourism which is dependent on a natural environment largely free from the structures and signs of modern

[1] Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks ("Biodiversity and Buffer Zone Strategy"), GN 106 of 8 February 2012 made under NEMPAA

civilisation (often from which the tourists come to get away to find solitude, tranquillity and serenity). Wind energy development characterised by colossal skyline intrusion will impose a significant divestment on Indalo members impacted and curtail wildlife and nature tourism enabled protected area expansion.

2. INDALO PROTECTED ENVIRONMENT

2.1 HISTORY

2.1.1 The Indalo Protected Environment ("PE") is made up of the 9 PGRs reflected in the Table below.[2]

Table: Private Game Reserves forming part of the Indalo Protected Environment

No	Name	Size hectares	Local Municipality
1.	Amakhala Game Reserve	9,733.7	Sundays River Valley, Makana
2.	Hopewell Game Reserve	2,730.94	Sundays River Valley
3	Kariega Game Reserve	7,936.78	Ndlambe, Makana
4.	Kwandwe Game Reserve	18,988.04	Makana
5.	Oceana Beach and Wildlife Reserve	724.72	Ndlambe
6.	Pumba Game Reserve	5,837.10	Makana
7.	Shamwari Game Reserve	20,338.58	Sundays River Valley, Makana
8.	Sibuya Game Reserve	1,785.23	Ndlambe
9.	Lalibela Game Reserve	8,001.46	Makana
	TOTAL	**76,076.59**	

[2] See detail in the Indalo Protected Environment - Protected Area Management Plan, 2019-2024 ("Indalo PAMP"), p 1-14.

2.1.2 The PGRs that form the Indalo PE are classified as game and natural lodges for tourism purposes. The Tourism Grading Council of South Africa (TGCSA) regards "*Private Nature Reserves*" as part of "*Game or Nature Lodges*". The visual and scenic quality of the natural environment of the PGRs (along with wildlife and hotel specifications), are part of the minimum requirements to be a Game or Nature Lodge.

"*Scenic or natural vista (beyond that of the immediate garden area) e.g.: water view, rural outlook, mountain view or natural bush setting offering some Safari Activity such as Game Drives, Walking, Cycling, Horseback, Canoeing etc.*"[3] [Our emphasis.]

2.1.3 The unique background, character, nature-based tourism services, and community development by Indalo PGRs are well appreciated by national and regional authorities. Indalo PGRs have made a substantial contribution towards increasing areas under formal protection and contributing to achieve targets set in provincial and national protected area expansion strategies. Indalo PGRs reflect a proud history of financial investment and selfless personal commitment, dedication and service over many years by owners and personnel that have established and developed the different reserves as world class nature-based tourism destinations through ethical management of their biodiversity and natural environments. Protecting the unspoiled scenic and natural vistas of their unique natural environments were and are pivotal for the Indalo PGRs to establish and maintain their international reputation as malaria free wilderness tourism destinations of choice. This Comment demonstrates that the proposed location for the proposed Wind Energy Facilities ("WEFs") will significantly affect the unique wilderness experience of some of the PGRs, which may cause serious economic harm to some parties.

2.1.4 Indalo is currently actively working with local provincial and national partners including the Wilderness Foundation South Africa, ECPTA and SANParks to expand

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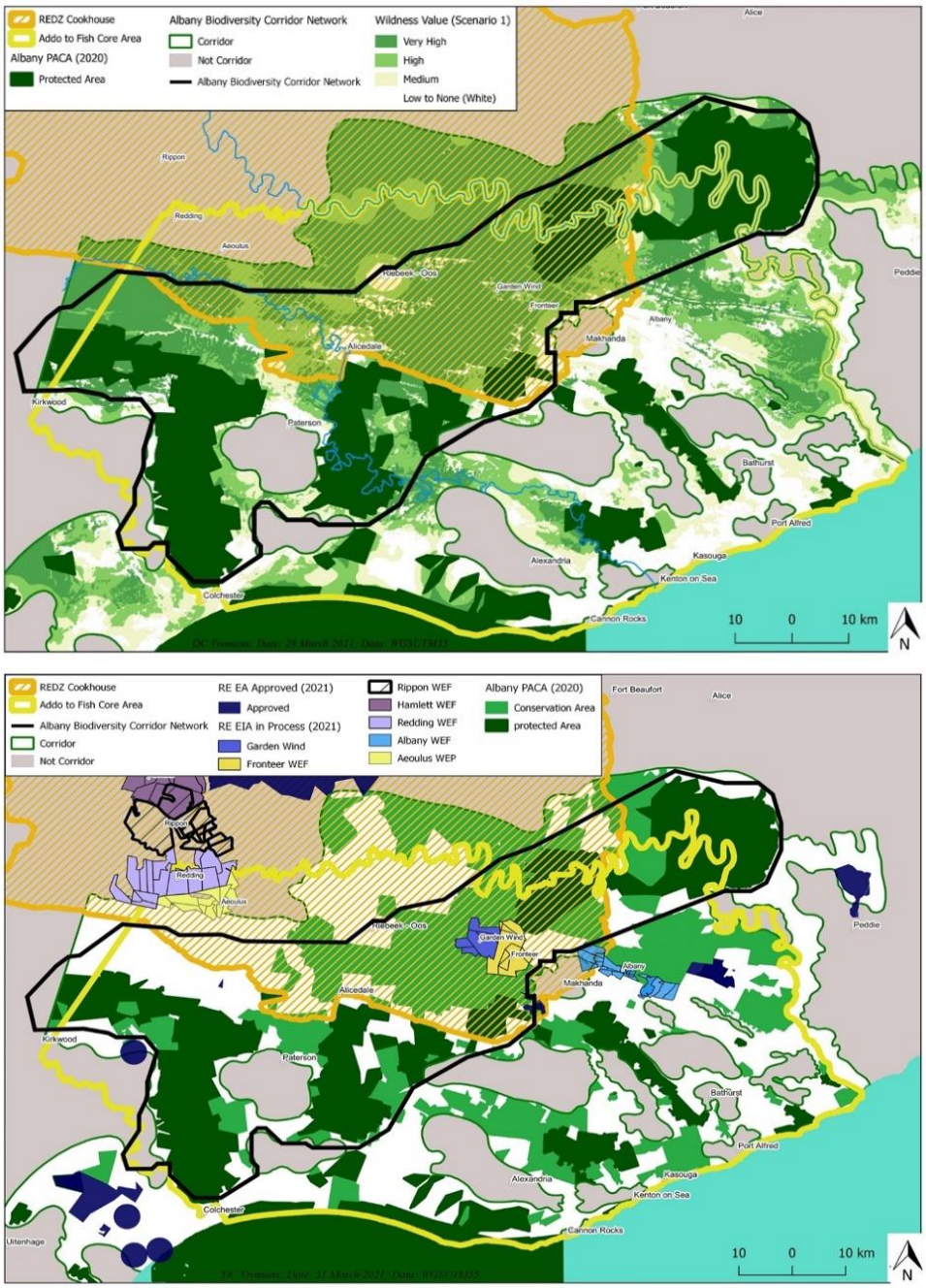
[3] See the *Minimum Requirements: Game Lodge / Nature Lodge Accommodation, 2014* p 1 at https://www.tourismgrading.co.za/assets/Uploads/Game-NATURE-Lodge-Criteria.pdf.

areas under protection through further amalgamation of southern, central and northern nodes into large agglomerations of private reserves (>50 000Ha) in central area, and public private partnerships with Addo National Park and Great Fish Provincial Reserves in the south and north respectively with common traversing agreements and unified conservation management as part of the so-called Albany Mega-Reserve (also referred to as Albany Biodiversity Corridor or Addo to Great Fish Corridor as set out in below figures also indicating planned WEFs).



2.1.5 One of the main objectives of the expansion plan is to enable common traversing agreements and unified conservation management through the dropping of fences between PGRs and Protected Areas. This is only realistic if areas expand to the extent that larger areas of reserve become contiguous and objectives have been set for short, medium and long term:

2.1.5.1 Short term:

a. Combining land in the central - between Lalibela and Pumba will require areas of 2500 ha; and
b. Combining land between Lalibela and Shamwari 2x 3500 ha.

2.1.5.2 Medium term:

a. Combining land targeted by the National Protected Area expansion strategy between Shamwari, Lalibela, Pumba and Kwandwe of 50 000 ha; and
b. Inclusion of key biodiversity conservation nodes and wilderness areas characterised by high scenic quality and low levels of intrusion –
    i. to the north and east of Addo;
    ii. around Great Fish and south along the Fish River; and

2.1.5.3 Long term:

a. Linking up with the Garden Route National Park via Baviaanskloof Mega Reserve (short-listed for World Heritage Site status)
b. Linking with the protected areas in the Amathole Biosphere Reserve.

2.1.6 To this effect a formal protected area expansion strategy is under development by various stakeholders including Wilderness Foundation Africa, ECPTA, SANParks and Indalo PGR Association that will guide protected area expansion, inform land-use planning, stimulate economic development and aide thicket restoration in the broader Albany region.

2.1.7 The environmental and economic benefits associated with the agglomerations (>50 000Ha) of private reserves and expansion through private partnerships with Addo in the south and the Great Fish in the north are considerable. Not only will this form a **Mega Eastern Cape Protected Area** as larger consolidated areas will lead to improved marketability of the Eastern Cape as a world class safari destination, making it comparable to Kruger, Sabi Sands and Madikwe. As much as wind energy development is necessary in South Africa, we hold wind energy development in Addo, Great Fish, Indalo and their further extended areas to be untenable and undesirable that should be avoided at all cost.

2.2 LEGAL STATUS

2.2.1 **Proclamation**: Indalo was declared on 13 April 2018 as a Protected Area, Category Protected Environment, in terms of section 28(1)(a)(i) and (b) of the National Environmental Management: Protected Areas Act, No. 57 of 2003 ("NEMPAA"), by the Member of the Executive Council ("MEC") for Economic Development, Environmental Affairs and Tourism, in the Eastern Cape Province.[4]

2.2.2 **Indalo Association**: The MEC assigned his power as Management Authority of the Indalo PE to the Indalo Association in terms of section 38(2)(b) of NEMPAA.[5] The ECPTA, an agency of the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism ("DEDEAT"), entered into an agreement with the Indalo Private Game Reserve Association that the Indalo PE becomes a Biodiversity Stewardship site.[6]

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4 PN 70 of 13 April 2018 in PG 4030. Indalo PAMP, p 55. Lalibela Private Game Reserve was only declared part of the Indalo PE on 31 July 2019 in PN 219 of 31 July 2019 in PG 4280.

5 By the declaration notices.

6 Indalo PAMP, p 1-2. There are 5 categories of biodiversity stewardship in South Africa whereby conservation authorities secure land in biodiversity priority areas for conservation by entering into agreements with private and communal landowners: (i) Nature Reserves under NEMPAA with a single private nature reserve owner, (ii) Protected Environments (PEs) under NEMPAA with multiple landowners which is the case for Indalo, (iii) biodiversity management agreements (statutory contracts) under NEMBA, (iv) biodiversity agreements (common law contracts), and (v) biodiversity partnership areas (non-binding memorandums of understanding).

2.2.3 **Stewardship Agreement:** The Indalo Stewardship Agreement with the state forms an important part of the Indalo PE legal framework (read with the national and provincial biodiversity and conservation law, policies and programmes discussed below) that must be taken into consideration by the Department of Forestry Fisheries and Environment ("DFFE") and the EAP in evaluating the EIA for the WEF developments. Section 8 of the Indalo Protected Area Management Plan ("PAMP") sets out certain restrictions on landowners in Indalo based on legislation and the Biodiversity Stewardship Agreement with the ECPTA. It specifically prohibits the placement of wind turbines for the generation of renewable energy inside Indalo.[7] This prohibition on wind turbines inside Indalo addresses the same negative environmental impacts which Indalo demonstrates in this Comment that the location of the WEFs outside of the Indalo PE will have on the surrounding Protected Areas (including Indalo) and consequently should be situated elsewhere than the proposed site in the EIR.

2.3 LEGAL FRAMEWORK

2.3.1 The EAP recommends in section 12.6 of the BARs that the proposed WEFs be authorised (subsect to the conditions). The EAP's recommendation is wrong, since the BAR is fundamentally flawed as demonstrated below and thus in contravention of the prescribed above legal provisions. The EAP, and the DFFE as the competent authority, are required to consider, evaluate, and respectively recommend or decide, the applications for EA against the prescribed legal framework which is summarised below.

2.3.2 **Constitutional norms**: The Constitution is the supreme law in South Africa and hence the starting point in interpreting any legislation.[8] Section 39(1) of the Constitution stipulates that the interpretation of the Bill of Rights (environmental rights in section 24 referred to below) must promote the values that underlie an open and democratic society based on human dignity, equality and freedom. International law must, and foreign law may, be considered during interpretation.

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7 Indalo PAMP, p 92.

8 Section 2 of the Constitution.

This Comment demonstrates below that the legal (National Policy review) by the BA EIR is totally biased and covers almost exclusively energy policy and is conspicuously devoid of any reference to protected area management and expansion, biodiversity conservation and serves as a particularly poor basis for considering the impact of wind energy facilities on protected areas and nature-based tourism.

Furthermore, section 39(2) requires that the spirit, purport and objects of the Bill of Rights, which is the cornerstone of our society, most be promoted during legal interpretation. Hence the courts prescribe a purposive interpretation of the legal provisions regulating the EIA of the WEF applications measured within their larger statutory context and against the fundamental constitutional values. It is submitted that a purposive and contextual value based interpretation of environmental principles and the EIA requirements in NEMA justifies the use of international best environmental practice ("BPEO") standards for WEFs such as by the World Bank Group (International Finance Corporation ("IFC")) that will discussed *infra*.

2.3.3 **Right to well-being**: Section 24 of the Constitution provides the fundamental normative foundation for environmental protection and conservation in South Africa by guaranteeing specific environmental rights to everyone. Section 24(a) protects the right to an environment that is not harmful to a person's health or well-being. The right to wellbeing is relevant to the WEFs because a person's well-being includes protection of the aesthetic quality of human life against nuisances such as odour, noise or visual pollution. This Comment indicates that where the WEFs will cause significant visual impact and degradation of protected area tourism goods and services (through impact of the aesthetic quality of the wilderness quality of the environment and the natural or wilderness experience of persons staying in or visiting the surrounding protected areas (including Indalo, Great Fish and Addo). The visual disturbance will affect the right to well-being which cannot be justified in an open and democratic society based on human dignity, equality, and individual freedom. Consequently, the WEFs should not be allowed to be developed on the proposed lease areas but the developers should seek leases in alternative locations with suitable wind resource where these will

not have a significant on protected area goods and services and associated impact on people's right to well-being.

2.3.4 **Right to dignity**: Section 10 of the Constitution also protects the human dignity of a person. The significant impact of the WEFs on the aesthetic quality and well-being of affected persons in section 24(a) of the Constitution by necessary implication also unjustifiably impair their human dignity. There is a direct relationship between the quality of the natural environment that a person is exposed to and the quality of that person's well-being and human dignity. Significant impacts of the former impair the latter. A person cannot have a dignified living (including a touristic experience) in a natural environment that is significantly visually polluted or degraded as will be brought about by the WEFs. Moreover, so in the present case where the unique wilderness character of the natural environment of the Indalo Protected Environment and Great Fish Provincial Nature Reserve will be permanently degraded by the proposed WEFs.

2.3.5 **Right to environmental protection**: Section 24(b) of the Constitution guarantees the right to environmental protection. It places a constitutional obligation on the state to protect the environment for the sake of present and as well as future generations through reasonable measures that includes legislation that: (i) prevent pollution and ecological degradation; (ii) promote conservation and (iii) secure ecological sustainable development and use of natural resources whilst promoting justifiable economic and social development. Thus, the constitutional principle of inter- and intragenerational conservation trusteeship places a clear legal duty on the DFFE (and other competent authorities e.g. SANParks, SANBI, ECPTA and local municipalities) to act as custodians of the natural environment and conservation by taking the necessary steps that may be required to ensure short and long-term environmental protection of the Indalo, Great Fish and Addo Protected Areas in the Eastern Cape Province. The court confirmed this principle in the Fuel Retailers case:

"The importance of the protection of the environment cannot be gainsaid. Its protection is vital to the enjoyment of the other rights contained in the Bill of Rights; indeed, it is vital to life itself. It must therefore be protected for the benefit

of the present and future generations. The present generation holds the earth in trust for the next generation. This trusteeship position carries with it the responsibility to look after the environment. It is the duty of the court to ensure that this responsibility is carried out."[9] *[Own emphasis.]*

2.3.6 **Sustainable development**: Section 24(b)(iii) of the Constitution provides an exception to the right to environmental protection by acknowledging the right of the Applicant to the WEFs, but subject to the important proviso that it must be ecological sustainable. The right to sustainable development is one of the core environmental and economic principles in the Constitution and in South African law and is further guaranteed in the environmental principles in section 2(4) of NEMA that contain fundamental directives of state action, the principle of integrated environmental management in sections 23 and 24 of NEMA and the relevant EIA Regulations as well as various provisions of the specific environmental management acts ("SEMAs") and other legislation that provides environmental regulation of economic development. Sustainable development is defined by NEMA as the "*integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations*."

2.3.7 The right to sustainable development requires that both the EAP in the EIR as well as the DFFE through its decision, to strike a fair balance or equilibrium (as explained by the courts) between environmental protection of the affected Protect Areas and the economic development of the WEFs. In light of the serious concerns and fatal flaws of the EIR to ensure proper environmental protection, it is clear that the EAP (and some specialists) had failed to comply with the integration requirement of the section 24(b) of the Constitution and section 2(4) of NEMA. Based on the supplementary information provided by Indalo in this submission, an informed and fair balancing of the Applicant's right to develop the WEFs *vis-a-vis* Indalo's (and the Protected Areas') and visitors' right to environmental protection and ecological conservation clearly shows that the environmental rights outweighs the development right at the proposed location.

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[9] *Fuel Retailers Association of South Africa (Pty) Ltd v Director-General Environmental Management Mpumalanga Province* 2007 (6) SA 4 (CC) para [102], see also para [71], [74], [75], [80], [93].

On the evidence explained in this submission, the proposed WEFs will not be ecologically sustainable as required by section 24(b) of the Constitution. For this reason, the DFFE as custodian of the natural environment of the must reject the WEF applications.

2.3.8 **Neighbour law**: The common law regulates the conduct between neighbours to prevent the unlawful and unreasonable impairment of each other's undisturbed enjoyment of their property due to noise, visual or odour pollution or other conduct by a neighbour. This common law duty of care by a landowner or user towards neighbours is based on the *sic utere tuo* doctrine. Failure by the intruding neighbour to cease the nuisance affecting the neighbouring property can result in interdictory relief by a court of law and in worse cases payment of compensation by Aquilian action for the damages caused by the interference. In the present matter the Protected Areas precede the proposed WEFs. Also, the EAP has been duly informed (through this Comment) of the expansion programme to create the Eastern Cape Mega Protected Area. Thus, the WEF must respect the historic rights and legitimate interests of Indalo and the other Protected Areas. (The expansion of Protected Areas and creation of buffer zones are prescribed by the existing law and government have developed and is implementing expansion polices, strategies and plans over many years (discussed below).) It is Indalo's view that negative environmental impacts of the WEF will cause a significant and permanent impairment of the undisturbed enjoyment of the Indalo and Great Fish Protected Areas as well as of the future Mega Protected Area.

2.3.9 **NEMA**: As required by section 24(b) of the Constitution, various laws were promulgated that ensure protection of the environmental during the Albany Wind Farm development. Primary are NEMA and the EIA Regulations which in the present case provide the overall national legislative framework. Section 2 of NEMA contains fundamental environmental principles, that the EAP must consider when considering the environmental impacts for the EIR and the DFFE when deciding the Wind Farm application to ensure proper environmental protection. Sections 24(4) and 24O of NEMA provide the criteria for the EIR, including compliance with NEMA (integrated environmental management and

mainstreaming of conservation management in section 23, the polluter's duty of environmental care in section 28), EIA Regulations, SEMAS and other regulations and notices as specified below. The EIA Regulations contain detail requirements for EIA studies e.g. to demonstrate the need and desirability of undertaking the proposed activity, assess alternatives (including location, technology and content), public comment, asses direct, indirect and cumulative impacts of the development, and take into account any applicable government policies, plans, guidelines, environmental management instruments, and other decision-making instruments that have been adopted by the competent authorities. We indicate below the failure by the EIR to comply with specific EIA requirements.

2.3.10 Various SEMAs apply to important aspects of the Indalo, Great Fish and Addo Protected Areas in the present matter e.g. to conservation (NEMPAA), protection of biological diversity (National Environmental Management: Biodiversity Act, No. 10 of 2004 ("NEMBA"), management of water resources (National Water Act, No. 36 of 1998 ("NWA")), waste management (National Environmental Management: Waste Act ("NEMWA"), management of coastal areas (National Environmental Management: Integrated Coastal Management Act, No. 24 of 2008 ("ICMA")), etc. (Not a complete list.) Provincial environmental and conservation legislation in the Eastern Cape Province adds a further layer of legislative control. In addition, national legislation such as for spatial development planning (permission for change of land-use by section 26(4) of the Spatial Planning and Land Use Management Act, No. 16 of 2013 ("SPLUMA")) and the by-laws and spatial development frameworks ("SDFs") of the Sundays River Valley, Makana and Ndlambe local municipalities provide additional protection to these Protected Areas.

2.3.11 **Conservation**: The conservation of biodiversity is primarily regulated by NEMPAA and NEMBA which should be interpreted and applied in an integrated manner in support of each other's legislative purpose and objectives. Both laws emphasise the state's constitutional obligation as the national trustee for the environment to protect and conserve biological diversity, natural landscapes and seascapes as well as the species and ecosystems therein and ensure the sustainable use of

indigenous biological resources.[10] All state institutions in the national, provincial and municipal spheres of government must comply with the provisions of these Acts, their regulations, norms and standards, frameworks, strategies, conservation policies and management instruments. The provisions of NEMBA and NEMPAA prevail over conflicting provisions of any national, provincial or municipal laws e.g. provincial spatial biodiversity plans, Sara Baartman District Municipality and Makana Local Municipal integrated development plans ("IDPs") and the Makana Local Municipal SDF.[11] NEMBA and NEMPAA must be interpreted and applied in accordance with the national environmental management principles of NEMA as well as be read with its applicable provisions.[12] In the *Mabola* case the court confirmed the objectives of NEMPAA in section 2 are –

"the provision, within the framework of national legislation, including NEMA, for the declaration and management of protected areas, to provide for cooperative governance in the declaration and management of such areas, including the promotion of sustainable utilisation of protected areas for the benefit of people in a manner that would preserve the ecological character of such areas."[13] [Own emphasis]

2.3.12 **Conservation** obligations: Section 17 of NEMPAA is important for the evaluation of the environmental impact of the WEF with respect to the Indalo, Great Fish and Addo Protected Areas. It specifies the legal purposes which these Protected Areas are obligated to fulfil, i.e. –

"(a) to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected areas;

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10 Sections 3 of NEMBA and NEMPAA. *Mining and Environmental Justice Community Network of SA and others v Minister of Environmental Affairs and Others*, Case 50779/2017 NGHC 6 November 2018, para 4.7 ("*Mabola*").

11 Section 48(1) of NEMBA.

12 Sections 6 and 7 of NEMBA and section 5(1) of NEMPAA.

13 Mabola, para 4.6.

(b) to preserve the ecological integrity of those areas;

(c) to conserve biodiversity in those areas;

(d) to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa;

(e) to protect South Africa's threatened or rare species;

(f) to protect an area which is vulnerable or ecologically sensitive;

(g) to assist in ensuring the sustained supply of environmental goods and services;

(h) to provide for the sustainable use of natural and biological resources;

(i) to create or augment destinations for nature-based tourism;

(j) to manage the interrelationship between natural environmental biodiversity, human settlement and economic development;

(k) generally, to contribute to human, social, cultural, spiritual and economic development; or

(l) to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species." [Own emphasis.]

2.3.13 **Protected Area Obligations**: Section 28(2) of NEMPAA stipulates that the Indalo PE may only be declared for the following purposes, -

"*(a) to regulate the area as a buffer zone for the conservation and protection of a … national park, MPA, … or nature reserve;*

(b) to enable owners of the land to take collective action to conserve biodiversity on their land and to seek legal recognition therefor;

(c) to protect the area if it is sensitive to development due to its (i) biological diversity, (ii) natural characteristics, (iii) scientific, cultural, historical, archaeological or geological value, (iv) scenic and landscape value, or (v) provision of environmental goods and services;

(d) to protect a specific ecosystem outside of a national park, or nature reserve;

(e) to ensure that the use of natural resources in the area is sustainable; or

(f) *to control change in land use in the area if the area is earmarked for declaration as, or inclusion in, a national park or nature reserve." [Own emphasis.]*

2.3.14 All the purposes in section 17 of NEMPAA apply to Indalo, Great Fish and Addo. The underlined provisions of section 17 require that Indalo and the other Protected Areas must, (i) provide environmental goods and services, (ii) create an environment that is conducive for nature-based tourism, and (iii) ensure ecological sustainable social and economic development takes place. Similarly, the purposes in section 28(2) of NEMPAA apply specifically to the Indalo. This means that Indalo must (i) form a buffer zone between the Addo and Great Fish, (ii) enable the different PGRs inside Indalo to conserve their biodiversity, (iii) protect sensitive areas in respect of economic development e.g. areas with scenic and landscape value, and (iv) provide environmental goods and services.

2.3.15 **Legal error***:* Indalo objects against approval of the WEFs because the development will prevent Indalo from fulfilling its statuary obligations (purposes) in sections 17 and 28 of NEMPAA. (This is also the case for the Great Fish and Addo in respect of their obligations under section 17.) This is so because the environmental impact of the WEF will affect the ability of the Protected Areas to adequately provide some of the environmental goods and services (e.g. game drives and walks, experiencing wildlife in their natural habitat, nature photography, wildlife education, game cuisine and cultural interaction with local communities), will significantly affect nature-based tourism and is not ecologically, socially and economically sustainable because it will cause the reduction of visitors to some of the Indalo PGRs and Protected Areas. In this regard we refer to the negative effect of the Waaihoek WEF on tourism to Pumba (see Pumba letter attached) which confirm these risks as real and not miniscule or theoretical as appears to be the impression created in the EIR and SIA.

2.3.16 **Unlawful and unconstitutional conduct:** The recommendation by the EAP in the EIR contains a material legal error that will have an unlawful and unconstitutional legal effect if the DFFE approves the application. The EAP's recommendation to the DFFE to provide conditional environmental authorisation (EA) for the

development of the WEFs will affect the ability of Indalo and the other Protected Areas to comply with their legal obligations under section 17 and 28 of NEMPAA, respectively (as underlined). This effect by the environment authorisation will be contrary to the rule of law, and thus unlawful and unconstitutional conduct. If the Applicant receives EA for the Albany Wind Farm development, Indalo reserves its right to have it set aside on internal appeal to the Minister, or on judicial review in terms of sections 6(2)(d) and (i) of the Promotion of Administrative Justice Act, 3 of 2000 ("PAJA") as well as the right to obtain interdictory relief where necessary.

2.3.17 **NEMBA**: NEMBA regulates the legal classification and permitting system for the protection of threatened ecosystems and species in South Africa. It also provides the legal framework for integrated and coordinated planning, monitoring of biodiversity conservation and protection through 3 instruments: (i) the national biodiversity framework (provide national norms and standards to all organs of state, communities and the private sector throughout the country), (ii) bioregional plans (maps for specific geographic areas that identify Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs") with guidelines for land use, and (iii) biodiversity management plans (to protect listed threatened ecosystems, indigenous species and special categories in specific cases). Indalo indicates below important gaps in the assessment of the avifaunal impact of the WEF which will contravene the statutory obligations of the WEF in terms of NEMBA and its regulations.

2.3.18 **Protected Area Expansion**: The National Protected Area Expansion Strategy ("NPAES") in 2008 provides the national policy framework for the integrated and coordinated expansion and consolidation of the Protected Areas under NEMPAA through ecosystem specific expansion targets. Extended Protected Areas provide important ecosystem goods and services e.g. production of clean water, flood moderation, preventative erosion, carbon storage and protection of the aesthetic value of the landscape. NPAES identified the Baviaans-Addo Area (Focus Area Nr. 3) for protection of 7 biomes in the Eastern Cape as a suitable Protected Area expansion area (and includes the Albany Thicket biome). The Eastern Cape Provincial Areas Expansion Strategy, 2012 ("ECPAES") was developed by ECPTA to implement the terrestrial objectives of NPAES in the EC

Province. ECPAES mapped 20 priority areas and developed a realistic implementation plan over the next 5 years for focus areas of high, medium and low precedence that include the Greater Addo and the Great Fish Protected Areas. The Indalo PE is included in the proposed expansion of the Protected Areas by ECPAES. Thus, the aforesaid national and provincial expansion programs provide the legal basis for the creation over time of a Mega Protected Area in the Eastern Cape. The EIR is deficient because it does not adequality assess and consider how the expansion of the Protected Areas will be impacted by the development of the WEFs at the proposed location.

2.3.19 **Buffer Zones**: The expansion of Protected Ares is complimented by a strategy to create buffer zones to National and Provincial Parks such as for Addo and Great Fish. The ecological landscapes of the Parks continue into the surrounding region and their viability as Parks depend on their social, economic and ecologic integration into the surrounding region. Once declared and gazetted, the buffer zones will provide legal mechanisms to regulate development in that area e.g. to prevent the negative impacts of intruding developments. As indicated section 28(2) of NEMPAA provides that one of the purposes of the Indalo PE was to form a buffer zone with the Addo and Great Fish. To this effect a formal protected area expansion strategy is under development by various stakeholders including the Wilderness Foundation Africa, ECPTA, SANParks, and the Indalo Association. The EIR does not adequality assess and consider how the proposed development of the WEFs will impact on the proposed Albany Mega-Reserve (Addo - Great Fish Corridor /Albany Biodiversity Corridor).

2.3.20 **EC Biodiversity Plan:** The draft EC Biodiversity Strategy and Action Plan, 2017 for the protection of threatened or protected ecosystems was gazetted in 2018 for comment and is based on a comprehensive technical report known as the EC Biodiversity Conservation Plan, 2017. Once adopted these 2017 Plans will replace the outdated EC Biodiversity Conservation Plan of 2007 which is presently still in force. The 2017 Plans emphasise the importance of private conservation areas to the conservation of biodiversity and their contribution to the regional economy and its further expansion process. The 2017 Plans provide a systematic Spatial Biological Assessment ("SBA") that generated and mapped (down to district

level) spatial terrestrial and aquatic CBA and ESA priorities based on biodiversity patterns, ecological processes, current and future land uses and the PA network. It provides a matrix of guidelines for recommended land use types and activities that have been linked to SPLUMA land uses (Spatial Biodiversity Land Use Guidelines" ("SBLUG")) based on their impacts measured against the management objectives of the CBAs and ESAs.

2.3.21 The state's constitutional duty to ensure intergenerational environmental equity is not limited to climate change adaptation programmes such as the promotion of renewable energy (the WEFs), but it has the concomitant fundamental obligation to protect and conserve the environment by ensuring the ecological sustainability of the natural and wilderness environment – even against negative impacts of renewable energy projects such as the WEF. The EIR is one sided because it only focuses on the former and does not strike a fair balance between climate change adaptation and long-term environmental conservation and protection envisaged by the Protected Area expansion programme as discussed above.

3. COMMENTS OF SPECIALIST STUDIES

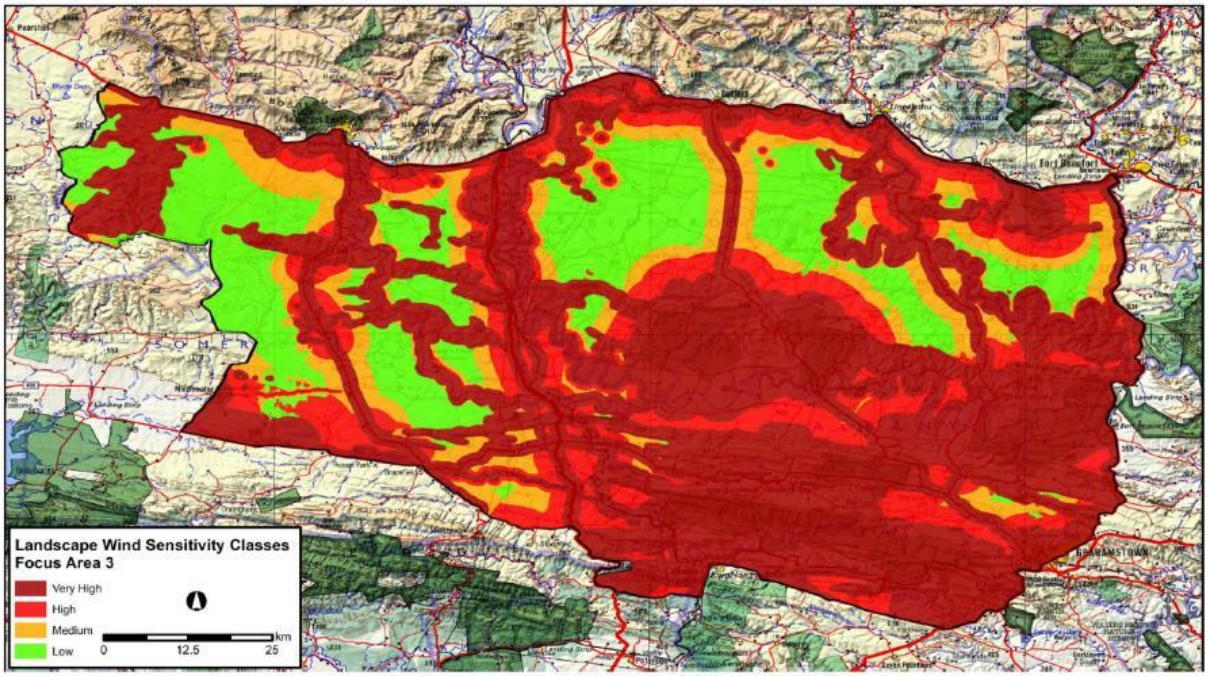
3.1 VISUAL IMPACT ASSESSMENT

3.1.1 **Requirements**: A Visual Impact Assessment (VIA) has to be fit for purpose and needs to determine visual impact "significance" with respect to both the local as well as regional importance of the landscape and features the landscape is comprised of, the relative pristineness of landscape and features comprising and their contribution to sense of place. The VIAs for the WEFs did not meet these objectives, are defective and must be rejected.

3.1.2 **Identification of sensitive receptors:** The VIAs show potential sensitive receptors in Map 6. However, the identification of the receptors is totally inadequate. The potential impact on the Great Fish River Provincial Nature Reserve has been completely omitted for example.

3.1.3 **Vantage points**: Poor selection of vantage points and complete omission of the Great Fish Provincial Nature Reserve are material deficiencies in the Report. The absence of the Great Fish is conspicuous, and the deficiency is of such a nature that it beggars' belief. The actual impact wildlife and nature tourism operations in the area would be an externality of **fatal proportions**.

3.1.4 **Landscape sensitivity and Cookhouse REDZ**: Although the BARs and VIAs make much about the fact that the development is in part located within the Cookhouse REDZ, it should be noted that the REDZ visual sensitivity mapping at the regional scale indicate that the WEFs receiving environment is categorised as *'very high visual sensitivity'*. (Our emphasis.) This means that it is not ideally suitable for wind farm development where the wilderness character forms the basis for wildlife and nature tourism (and more so if this is the basis for Protected Area establishment and upkeep by biodiversity stewardship). This is a further example that the BARs and VIAs are **fatally flawed** due to its failure to scientifically contextualise the WEF development amidst the existing and planned expansion of Protected Areas.



Map 5: Landscape sensitivity map for Wind development in the Cookhouse focus area (FA 3)

3.1.5 **Assessment of Significance of Visual Impact**: Firstly, the VIA omits/ hides the impact to views that generally have both a high scenic and wilderness value that may be appreciated from Great Fish and Kwandwe and many other locations.

a) The failure of the VIAs to identify the significant impact of the WEF on the general views of the Great Fish and Kwandwe and specifically on the Great Fish's research stations view as shown above is a **material and fatal flaw**.

b) . These undisturbed landscape views form part of the unique wilderness experience for ecotourism to the Great Fish and Indalo Protected Areas that **would be permanently disturbed** by the WEFs. For this reason alone, the application to develop the WEF is not desirable at this location and should be refused by DEFF.

3.1.6 **Deficiencies** in visual impact consideration: The following additional problems with the veracity of the VIA need to be pointed out:

a) Turbine blade and their dynamics: The dynamic aspect of wind turbine blade motion has not been considered as a contributor to visual impact whereas Sullivan found that contributed significantly to visual prominence of wind turbines at distances of up 24 km;[14] others have identified wind turbine blade as a significant attractor of visual attention and a factor that increases perceived visual contrast from wind facilities.[15]

b) Atmospheric perspective: It is well understood that humans judge distance to objects in the landscape in part by assessing the effects of atmospheric perspective, the decrease in contrast between an object and its background as distance increases. As distance increases, the colours of the object become less distinct and shift toward the background colour, usually blue or gray. Atmospheric perspective is an important cue for an observer to determine relative distance of objects in the landscape. The loss of sharpness and lower contrast of photographs relative to in-situ viewing may exaggerate the effects of atmospheric perspective, thus may affect the perception of scale and distance to objects in the landscape, making them appear farther away than they actually are.[16]

14 Sullivan et al (2012).

15 Bishop & Miller (2007).

16 Palmer & Sullivan 2020.

3.1.7 **Lifespan of wind energy facility**: Consideration of the likely development lifespan indicates a project life of 20-25 years which is flawed. The Report does not consider the reality of turbines and wind energy technology development and turbine tower and blade advances which make application of taller and larger bladed turbines more economical. Typically wind farms are redeveloped during their productive lifespans for example by raising and increasing blade diameter. This means that the expected lifespan of the WEFs are longer than 25 years and can even be permanent but with increasing visual impacts as the towers are lifted.

3.1.8 **Mitigation**: The VIAs indicate, in relation to the visual impact on sensitive receptors that "*No mitigation of this impact is possible (i.e. the structures will be visible regardless)*". However, the alternatives evaluation is neglected and specifically omits to consider turbines of lower hub-height and reduced visibility. A reduced hub height operating at a site of good wind resource may still compete with a turbine of higher hub height at a site with poorer wind resource.

3.2 SOCIO-ECONOMIC ASSESSMENT

3.2.1 During the public participation process, it was admitted by one of the authors of the socio-economic impact assessment that not a single direct neighbour to the proposed WEF's of Fronteer and Wind Garden had been consulted in their assessment which is in direct contradiction to statement in the report that states quote: "Targeted and structured one-on-one interviews were undertaken as part of the SEIA to collect information from two key groups that are likely to be affected by the proposed wind farm. The first being the landowners whose property will be directly impacted by the development of the wind farm, and the second being the surrounding landowners who may be indirectly impacted by the development of the wind farm."

3.2.2 The admission by specialist is unfortunate and tarnishes the integrity of the report and EIA process as a whole, the report is biased and not did not consider input from any of the neighbouring landowners which will be directly impacted by this proposed development does not reflect consider the effect on property prices of

WEF's in landscapes of high wilderness value where livelihoods are supported by wildlife and nature tourism, hunting and other nature activities. Until a proper tourism impact assessment is undertaken that includes impact on current reserves and hunting operations the true socio-economic impact cannot be defensibly estimated. The current socio-economic impact assessment is flawed, the specialist is discredited and the study and should be withdrawn and the specialists removed from the team for the sake of maintaining the integrity of the EIA process. We impress upon you that the report need to be withdrawn failing which concerned property owners will take the necessary steps to have the socio-economic impact and EIA that relies thereon to be rejected by the competent authority.

3.2.3 **International Research**: A substantial volume of research concerning wilderness tourism and renewable energy have been performed in Iceland and are relevant for the Albany Wind Farm development.[17] The finding of the SIA Specialist indicates that "[n]*o evidence is presented to support the assertion that any wind farm development overseas has resulted in any adverse impact on tourism*". This finding is not correct for wilderness tourism because evidence about wilderness tourism in Iceland (as opposed to general tourism) shows the following.

3.2.3.1 Visitors have reported satisfaction with "present settings and preferred to protect the area from development to ensure the provision of currently available recreational opportunities".

3.2.3.2 Surveys "indicate that one-third of the travellers would be less likely to visit the Southern Highlands if a proposed wind farm were built, and two-thirds think that wind turbines would decrease the area's attractiveness".18

17 See e.g. Anna Dóra Sæþórsdóttir, Rannveig Ólafsdóttir & Diane Smith (2018*) Turbulent times: tourists' attitudes towards wind turbines in the Southern Highlands in Iceland*, International Journal of Sustainable Energy, 37:9, 886-901, DOI: 10.1080/14786451.2017.1388236; and Anna Dóra Sæþórsdóttir, Rannveig Ólafsdóttir (2020) *Not in my back yard or not on my playground: Residents and tourists' attitudes towards wind turbines in Icelandic landscapes* February 2020 Energy for Sustainable Development 54:127-138 DOI: 10.1016/j.esd.2019.11.004.

18 Sæþórsdóttir et al 2018.

3.2.3.3 A more recent study reporting on a follow-up survey concludes that "[t]he results indicate that residents are more positive than tourists towards wind turbines and consider them less intrusive in the landscape".19

3.2.3.4 This Icelandic study also found that –

i) Wind turbines reduce the naturalness of a landscape and the quality of wilderness.

ii) Residents and tourists consider landscape without power plant infrastructure more beautiful.

iii) Tolerance level towards landscape change is higher among residents than tourists.

iv) Economic reasons are likely to influence residents' opinion on wind energy production.

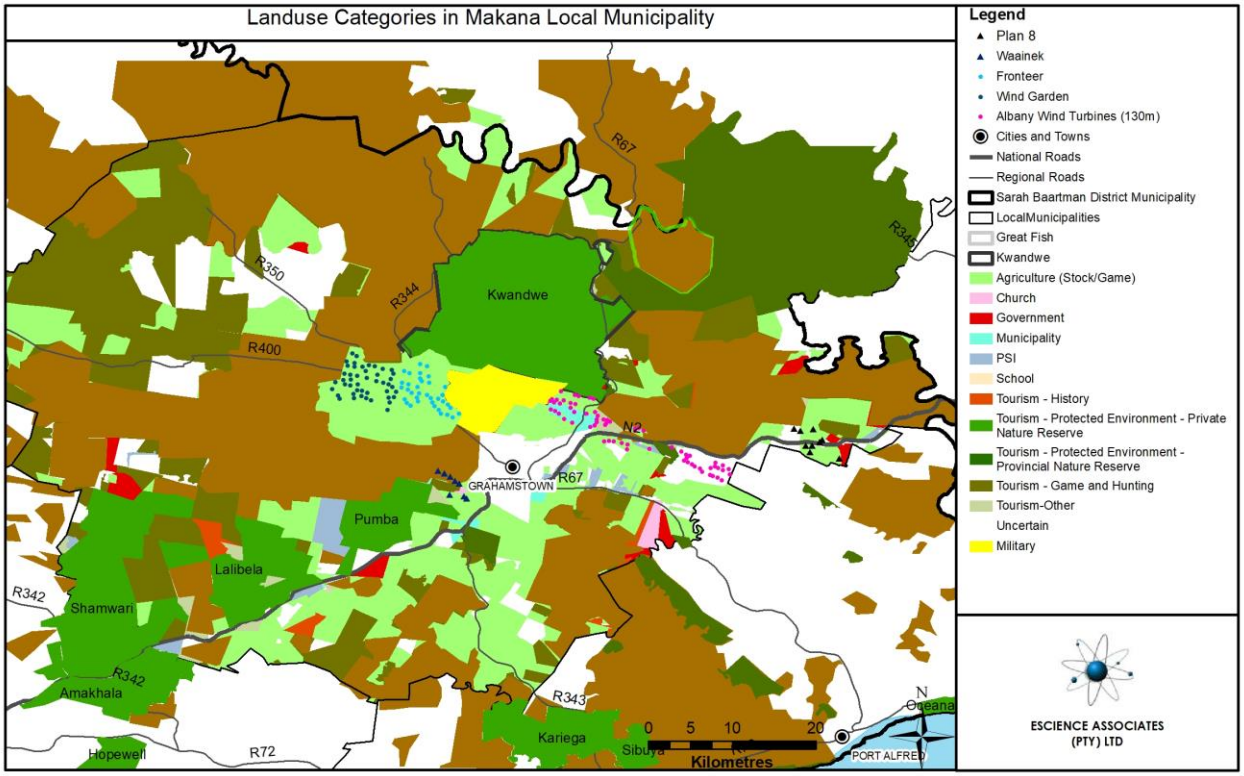
3.2.3.5 It is suggested that the SIA Specialist, the EAP and ultimately the DEFF, should rather draw parallels from Iceland which is a popular international wilderness tourism destination.

3.2.4 **Nature Tourism**: The SIA Specialist study fails to consider the extent of nature and wildlife based tourism:.

3.2.4.1 Nature and wildlife tourism of formally Protected Areas, Provincial as well as Private Protected Areas as well as game farms and hunting outfits rely on visual and scenic quality of the natural environment which is confirmed by the Tourism Grading Council of South Africa which emphasise the visual and scenic quality to be graded as five and four star "Game or Nature Lodges".

3.2.4.2 A land use map derived from the Makana Local Municipality property valuation roll in the SIA Specialist study of 2020 indicates that most of all parcels of land use in a radius of 5, 10 and 20 km are tourism related.

19 Sæþórsdóttir & Ólafsdóttir 2020.



3.2.5 **Indalo's Economic Impact Assessment:** Indalo has formed views on economic impact as follows:

3.2.5.1 The main economic concern of the Protected Areas and PGRs (as well as potential Protected Area expansion) is the potential devaluation of their tourism offering if wind energy facilities (or any other highly intrusive developments) are allowed to encroach on the Indalo Protected Area nature tourism and other environmental goods and service offerings.

3.2.5.2 Although nature and wildlife tourism services and products don't constitute the entire tourism product of the of Sundays River, Ndlambe and Makana Local Municipalities, it contributes the majority of tourism products and services (and a large part of this is from Protected Area environmental goods and services, principally from Addo, Indalo and Great Fish).

3.2.5.3 Degradation of the environmental goods and services upon which tourism is based would imply a certain "disinvestment" in the nature and wildlife sub-sector for the respective regions, the province and even on a national scale.

Accordingly, due consideration is to be afforded to the biodiversity stewardship that nature and wildlife tourism affords the national estate.

3.2.5.4 Although the WEF contribution to Gross Value Added is notably higher than that of the PGRs, the difference disappears when production taxes and subsidies are incorporated to derive the comprehensive (GDP) view on the economy.

3.2.5.5 WEFs have a low employment contingent and employ few skilled personnel. From an employment point of view, it would be distinctly better to promote PGRs than to deploy WEFs. Investment in PGRs would generate about three times as many employment opportunities than WEFs. The "disinvestment" argument is equally applicable, i.e. if PGRs should be devalued by the choice to deploy WEFs, it could lead to a significant reduction in net direct, indirect and induced employment in the region.

3.2.5.6 A compromise between PGR and WEF development (investment) could be a desirable solution. It might be opportune to consider the deployment of PV technology rather than wind energy facilities, as this has a lower impact on the wilderness character of the region. Alternatively, if the WEFs could be deployed sufficiently distant from nature and wildlife tourism-based operators, to avoid impacting the wilderness character and its tourism value and sterilising future protected area expansion. Combined land use, that does not imply a reduction in environmental goods and services (or quality of environmental goods and services), should ideally be pursued.

3.3 **AVIFAUNAL IMPACT ASSESSMENT**

3.3.1 Minimum requirements for avifaunal assessments

3.3.1.1 In terms of meeting the minimum requirements for avifaunal assessments which is deemed to be a requirement for providing adequate information for

making informed decision, the Avifaunal Assessments lacks the following key consideration:

a) Assessment of fatalities from surrounding WEFs in general and specifically not of the nearby Waainek Wind Energy Facility.
b) Conditions to which the statement of approval or disapproval are subject is not included.
c) We do not see adequate consideration of potential impact to soaring birds and specifically soaring modes in raptors especially along ridgel ines or where turbine wake effects will impact flight and hunt.
d) No reference was made to SANBI's Species Environmental Assessment Guidelines (2020), Perold et al. 2020 (which summarises the diversity of birds killed by turbine collisions in South Africa) and BirdLife South Africa's Guidelines on Black Harrier and Wind Energy. None of the scientific papers by Dr Murgatroyd, South Africa's leading expert on Verreaux's Eagle, despite the potential risk the proposed development poses to this species.
e) The predicted impacts are not contextualised through reference to the local or regional population size, background mortality, and/or population viability analysis. One cannot come to a defensible conclusion of the significance of the impact without this context.
f) Turbine layout alternatives were not considered as a mitigation measure to minimise avifaunal impacts.

3.3.1.2 The Best-Practice Guidelines for Assessing and Monitoring the Impact of Wind-Energy Facilities on Birds in Southern Africa (3rd ed, 2015) which have not been adhered to

a) The Best Practice Guidelines recommend increased survey effort in potentially sensitive environments. The Guidelines for Verreaux's Eagle recommended increased survey effort (i.e. 72 hours per vantage point) if there is a potential overlap with Verreauxs Eagle territories.. At most, vantage points were surveyed for 56 hours and often seemingly much less.
b) Only 1 year of pre-construction monitoring has taken place whereas the guideline for Verreauxs' Eagles indicates "If it is suspected that a proposed

wind farm may pose a significant risk to Verreauxs' Eagles, the duration of pre-construction monitoring should be extended to two years."

c) Unlike smaller raptors, which can readily use flapping flight, large raptors are mainly restricted to soaring flight due to energetic constraints. Whereas thermal soaring occurs in relatively flat areas which are likely to have good thermal uplift availability topography. The technique is called ridge lift or slope soaring. The areas targeted by the WEFs will present ideal conditions for raptors and other soaring along area of uplift where turbines will be located.

d) Detailed data on bird movements is required, or where movements occur at night or in conditions of poor visibility (e.g. fog) special remote sensing methods should be considered e.g. radar in combination with direct observations (wherever possible).

3.3.2 We note the collision risk modelling and modelling results, however like any modelling results are at best as good the input data, which in the case of the Wind Garden and Fronteer avifaunal impact assessment is questionable:

a) Inadequate vantage point data was utilised (Most vantage points were surveyed for 52 hours and semingluy in some instances less than this. The Guidelines for Verreaux's Eagle recommended increased survey effort (i.e. 72 hours per vantage point) if there is a potential overlap with Verreauxs Eagle territories.

b) Considering the number of Verreauxs Eagle nests in the larger area and the large area of land under formal protection a precautionary approach to avoidance should be adopted for the proposed layout of turbines and period should take place for a period of two years. These recommendations have not been implemented.

c) Avoidance rates and flight speeds for different species were used instead of drawing on data and knowledge of local species experts for the species actually at risk.

3.3.3 <u>Assessment of fatalities from surrounding Wind Energy facilities</u>

3.3.3.1 Understanding the cumulative effect of wind energy fatalities is vital when multiple sites are located in one area. Details of avifaunal impact monitoring and detailed reports on fatalities at existing WEFs is conspicuously absent from the avifaunal assessments. It is only indicated that "Available operational monitoring reports from these wind farms were obtained from BLSA and were reviewed. The Waainek WEF 12-month Post-construction avifaunal report (Sholto-Douglas et al. no date - 2018) was obtained and considered however no substantive information from the report is offered and neither is it clear how it was applied in the current assessment or in the cumulative assessment.

3.3.3.2 As it stands the cumulative impacts discuss the need for consideration of the overall impact but there is not any detailed investigation as to the current background cumulative effect in terms of fatalities per existing turbine from the operational facilities.

3.3.3.3 With respect to cumulative impacts the reports indicate that "*In conclusion, if all operational and proposed facilities are considered and all appropriate and effective mitigation as outlined by their respective specialists, and if all mitigation measures outlined in this report are implemented for the proposed Fronteer development, the cumulative impact after mitigation is likely to have a LOW significance.*" It is assumed that the existing neighbouring WEFs are implementing appropriate and effective mitigation measures rather than using these existing facilities as valuable sources of fatality data.

3.3.4 Peer review

3.3.5 A number of comments and recommendations in the peer reviews have not been addressed in the updated avifaunal reports. These reports should be updated to respond to the recommendations in detail.

3.3.6 The peer review highlighted a recent paper by Murgatroyd et al. 2021 which highlights that the previously recommended nest buffer (3 km) for Verreaux's Eagle nests is inadequate and suggests that a precautionary buffer of 5.2km would be more appropriate (in the absence of applying the Verreaux's Eagle Risk Assessment Model). This suggestion is seemingly ignored by the avifaunal assessments.

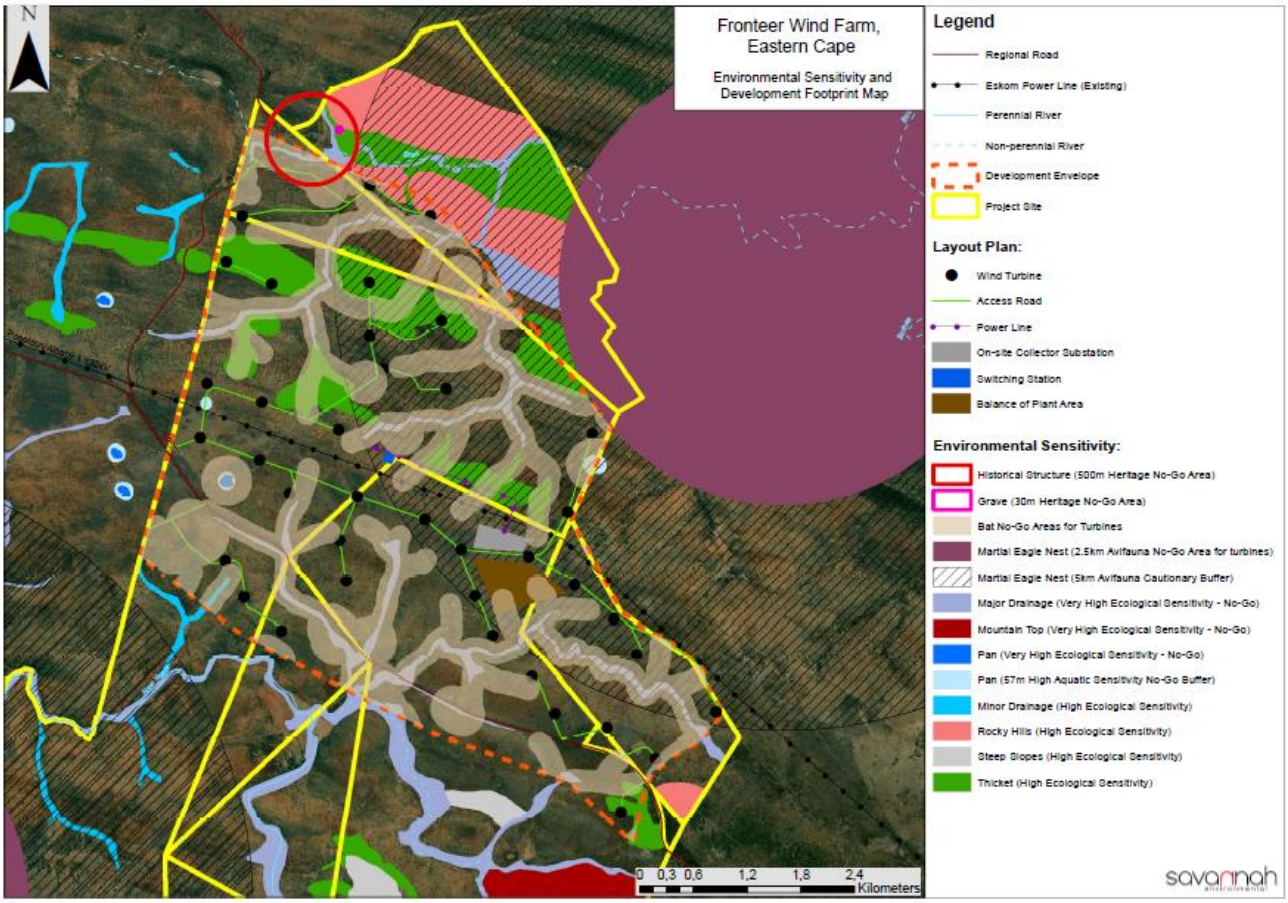
3.3.7 Buffer Zones

3.3.7.1 1 The Fronteer Avifauna Peer Review (23 Feb 2021) indicates –

It is noted that that the nest buffers proposed in the report are smaller than those currently recommended by most bird specialists in South Africa. Justification for these reductions should be more clearly motivated in the report referencing applicable baseline recommendations and applicable site-specific pre-construction monitoring data that demonstrates why 'standard' buffers are likely not required to reduce the probability of impacts associated with the proposed project. The justification should give appropriate consideration to the limitations of the study in terms of the duration and timing of the data collection (e.g. how drought conditions may influence the confidence in the reduction of buffer sizes).

While known Verreaux's Eagle and Martial Eagle nests are not specifically referred to in the Strategic Environmental Assessment (SEA) Cookhouse Focus Area 3 REDZ Focus Area, the National Web-based Screening Tool1 and other focus areas list areas within 3 km and 5 km of Verreaux's Eagle nests are considered to be of Very High Sensitivity and High Sensitivity respectively. Similarly the other focus areas consider a buffer of 5 km from active Martial Eagle nests to be of Very High Sensitivity. These zones correspond to the buffers regularly recommended by bird specialists in South Africa. While Verreaux's Eagle buffers do not seem to be of particular relevance to the Fronteer Wind Farm, a 5 km buffer around the Martial Eagle nest to the north-east of the proposed development includes a significant portion of the area under consideration for development. I therefore think it would be worthwhile to outline the reasoning behind not considering these buffers to represent the precautionary approach for the project area, particularly in light of the recent global up-listing of Martial Eagle to Endangered status by the International Union for Conservation of Nature (IUCN).

3.3.7.2 The map below shows the Martial eagle nest 2.5km buffer in purple and 5km buffer in hatch (17 turbines are proposed to be within the 5km buffer)



3.3.7.3 The avifaunal report (5 March 2021) indicates on pg 49 of 132:

In relation to buffer sizes, Martial Eagle flight density was strongly related to distance from the nest, with the highest densities recorded within 500m and a steady decline in flight density up to 2.5km from the nest. Beyond 2.5km flight density was consistently lower. This provides strong evidence to support a 2.5km turbine exclusion zone around Martial Eagle nests, as flight activity is clearly considerably higher within that zone. Any exclusion of turbines beyond 2.5km would be of much less benefit in reducing collision risk.

3.3.8 And on page 92 of 132:

Martial Eagle flight density was strongly related to distance from the nest, with the highest densities recorded within 500m and a steady decline in flight density up to 2.5km from the nest in the Choje West block (Figure 1). Beyond 2.5km flight density was consistently lower. This provides strong evidence to support the initial suggestion of a 2.5km turbine exclusion zone around Martial Eagle nests, as flight activity is clearly considerably higher within that zone. Any exclusion of turbines beyond 2.5km would

be of much less benefit in reducing collision risk. A similar result was found for the Choje East Block (Figure 2), though with higher flight activity within 1.5km of the nest.

3.3.9 It is unclear from the available information whether (according to the peer reviewer) the explanation for the proposed 2.5km buffer instead of a 5km buffer is adequate or not. The proposed buffers for Martial Eagle nests are significantly less than recommended in most other impact assessments (i.e. 5-6 km). Van Eeden et al. (2017) 's research tracking Martial Eagles in the Kruger indicated a 50% Kernel Density with an average of 16.5km^2 - which would suggest a buffer with a radius of 2.9 km from a nest would be necessary to avoid just the core territory. Martial Eagle territories are likely to be much larger in the area of the proposed development.

3.3.10 The proposed reduction of the buffer distance from the 5km "regularly recommended by bird specialists in South Africa" to 2.5km based on the reasoning that flight density is lower further away from the nesting site is not in keeping with the NEMA precautionary principle. The proximity of the proposed development sites to protected areas and the overlap with Critical Biodiversity Areas suggest that a precautionary approach must be adopted

3.4 **NOISE IMPACT ASSESSMENT**

3.4.1 The reports indicates that the capacity of the Wind Garden installation will be 264 MW and that there will be 47 wind turbines, whereas the Fronteer installation 213MW with 38 turbines. This implies that each turbine is rated at 5,6 MW at both facilities. The noise impact assessment by Enviro-Acoustic Research CC uses the data for a Vestas V150-4.2 WTG at a height of 120 m. This is a 4.2 MW turbine.

3.4.2 It is not known why a 4.2 MW turbine is used for the noise impact assessment by Enviro-Acoustic Research CC since it makes less noise than a 5.63 MW turbine. The Vestas V150-4.2 WTG 4.2 MW turbine has a sound power of 105 dBA while a 5.63 MW turbine has a sound power of at least 107 dBA potentially more. Due to the logarithmic nature of the decibel scale this is a 30 % increase in loudness. To use

a turbine with lower power and lower noise than the proposed turbine is not scientifically defensible and misleading.

3.4.3 The report cites many regulations and standards but fails to note that the project area for the location of the Wind Garden Wind Energy Farm (WEF) is specifically regulated by Noise control in the Eastern Cape Province is in the first place regulated by the Noise Control Regulations, 1992 (GN R.154 of 1992) published in terms of section 25 of the Environmental Conservation Act, No. 73 of 1989 (ECA) ans must comply with the requirements of the ECA Noise Control Regulations and technical standards of the SANS such as SANS 10103:2008 for the measurement and rating of environmental noise with respect to annoyance. (SANS 10103 prescribes other SANS standards for its application.).

3.4.4 The NIA reports ignores impacts on other sensitive environmental receptors. The report fails to mention that the turbine placement area is located bordering on formal protected areas with elephants, rhino and other wildlife that will be impacted by noise as well as game farms that rely on wildlife yet the impact of noise on fauna is not considered.

3.4.5 The Wind Garden NIA report records residual / ambient noise measurements at five locations. There are however twenty three noise sensitive receptors / locations (as stated in the report) and thus for eighteen of them these is no measurement record of existing conditions. The Fronteer NIA report similarly does not measure residual / ambient noise at all relevant sensitive receptors / locations.

3.4.6 No residual / ambient noise measurements were taken within the proposed WEF area. It is impossible to evaluate turbine noise effect on residual / ambient noise levels if none are known.

3.4.7 Technical deficiencies with the Wind Garden NIA relating to ECA Noise Control Regulations and SANS 10103: The measurement and rating of environmental noise with respect to annoyance and to speech communication:

3.4.7.1 To determine existing noise levels with just five measurements in a ~650 Hectare is not in accordance with section 5 of SANS 10103. Conformance with SANS 10103 is required by the ECA Noise Control Regulations. To only measure residual / ambient levels domestic dwellings and to extrapolate these to be residual / ambient levels for a 600 hectare area is clearly incorrect.

3.4.7.2 In SANS 10103:2008 the standard specifically states that "*At each measuring point, the microphone should be placed at a height of between 1,2 m and 1,5 m for general investigations, and, if practicable, at least 3,5 m away from walls, buildings and other large flat vertical surfaces.*" It is clear that from photographs B3 and B4 of the report that the microphones are less than 3,5 m from "walls, buildings and other large flat vertical surfaces" and consequently these measurements are not valid and the NIA

3.4.8 It is noted that in Wind Garden NIA Table 4-1 of the report it is indicated that a Svantek sound level meter was fitted with the RION WS-03 outdoor all-weather windshield. The Svantek calibration laboratory in Poland states that the readings of the Svan 977 meter with a Rion weather shield could not be guaranteed as accurate and should not be used. Thus the readings of existing noise levels must be repeated as the measurements taken are not according to equipment supplier specification. The Fronteer NIA report reports similarly defective measurements.

3.4.9 With respect to the calculation of noise impact using ISO 9613 we refer to Health Canada's Community Noise and Health Study (2014) as undertaken by MG Acoustics with the objective of informing health impact of wind energy noise and published by Keith et al 201620 and Keith et al 201821. The limitations of ISO 9613-2 are set out in both publications and Keith et al 2016 confirms the requirement

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[20] Keith, S. E., Feder, K., Voicescu, S. A., Soukhovtsev, V., Denning, A., Tsang, J., Broner, N., Leroux, T., Richarz, W., and van den Berg, F. (2016). "Wind turbine sound pressure level calculations at dwellings,"

J. Acoust. Soc. Am. 139(3), 1436–1442.

https://asa.scitation.org/doi/10.1121/1.4942404#_i2

[21] S.E. Keith, G.A. Daigle, M.R. Stinson. Wind turbine low frequency and infrasound propagation and sound pressure level calculations at dwellings. J Acoust Soc Am, 144 (2018), pp. 981-996, 10.1121/1.5051331.

https://asa.scitation.org/doi/10.1121/1.5051331

for more advanced modelling calculations "for large distances, when there are large numbers of wind turbines, or when investigating specific meteorological classes" which are all applicable in the case of Wind Garden and Fronteer. The use of ISO 9613 is not adequate for the assessment of noise impact in complex terrain and areas with regular inversions in close proximity to sensitive receptors including protected areas.

3.4.10 The report fails to mention that the turbines are located on the border of a number of protected areas, private game reserves and game farms and no map is provided to indicate the sources of noise, noise levels relative to protected areas, game reserves and game farms and reports fails to protected area goods and services and impact to tourism product of reserves, game farms and hunting lodges as result of noise impact.

3.4.11 The reports generally lack of a description of the methodology used in determining the turbine noise (fails to specify project turbine / adopts a smaller turbine but do not provide and noise profile), indicates use of ISO 9613 but does not show any details of calculations for verification and does not meet basic scientific principles of reproducibility. Also the report thus do not meet the NEMA EIA Regulations 385 Regulation 33 stipulating the need for "a description of the methodology adopted in preparing the report or carrying out the specialised process".

3.5 LACK OF FAUNAL NOISE ASSESSMENT

3.5.1 The Ecological assessment and Noise impact assessment does not consider faunal noise impact.

3.5.2 We herewith a review of key consideration of noise impact to fauna with particular relevance to protected area and game farm operation and wellbeing of fauna with specific reference to key species.

3.5.3 Noise as Agent of Habitat Degradation

3.5.3.1 Noise can be an unseen source of habitat degradation (Ware et al., 2015) and can impact fauna in a number of ways, including but not limited to, physiological responses (Vijayakrishnan et al., 2018), behavioural and distributional changes (Kight and Swaddle, 2011; Ware et al., 2015), reproductive and developmental disruptions (Møller and Swaddle 1997; Francis et al., 2011; Kight and Swaddle, 2011), changing trophic interactions (Villalobos-Jiménez et al., 2017), and lowered fitness (Schroeder et al., 2012) .

3.5.3.2 Table 2: A summary of the different effects noise can have on animals and their mechanisms of action (adapted from Sordello et al. 2020).

Table 1: A summary of the different effects noise can have on animals and their mechanisms of action (adapted from Sordello et al. 2020).

Effects of noise on animals	**Possible Result**
Physiology	Increased heart rate and stress levels, lowered body condition and fitness.
Communication	Locational changes, increased/decreased predation levels, group separation, reduced mate attraction, loss of offspring.
Reproduction	Lowered egg production and hatching success, decreased incubation, nest/offspring abandonment, lowered mate attraction.
Development	Delayed hatching, increased mortality, slower maturation.
Distribution	Avoidance of certain areas, change in habitat use and territories/home ranges, inability to defend territories.
Foraging	Less time spent foraging, weight loss and lowered body condition, premature death, lowered hunting success, increased predation rate.
Ecological services	Altered pollination levels, decreased seed dispersal and recruitment.

3.5.4 Low Frequency Sound

3.5.4.1 Many species can detect noises at frequencies beyond the limitations of human ears: either infrasonic: sounds below human hearing, or ultrasonic: sounds at frequencies above human hearing (Kight and Swaddle, 2011).

3.5.4.2 However, there are few studies investigating the impacts of low frequency and infrasound on terrestrial animal behaviour or communication even though

various species including elephants (Loxodonta africana), hippopotamuses (Hippopotamus amphibius), rhinoceros (various species), and giraffe (Giraffa camelopardalis), have been demonstrated to produce calls with infrasonic components (Ioan and Ursu, 2012; Bergren et al., 2019).

3.5.5 Elephant Communication

3.5.5.1 With respect to elephant hearing Heffner and Heffner (1982) tested and found the Asian elephant (Elephas maximus) to have an audibility curve similar to that of other mammals but one that is more sensitive to low frequencies and less sensitive to high frequencies. The study shows a threshold at 16 Hz of 65 dB, at 17 Hz a threshold of 60 dB and at 63 Hz a threshold of 40 dB sound pressure level (Heffner and Heffner, 1982).

3.5.5.2 It is worth noting that the African elephant (*Loxodonta Africana*) has large, mobile ears (pinnae), and the ears as well as the standing height of an African elephant are much larger than those of the Asian elephant (shoulder heigh ranges 3-4m vs 2-3.5m). Although it is not yet possible to calculate the theoretical audible limit for elephants, since some of the basic measurements (e.g., auditory thresholds and masking functions in the African elephant) are unknown (Langbauer et al. 1991), the larger ears and generally bigger anatomy of the African elephant will allow more sound of low frequency to be collected. Thus, it may be postulated that African elephant hearing may be more acute than that of the Asian elephant.

3.5.6 Elephant hearing

3.5.6.1 As the elephant has an audibility curve similar to that of other mammals (but one that is more sensitive to low frequencies) and the dynamic range of mammalian auditory systems typically decreases with decreasing frequency, it is likely that like humans, elephants will have a compression in the equal-loudness-level contours. This implies that a slight increase in noise level can change the perceived loudness from barely audible to loud noise at lower frequencies in range of hearing (Moller and Pederson 2004).

3.5.6.2 Any intrusion of low frequency noise at levels above hearing threshold would impact elephants and potentially significantly so as even seemingly small

increases in sound pressure at further elevated levels will not only interfere with communication but may very well be disturbing and a source of irritation.

3.5.7 Distance of Communication

3.5.7.1 Langbauer et al. (1991) found in their study that these low frequency contact calls produced under inversion conditions can travel much further than originally assumed and elephants are likely able to communicate over distances of up to 10km and more, farther than during the more common atmospheric conditions (Larom et al., 1997).

3.5.8 Other Species of General Interest

Lion have been shown to have a fundamental call frequency around 200Hz (Pfefferle et al., 2007), but there is no research as of yet showing that their calls extend into the infrasonic range.

3.5.8.1 With regards to Cape buffalo, , there have not been any studies conducted on their vocalisations. However, extensive research has been done on cows (*Bos taurus*) vocalizations which may be applicable to buffalo. Cows have been shown to have contact calls with known individuals at low frequencies of around 80Hz (de la Torre et al., 2015), and frequencies as low as 40Hz have been reported (Green et al., 2020).

3.5.9 Faunal Noise Impact Conclusions

3.5.9.1 In summary it can be said that exposure to noise, and especially chronic exposure, can cause a wide variety of negative consequences for wildlife, from physiological responses like increased stress levels (leading to decreased immune response, reproductive output and fitness and lowered cardiovascular health) and potential impact on development, to behavioural responses (like impaired vocal communication, directly impacting social systems and changed movement and activity patterns) and long term effects on demography.

3.5.9.2 While the transition to sustainable energy sources in general, including wind energy, is an appreciable development, thorough considerations about likely and possible impact on ecosystems and wildlife need to be made,

nonetheless. The low frequency noise caused by wind turbines is mostly not within human hearing range, but well within the hearing range of mammals like the African elephant and likely other large mammals, such as both species of rhino.

4. COMMENTS OF ENVIRONMENTAL IMPACT REPORT (EIR)

4.1 GENERAL

4.1.1 The separation of the projects into two EIAs / VIAs/ SIAs etc is used to dilute the impact down to the impact of each project on its own. DFFE should require that this should be assessed as one combined EIA albeit two separate applications.

4.2 NEED AND DESIRABILITY

4.2.1 Both BARs indicate that the "*The project is also envisaged to have a positive stimulus on the local economy and employment creation, leading to the economy's diversification and a small reduction in the unemployment rate. The project should therefore be considered for development. It should, however, be acknowledged that the negative impacts would be largely borne by the nearby farms and households residing on them, whilst the positive impacts will be largely concentrated in the local and national economies.*"

4.2.2 This positive stimulus on the local economy and development through direct and indirect employment could be achieved more effectively through deploying the Wind Farms in a location that would avoid the significant impact to wilderness character and its tourism value as demonstrated in this submission.

4.2.3 Appendix 1 (3) (1) (f) of the EIA Regulations indicates that a Basic Assessment report must contain "*a motivation for the need and desirability for the proposed development <u>including the need and desirability of the activity in the context of the preferred location.</u>*" [Our emphasis.]

4.2.4 Although the BARs provide motivations for the need and desirability of the project. The listed desirable aspects can all be equally achieved through deployment of the Wind Farms in an alternative location with suitable wind resources within the province, or even beyond the province.

4.2.5 In terms of the desirability of the WEFs in the context of the preferred locations the BARs indicate that "*the proposed wind farm does not conflict with the current land use of the project site (i.e. the affected properties).*" We strongly disagree with this statement. Wind Energy Facilities and Wildlife Tourism are conflicting land uses that should be mutually exclusive from one another.

4.2.6 The reports, under section 6.6 acknowledge that "*Due to the absence of crop production, the larger part of the study area is still in a natural state. There are a number of protected areas in the region. Besides the formally protected areas, there are also a number of informal private protected areas and game farms surrounding the project site. The nature reserves and game farms are tourist attractions that operate commercial lodges and game viewing activities or hunting and other associated outdoor activities.*" However, no comment is made on the desirability (or lack of desirability) of a WEF in such an area surrounded by a number of protected areas.

4.3 **REVIEW OF ALTERNATIVES**

4.3.1 <u>EIA Regulations</u>

4.3.1.1 Appendix 1, Item 2 (e) of the EIA Regulations indicate that he objective of the basic assessment process is to "*through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—*

(i) identify and motivate a preferred site, activity and technology alternative;"

4.3.1.2 Regulation 1 of the EIA Regulations also specifies that "*alternatives" refer to the –*

i) "*property on which or location where the activity is proposed to be undertaken;*

ii) *type of activity to be undertaken;*

iii) *design or layout of the activity;*

iv) *technology to be used in the activity; or*

v) *operational aspects of the activity,*

and includes the option of not implementing the activity." [Own emphasis]

4.3.1.3 Appendix 1, Item 3(1)(h)(x) of the EIA Regulations further stipulate that "if no alternatives, including alternative locations for the activity were investigated," the BAR, must provide "the motivation for not considering such."

4.3.2 Site and Location Alternatives

4.3.2.1 The reasons provided in the BARs for not assessing alternative site locations for the Wind Farm other than the proposed Location , are as follows:

"*The Wind Garden Wind Farm project site is planned for the area between Makhanda (Grahamstown) and Somerset East. This area falls within the Cookhouse REDZ and the Eastern Strategic Transmission Corridor. The area was designated as a REDZ and Strategic Transmission Corridor by virtue of the favourable wind resource and existing and planned grid connection infrastructure. As a result, Wind Garden (Pty) Ltd identified this area as a suitable area for the development of a commercial wind farm with the main aim to supply the electricity generated to private off-takers who have a need to shift towards cleaner and more sustainable sources of energy.*"

4.3.3 The BAR then further comments about this decision:

"*Environmental Screening and consideration of sensitive environmental features – Following the confirmation of the Wind Garden Wind Farm preferred project site as being technically feasible for the development of a wind farm, the developer commenced with the environmental screening of the site, and assess the main constraints and opportunities and determine whether or not there were any potential fatal flaws or significant no-go areas that might*

compromise or limit the development of the Wind Garden Wind Farm and the potential for generating 264MW

…

"Based on the above considerations, the Wind Garden Wind Farm project site was identified by the developer as being the most technically feasible and viable project site within the broader area for further investigation in support of an application for authorisation. No feasible alternative sites were identified for assessment as part of this BA process"

4.3.4 The above explanation shows that a site was selected prior to environmental screening and no alternative site locations were investigated from an environmental perspective. This is not in line with the requirements of the EIA Regulations and must be rejected by the DFFE. The explanation does not provide a coherent, well-reasoned and rational motivation with supporting evidence to proof that no suitable alternative locations elsewhere in the Eastern Cape or in South Africa exist where wind energy may be generated without the same significant environmental impact. No evidence was provided in the BAR of a detailed site selection process in which the EAP ranked the preferred and alternative sites with reference to the cumulative impacts based on the geographical, physical, biological, social, economic, and cultural aspects of the environment as required by the EIA Regulations.

4.3.5 The statement: "The properties included in the project site are privately-owned parcels available in the area for a development of this nature through agreement with the landowners and are deemed technically feasible by the project developer for such development to take place" is problematic. It appears to indicate that the Applicant has already secured preferential rights to the land for the location. The legal nature of these agreements with landowners were not disclosed but it matters not as this is not a valid ground for failure to perform a proper investigation to alternative sites.

4.3.6 Although it is important that the applicant has secured the support of the landowners for the selected locations (as it must and which is also the case for any other alternative locations), their approval does not place any legal

obligation on the DFFE to accept the locations. The competent authority cannot be expected to rubber stamp the locations regardless of the result of the EIA and notwithstanding the significant environmental impact of the development from that location, because the BAR presents it with a *fait accompli*. This would clearly be unlawful and an automatic ground for the rejection of the application. The Applicant knows that it carries the risk during the application and that environmental authorisation is subject to the discretion of the DFFE based on the results of the EIA process.

4.3.7 Reasons of convenience for the Applicant (which are subjective) not to have performed the prescribed alternative location assessment should not be confused with objective substantive grounds that would in exceptional cases justify the absence of location alternatives e.g. the location of the ore body for a mining application. The proposed WEF applications are not such a case.

4.3.8 The lack of a proper investigation about alternative site locations in accordance with the prescribed requirements of the EIA Regulations is a material mistake in the BARs and cannot be lawfully condoned by the DFFE. Also, the Applicant's noncompliance with the peremptory requirements of the EIA Regulations to investigate during the BA processes and report in the prescribed manner in on alternative site locations for the projects means the BAR is incomplete and forms further ground for the DFFE to reject the application.

4.4 **CUMULATIVE IMPACTS**

4.4.1 The VIAs refer at various instances to the cumulative impacts e.g. from the VIA as follows:

4.4.2 "The cumulative visual impact of the proposed Fronteer, Waainek, Wind Garden and Albany WEFs will primarily occur on the plateau, but may also occur further north along the south facing slopes of the Fish River Rand.

> *The cumulative visual impact is expected to be high, depending on the observer's sensitivity to wind turbine structures. This impact is relevant in*

spite of the fact that the wind farms are located in the Cookhouse REDZ" [Own emphasis.]

4.4.3 The VIAs and BARs, failed to also asses WEFs further away at Dassenridge and Cookhouse and consider the cumulative direct and indirect effect of all five these Facilities on wildlife and nature-based tourism of the planned Mega Protected Area (Addo - Great Fish Corridor (Albany Corridor)) due to the Wind Farms' significant degradation of the aesthetic character and sense of place.

4.4.4 Based on the specialist VIA these direct cumulative impacts are considered as high significance with no mitigation possible. The EAP confirms this in his/her summary in section 12.2.11:

> *"Based on the specialist cumulative assessment and findings, the development of the Fronteer Wind Farm and its contribution to the overall impact of all wind energy facilities to be developed within a 30km radius, it can be concluded that the Fronteer Wind Farm cumulative impacts will be of a medium to low significance, with impacts of a high significance mainly relating to positive socio-economic impacts and visual impacts on the landscape."* [Own emphasis.]

4.4.5 The EAP then contradicts him/herself in concluding that "Therefore, the development of the Fronteer Wind Farm will not result in unacceptable, high cumulative impacts and will not result in a whole-scale change of the environment". This is a clear disregard for the findings of the VIA specialist and should be rejected by DFFE.

4.5 CONSIDERATION OF GUIDELINES IN EIA

4.5.1 No formally adopted Guidelines for Environmental Impact Assessment exist in South Africa other than *Best-Practice Guidelines for Assessing and Monitoring the Impact of Wind Energy Facilities on Birds in Southern Africa* (3rd Edition, 2015) and the DFFE *Minimum Requirements for Avifaunal Impact Assessment*.

4.5.2 The World Bank Group "*Environmental, Health and Safety Guidelines for Wind Energy*" (August 2015) provide a useful guideline for the application of "Good International Industry Practice" –

a) is required to be applied by any member of the World Bank Group including the International Finance Corporation (IFC); and

b) the IFC further prescribes standards of environmental assessment and management to which many financiers (including numerous South African funds of renewable energy subscribe in the form of the IFC standards) who are involved in such a project.

4.5.3 <u>World Bank Group Environmental, Health and Safety (EHS) Guidelines</u>

a) World Bank Group Environmental , Health and Safety (EHS) Guidelines indicate that where any host country regulations differ from the levels and measures presented in the World Bank Group (WBG) Guidelines then the projects are expected to conform to the whichever are the most stringent.

b) Since apart from Avifaunal Assessment no formally adopted Guidelines for wind farm site selection exist in South Africa and numerous of South African renewable energy project funders (e.g Nedbank and RMB) apply IFC standards it is expected that these World Bank Group Guidelines would be appropriate to apply in the EIA.

c) The WBG Guidelines repeat the need to consider the choice of site carefully from the earliest stage of planning. "*The general approach to the management of EHS issues should consider potential impacts as early as possible in the project cycle, <u>including the incorporation of EHS considerations into the site selection</u>, in order to maximize the range of options available to <u>avoid and minimize potential adverse impacts</u>. Importantly, <u>many EHS impacts associated with wind energy facilities may be avoided by careful site selection</u>.*" (Own Emphasis).

d) WBG Wind Energy Guidelines Section 1.1.1, "*Landscapes, Seascapes and Visual Impacts*", the Guidelines advise that potential impacts –

i) Note 12 "*on Legally Protected and Internationally Recognised Areas of Importance to biodiversity and cultural heritage features are also a consideration.*" Accordingly it would have been expected that the Proponent of the WEFs at the hand of the EIA process would have considered the impact of the WEFs on Protected Areas and Provincial Nature Reserves Legally Protected and Internationally Recognised Areas of Importance to biodiversity and cultural heritage and failing consideration of which would not be in line with NEMPAA.

ii) Note 13 *it is advocated* that "*…avoidance and minimization measures to address landscape…and visual impacts are largely associated with the siting and layout of wind turbines and associated infrastructure…*". Given that the siting of the turbines on the ridge line overlooking Protected Areas and the Provincial Reserve are intrusive on sensitive landscape that form the basis for wildlife and nature tourism within avoidance of impact through avoidance of turbine placement i.e. the no-go option can be considered both on a per turbine as well as per development basis.

e) WBG Wind Energy Guidelines Section 1.1.3 Biodiversity indicate –

i) Note 25 indicates: "*Site selection is critical to avoiding and minimizing potential adverse impacts on biodiversity. Site selection should include the following:*

- *Consideration of the proximity of the proposed wind energy facility to sites of high biodiversity value in the region. Early screening can improve macro-level project site selection and the scoping of priorities for further assessment, thus reducing unnecessary biodiversity impacts and costs in the future. Sites of local, regional, and international importance may include national and*

international protected areas (including marine protected areas), Important Bird Areas (IBA), Key Biodiversity Areas (KBAs).

- *Consultation with relevant national and/or international conservation organizations also helps to inform site selection for both onshore and offshore facilities.*"

ii) It is patently clear that Protected Areas and Provincial Reserves are affected and the relevant local, provincial and national conservation organizations (Indalo, ECPTA and SANParks) have not been consulted to help to inform site selection.

4.5.4 International Finance Group Guidelines

a) The International Finance Group (IFC) is a member of the World Bank Group which has established a set of "*Performance Standards*" (January 2012) under its Sustainability Framework. The Sustainability Framework articulates IFC's strategic commitment to sustainable development (ref: https://www.ifc.org/wps/).

i) Standard 6 Guidance Note GN27: *In practice, natural and modified habitats exist on a continuum that ranges from largely untouched, pristine natural habitats to intensively managed, modified habitats. Project sites will often be located among a mosaic of habitats with varying levels of anthropogenic and/or natural disturbance. Clients are responsible for delineating the project site as best as possible in terms of modified and natural habitat… Is the project site (or parts of it) an isolated area of natural habitat within a heavily disturbed or managed landscape? Is the project site located near areas of high biodiversity value (for example, wildlife refuges, corridors, or protected areas)? Or, is the project site located in a mosaic of modified and natural habitats that contain biodiversity values of varying importance to conservation?*

ii) The WEF project sites are located near areas of high biodiversity value and is located within mosaic of modified and natural habitats that contain biodiversity values of varying importance forming corridors between protected areas (Buffalo Kloof Protected Environment/Waters Meeting Nature Reserve, Blaauwkrantz Nature Reserve, Kwandwe Protected Environment and Great Fish Nature Reserve).

iii) An evaluation of the adherence to IFC Performance Standard 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources is contained in Appendix: A

5. **CONCLUSION**

5.1 The Indalo Protected PGR Association as custodian of the Indalo Protected Environment herewith provides preliminary comment and places on record that the EIR and specialist studies are deficient to the extent that these inadequacies are covering up fatal flaws in the application, if these material deficiencies were to be addressed it would become clear that the development would obstruct the development of the Albany Mega-Reserve, degrade the scenic value of the area and devalue its unique nature and wilderness tourism product and substantially impact on biodiversity which Indalo is obligated to protect. Accordingly, Indalo is categorically in favour of the outright refusal of the WEFs based upon the grounds set out in this comment on BAR.

5.2 In other words, Indalo favours the ultimate, most effective mitigation measure for the WEFs and the fatal flaws that they hold in terms of impact to the Indalo Protected Areas neighbouring game farms and their potential for expansion and integration into the larger Albany Mega-Reserve, is by avoiding the WEFs through their outright refusal.