SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (PROBABILITY/ LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	REVERSABILITY/ MITIGATION	SIGNIFICANCE POST-MITIGATION
PLANNING & DESIGN PHASE										
It is important to note that specialist planning and design phase impacts were not expected since the developer designed the layout presented in both the Scoping and EIR based on sensitivity data and constraints provided by the various specialists. The planning and design impacts were therefore mitigated at Scoping Phase.										
AGRICULTURE IMPACT ASSESSMENT										
None identified by specialist										
AVIFAUNAL IMPACT ASSESSMENT										
None identified by specialist										
BAT IMPACT ASSESSMENT										
None identified by specialist										
ECOLOGICAL IMPACT ASSESSMENT										
None identified by specialist										
HERITAGE IMPACT ASSESSMENT										
None identified by specialist										
NOISE IMPACT ASSESSMENT										
None identified by specialist										
PALAENTOLOGICAL IMPACT ASSESSMENT										
None identified by specialist										
SOCIAL IMPACT ASSESSMENT										
None identified by specialist										
TRAFFIC IMPACT ASSESSMENT										
None identified by specialist										
VISUAL IMPACT ASSESSMENT										
None identified by specialist										
CONSTRUCTION PHASE										
AGRICULTURE IMPACT ASSESSMENT										
LOSS OF HIGH POTENTIAL AGRICULTURAL LAND	Sustainable land use and protection of agricultural resources is a core functions of the Department of Agriculture. This has led to promulgation of various pieces of legislation to guide agricultural development. The more important are the following: • Conservation of Agricultural Resources Act No 43 of 1983; • Preservation and Development of Agricultural Land Framework Bill, 2014; • National Policy on the Preservation of High Potential and Unique Agricultural Land, June 2006; • Land use Management Bill, 2008; This impact is assessed with this in mind. • There is no high potential or unique land or land that is irrigated on or in proximity of available surface water. • No cultivated land will be lost • Approximately 55 ha of low potential land will be permanently lost.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**UNLIKELY**	**NONE**	**NONE**	• *No mitigation required.*	*N/A*	**NONE**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
LOSS OF CULTIVATED LAND		**DIRECT**	**STUDY AREA**	**SHORT TERM**	**UNLIKELY**	**NONE**	**NONE**	• *No mitigation required.*	*N/A*	**NONE**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
LOSS OF GRAZING LAND	Sustainable land use and protection of agricultural resources is a core functions of the Department of Agriculture. This has led to promulgation of various pieces of legislation to guide agricultural development. The more important are the following: • Conservation of Agricultural Resources Act No 43 of 1983;	**DIRECT**	**LOCALISED**	**PERMANENT**	**DEFINITE**	**SLIGHT**	**LOW -**	• *Compensate farmers for what is lost.* • *Keep the construction period as short as possible.* • *Employ dust-supressing practices to protect adjoining grazing land.*	*EASY*	**LOW -**

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	⅄ Preservation and Development of Agricultural Land Framework Bill, 2014; ⅄ National Policy on the Preservation of High Potential and Unique Agricultural Land, June 2006; ⅄ Land use Management Bill, 2008; This impact is assessed with this in mind. ⅄ The loss of grazing land is temporary and will be for one or two rainy season. The land will remain as grazing after construction. The construction footprint is the only area is permanently lost.	**CUMULATIVE**	**LOCALISED**	**PERMANENT**	**DEFINITE**	**SLIGHT**	**LOW -**		*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							
LOSS OF AGRICULTURAL PRODUCTION (YIELD AND INCOME)	Sustainable land use and protection of agricultural resources is a core functions of the Department of Agriculture. This has led to promulgation of various pieces of legislation to guide agricultural development. The more important are the following: ⅄ Conservation of Agricultural Resources Act No 43 of 1983; ⅄ Preservation and Development of Agricultural Land Framework Bill, 2014; ⅄ National Policy on the Preservation of High Potential and Unique Agricultural Land, June 2006; ⅄ Land use Management Bill, 2008; This impact is assessed with this in mind. ⅄ The loss of grazing is the only impact that translates to income loss.	**DIRECT**	**LOCALISED**	**PERMANENT**	**DEFINITE**	**SLIGHT**	**LOW -**	⅄ *Compensate farmers for what is lost (turbine rental income).* ⅄ *Keep the construction period as short as possible.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**PERMANENT**	**DEFINITE**	**SLIGHT**	**LOW -**		*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							
LOSS OF AGRICULTURAL RESOURCES	Sustainable land use and protection of agricultural resources is a core functions of the Department of Agriculture. This has led to promulgation of various pieces of legislation to guide agricultural development. The more important are the following: ⅄ Conservation of Agricultural Resources Act No 43 of 1983; ⅄ Preservation and Development of Agricultural Land Framework Bill, 2014; ⅄ National Policy on the Preservation of High Potential and Unique Agricultural Land, June 2006; ⅄ Land use Management Bill, 2008; This impact is assessed with this in mind. ⅄ The loss of resources relates to soil due to erosion and water that can be used for farming purposes.	**DIRECT**	**LOCALISED**	**TEMPORARY**	**UNLIKELY**	**SLIGHT**	**LOW -**	⅄ *Replace topsoil during rehabilitation and ensure that the soil is well fertilised and rolled.* ⅄ *Sow seed of local plants that is adapted to the climate.* ⅄ *Irrigate the soil to ensure germination and establishment of the seed occurs.* ⅄ *Remove all alien plants and weeds until the natural plants are well established.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**TEMPORARY**	**UNLIKELY**	**SLIGHT**	**LOW -**		*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							
INCREASE IN STOCK THEFT & POACHING	The increase in individuals accessing the affected properties for the Albany WEF development during the operational phase could lead to the increase in stock theft and poaching, which is already an issue in the area. Stock theft and wildlife poaching are ongoing issues in the Eastern Cape. The risk/likelihood of stock theft and poaching could likely increase during construction due to the increase in activity.	**INDIRECT**	**LOCALISED**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**LOW -**	⅄ *No unauthorised individuals must be allowed to access the site without permission from the landowners and/or the developers. Theft and vandalism can be reduced by providing additional security to farmers where necessary.* ⅄ *The construction period is for a short period. Discuss the possible restriction of access to farm housing or farming infrastructure like watering facilities, boreholes, etc. with the farmers and come up with solutions.* ⅄ *Maintenance workers must not handle or remove any livestock or wildlife from the site or the surrounding properties.* ⅄ *Police must be notified if any illegal actions take place.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							

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AVIFAUNAL IMPACT ASSESSMENT										
DESTRUCTION OF BIRD HABITAT	Construction of the facility will result in a certain amount of destruction and removal of natural vegetation which was previously available to avifauna for use. This impact is anticipated to be of MODERATE NEGATIVE significance pre mitigation. The area is also significantly disturbed by various human activities including: the N2 highway; pipelines; roads; power lines; and general farming practices.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	*The sensitivity map in Chapter 6 of the Avifaunal Report must be adhered to.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*No mitigation possible*	*DIFFICULT*	**LOW -**
DISTURBANCE OF BIRDS	This is rated as LOW NEGATIVE significance, on account of there being no known breeding sites of sensitive bird species on or near site.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**LOW -**	*The sensitivity map in Chapter 6 of the Avifaunal Report must be adhered to.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	*No mitigation possible*	*DIFFICULT*	**LOW -**
BAT IMPACT ASSESSMENT										
DESTRUCTION / DISTURBANCE OF BAT ROOSTS	If the construction of roads, power lines, turbines, office and maintenance buildings, substations and other infrastructure for the proposed Albany WEF causes disturbance or destruction of a few small farm buildings on site, this would affect only a small number of house-dwelling bats. However, construction would have a significant impact on local bats if it affected larger roosts. While IWS only found small roosts, there is a moderate to high potential of roosts in the steeper, rocky sections in the south and south-east of the Albany WEF site. The deep rocky gorges are likely to provide suitable roosting habitat to several species and the diversity of species recorded at AL2 is testament to this. These areas were not accessible to fully assess. This potential impact, therefore, has a Medium Significance rating, which can be reduced to Low by the following recommended mitigation measures.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	*Minimise disturbance and destruction of farm buildings on site.* *No part of any turbine, including the entire rotor swept zone to be constructed within areas of High and bat sensitivity. IWS discourages the development in areas of Medium and Medium-High bat sensitivity, however, operational mitigation measures are recommended Section 9.3.2 to minimise bat fatalities in these zones.* *Clearing of natural vegetation areas be kept to a minimum.* *Construction near cliff-faces and mountainous areas in south and south-east of site to be avoided.* *Whilst it is unlikely that any new large roosts (consisting of more than 50 bats) will be discovered on site or immediately adjacent, such roosts must be reported if found during the operational phase.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**							
FRAGMENTATION OF BAT HABITAT	If the construction of roads, power lines, turbines, office and maintenance buildings, substations and other infrastructure for the proposed Albany WEF causes disturbance or destruction of locally limited water resources and woody vegetation, this would have a Significant impact on bats, especially the clutter-edge and clutter foraging bat species. Construction will involve vegetation clearance at the footprint of each turbine, along the road network and other office and substation buildings. General dust and noise will increase in the area which may cause more sensitive species to disperse either temporarily or permanently. The physical infrastructure, movement, noise and lights of the operational turbines could act as barriers and disturbance to bats during foraging and movement. Lights could also act as an attractant to certain species. At some operational WEFs in the Eastern Cape where IWS is monitoring, artificial light around the substation and O&M buildings seem to be attract insects and therefore foraging bats, resulting in high activity recorded at the nearby bat monitoring stations. This potential impact, therefore, has a Medium significance rating, which can be reduced to	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	*Turbines, including the blade length, must be spaced ≥300 m from each other.* *All turbines (including their full rotor swept zone) to be kept out of all High bat sensitivity areas.* *There must be at least a 500m no turbine development zone around any sub-stations or office/operations and maintenance buildings.* *Clearing of natural and agricultural areas be kept to a minimum.* *Minimise impacts to natural and artificial wetlands and water bodies.*	*MODERATE*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**							

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	Low by the following recommended mitigation measures.									
LOSS OR POPULATION DISTURBANCES TO CONSERVATION IMPORTANT BAT SPECIES	None of the eleven bat species confirmed for the Albany WEF study area are listed as Red Data species (Childs *et al.,* 2016), however, they are all listed as protected in terms of the Ciskei Nature Conservation Act 10 of 1987 (the Act) and the [Western] Cape: Nature Conservation Ordinance 19 of 1974 (the Ordinance). This impact was, therefore, given a Medium significance rating, which would be reduced to Low maintained by the mitigation measures provided.	**CUMULATIVE**	**REGIONAL**	**PERMANENT**	**PROBABLE**	**MODERATE**	**MODERATE -**	*no development in the greater Grahamstown area should be approved without each project allowing for in their EMP and budget, Operational monitoring at each WEF South African Good Practise Guidelines for Operational Monitoring for Bats at Wind Energy Facilities (Aronson et al., 2020) or later editions valid at the time of monitoring and data sharing, and curtailment takes place at turbines where multiple bat fatalities are found.* *IWS also recommends that the DEA and the ECDEDEAT commission an individual or a Company to collate data gathered from the various projects in the area to assess the actual cumulative impact and to make recommendations from a regional perspective.*	*MODERATE*	**LOW -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
REDUCTION IN SIZE, GENETIC DIVERSITY, RESILIENCE AND PERSISTENCE OF BAT POPULATIONS	Bat populations are likely to be reduced in size by the fatality of bats at WEFs, especially where multiple facilities occur. Because bats have low reproductive rates, they have slow generation turn-over and low population resilience against mass die-offs. Smaller populations also contain less genetic diversity, and are more susceptible to genetic drift and inbreeding. WEFs may, therefore, reduce the long-term persistence of local and even regional bat populations. This potential impact, therefore, has a Medium-High significance rating, which can reduced to Low by the mitigation measures provided	**CUMULATIVE**	**REGIONAL**	**PERMANENT**	**HIGHLY PROBABLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW**
		NO-GO	**NO IMPACT**							
ECOLOGICAL IMPACT ASSESSMENT										
FAUNAL HABITAT LOSS AND FRAGMENTATION	The habitats within the proposed site and those of the surrounding areas form part of a functional ecosystem. An ecosystem provides more than simply a 'home' for a set of organisms, it is a functional system where biological and biophysical processes such as nutrient cycling, soil formation, reproduction, migration, competition, predation, succession, evolution and migration take place. Destruction or modification of habitats causes disruption of ecosystem function and threatens the interplay of processes which ensure environmental health and the survival of individual species. Faunal habitats will be impacted on and could be lost during the clearing of vegetation for the construction of internal roads and the construction of turbine hardstands. This is usually accompanied by the loss of food sources and/or shelter but may also include the loss of temporary wetlands, caves or rocky outcrops. Construction of turbine hardstands and road infrastructure through these habitats could have a significant impact on an already fragmented population of species due to the existing infrastructure, such as the N2 and R67 roads.	**DIRECT**	**LOCALISED**	**PERMANENT**	**DEFINITE**	**SEVERE**	**HIGH -**	*Where possible, internal roads and turbine hardstands must be planned and constructed to avoid highly sensitive areas.* *Where access roads and/or turbine hardstands do need to be located within highly sensitive areas then there must be further ground-truthing to determine the exact road routes and turbine hardstand locations so to, where possible, avoid site specific sensitive areas.* *Wherever possible, existing service/access roads must be used.* *Clearing of vegetation must be kept to a minimum and all rocky outcrops and wetlands must be avoided.* *Construction areas must be demarcated with hazard tape and no clearing must occur outside of these areas. Laydown areas and construction camps must be located in areas of low sensitivity. Where this is not feasible, then in areas of moderate sensitivity.* *An Environmental Control Officer (ECO) must be employed to monitor the clearing of vegetation for the construction of roads and hardstands.*	*MODERATE*	**MODERATE -**
		CUMULATIVE	**LOCALISED**	**PERMANENT**	**DEFINITE**	**SEVERE**	**HIGH -**		*MODERATE*	**MODERATE -**
		NO-GO	**STUDY AREA**	**PERMANENT**	**PROBABLE**	**MODERATE**	**MODERATE -**	*No mitigation possible.*	*DIFFICULT*	**MODERATE -**

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LOSS OF REPTILE DIVERSITY	It is likely that some of the reptile species, which occur within the proposed site, will be disturbed or killed due to construction activities. This could be due to habitat loss or mortality associated with road mortality or poaching. Due to the existing primary and secondary roads in proximity to the proposed site, it is likely that reptile habitats have already been disturbed in some areas within the proposed site. It is also likely that reptiles have been and will continue to be killed along these roads in the absence of the proposed development.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	*All the lizards and tortoises, which are likely to occur within the proposed site that are listed as Schedule II species on the PNCO List, and it is therefore illegal for any construction staff to remove them from the site. It will be difficult to avoid all areas where reptiles are likely to occur, but it is recommended that construction staff are educated with regards to reptile conservation and that all staff employed by the developer ensure that any reptiles encountered are not killed. Any reptiles encountered must be allowed to move away from the area but those which require relocation must be relocated in accordance with local legislation.* *No reptiles must be removed from the site without proper authorisation from the relevant authority.* *A rescue plan must be developed to protect reptiles which could fall into construction pits.* *The construction of turbine hardstands on rocky outcrops must be avoided.* *Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of reptiles being killed along the roads.* *Driving within the site must be restricted to day-light hours as far as practically possible. Driving before sunrise and after sunset must be restricted as far as practically possible.* *Wherever possible, existing service/access roads must be used.* *Access to all internal roads must be restricted through locked gates and/or guarded booms.* *It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**			**LOW -**
		NO-GO	**STUDY AREA**	**LONG TERM**	**MAY OCCUR**	**SLIGHT**	**LOW -**	*No mitigation possible.*	*DIFFICULT*	**LOW -**

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LOSS OF AMPHIBIAN DIVERSITY	It is likely that some of the amphibian species, which occur within the proposed site near surface water habitats, will be disturbed or killed due to construction activities. However, as amphibians are primarily associated with surface water, the likelihood of directly encountering amphibians during construction and operation is lower than that of reptiles. Although, the increase in traffic in the area could result in road fatalities, especially the fatalities of amphibians moving between the wetlands, rivers and streams within the site. In addition, an increase in noise could impact the breeding behaviour of some amphibian species. Due to the existing primary and secondary roads in some areas the proposed site, it is likely that amphibian habitats have already been disturbed to some degree. It is also likely that amphibians have been, and will continue to be, killed along these roads in the absence of the proposed development.	**DIRECT**	**LOCALISED**	**MEDIUM TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	*All frogs and toads are listed as Schedule II species on the PNCO List and it is therefore illegal to remove them from the site without a permit.* *Where possible, the placement of turbine hardstands must avoid all aquatic habitats as they are valuable habitats for protected amphibian species.* *If amphibians are encountered during construction works, all construction staff must be educated with regards to amphibian conservation to ensure that they are not harmed or killed. Any amphibians encountered must be allowed to move away from the area or carefully relocated to an area within the same catchment.* *No amphibians will be allowed to be removed from the site.* *The construction of turbine hardstands must avoid the wetland areas.* *Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of amphibians being killed along the roads.* *Driving within the site must be restricted to day-light hours. Driving before sunrise and after sunset must be restricted as far as practically possible.* *Vehicles must be well maintained so as not to leak oils and fuels which could pollute surface water sources.* *Oils and fuels must be stored on impermeable surfaces and preferably under lock and key to reduce the likelihood of the pollution of surface water.* *Where possible, existing service/access/haul roads must be used.* *Access to all internal roads must be restricted through locked gates and/or guarded booms.* *It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.*	*EASY*	**LOW -**
		CUMULATIVE	**LOCALISED**	**MEDIUM TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*EASY*	**LOW -**
		NO-GO	**LOCALISED**	**LONG TERM**	**MAY OCCUR**	**SLIGHT**	**LOW -**	*No mitigation possible.*	*DIFFICULT*	**LOW -**
		NO-GO	**LOCALISED**	**LONG TERM**	**MAY OCCUR**	**SLIGHT**	**LOW -**	*No mitigation possible.*	*DIFFICULT*	**LOW -**
LOSS OF MAMMAL DIVERSITY	It is likely that some mammal species will be impacted during the construction phase as a result of habitat loss and road mortality within the proposed site. During the operation phase, noise may affect communication and breeding potential. The proposed site traverses extensive areas of land which contain numerous large and small mammal species. Most of these large and small mammals, including mammal SCC, will move out of the disturbed areas during the construction phase, but may return once habituated for foraging opportunities. It is possible that some of the smaller, and more secretive mammal species, may still be encountered within the site throughout these phases.	**DIRECT** **INDIRECT**	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	*In the event of the unearthing of any mole species during construction, all construction staff must be educated with regards to mammal conservation to ensure that they are not killed, and any mammals encountered must be allowed to move away from the area or carefully moved to an area outside of the project activities.* *A mole specialist must be appointed to undertake a detailed survey to confirm the presence/absence of Golden moles and assist with micro-siting of the WEF and associated infrastructure and developing a*	*MODERATE*	**LOW -**

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	In the absence of the proposed development, it is likely that most of the large and small mammal species will probably still move around within and outside of the site due to movement towards foraging opportunities and/or moving away from anthropogenic activities and associated noises within the site.							*plan to mitigate impacts if detected or favourable habitat is identified (such as relocation).* • *Speed restrictions (40 km per hour is recommended) must be in place to reduce the likelihood of mammals being killed along the roads.* • *Driving within the site must be restricted to day-light hours. Driving before sunrise and after sunset must be restricted as far as practically possible.* • *Where possible, existing service/access roads must be used.* • *Access to all access/service roads must be limited by having locked gates.* • *It is recommended that construction staff are educated regarding poaching and any such activities must be strictly prohibited.*		
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**STUDY AREA**	**LONG TERM**	**MAY OCCUR**	**SLIGHT**	**LOW -**	• *No mitigation possible.*	*DIFFICULT*	**LOW -**
IMPACT OF NOISE AND DUST ON FAUNAL SPECIES	The construction of the proposed WEF and associated infrastructure will result in an increase in noise and dust within the proposed site and surrounds. Roads are known to alter the physical characteristics of the environment and it is possible that numerous species within the proposed site will be affected by the increase in noise and dust to some extent. The faunal group which is most likely to be impacted by the increase in noise and dust levels is amphibians. Increased dust levels alter wetlands and riparian areas which could affect the feeding and breeding of amphibians within these areas. Fauna vary in the degree to which they can tolerate such disturbances and the increase in noise and dust could potentially have adverse impacts on various faunal groups. Increased noise and motor vibrations in wetland areas could also impact amphibian breeding choruses, but these impacts will be localised and many amphibian species are surprisingly tolerant of vehicle noise. Noise pollution will occur during all phases of development (construction, operational, and de-commissioning/ closure).	**DIRECT** **INDIRECT**	**LOCALISED**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	• *Soil stockpiles must be limited to 1.5 m in height.* • *Construction activities such as the digging of trenches, which could result in excessive dust pollution, must preferably cease during period of high winds, where practically feasible.* • *Newly cleared and exposed areas must be managed for dust and landscaped with indigenous vegetation to avoid soil erosion. Where necessary, temporary stabilization measures must be used until vegetation establishes.* • *Speed restrictions (40 km per hour is recommended) must be in place to reduce the amount of dust caused by vehicle movement along the roads.* • *Where possible, fine materials must be covered or kept in containers during transportation to avoid contamination of the surrounding areas.* • *Driving within the site must be restricted to day-light hours. Driving before sunrise and after sunset must be restricted as far as practically possible.* • *All reasonable and feasible measures must be implemented to reduce noise in ecologically sensitive areas, such as adjacent to wetlands and rivers.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**LOCALISED**	**LONG TERM**	**MAY OCCUR**	**SLIGHT**	**LOW -**	• *No mitigation possible.*	*DIFFICULT*	**LOW -**

SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

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LOSS OF VEGETATION COMMUNITIES	Plant communities are dynamic ecosystems which provide habitats that support all forms of life. Different types of plant communities (and habitats) exist within the proposed site. The vegetation types which will be affected by the proposed development footprints include Grahamstown Grassland Thicket, Albany Bontveld, Albany Valley Thicket, Bhisho Thornveld, Suurberg Shale Fynbos and Suurberg Quartzite Fynbos from the Albany Thicket, Savanna and Fynbos Biomes. The current condition of these vegetation communities varies from good to poor condition, depending on the level of transformation caused by anthropogenic activities. In accordance with Mucina et al., (2018), the conservation statuses of all these vegetation types are least threatened, except for Albany Valley Thicket which is classified as vulnerable. Sections of these vegetation types will be lost due to vegetation clearance during the construction phase of the Albany WEF. Currently, vegetation communities have been and will continue to be lost and/or fragmented in the area, in absence of the Albany WEF development, due to transformation for agricultural activities and other development.	**DIRECT**	**LONG TERM**	**LOCALISED**	**DEFINITE**	**SEVERE**	**HIGH -**	*The turbine and road layouts need to under-go micro-siting prior to finalisation of the turbine layout.* *A comprehensive Plant Search and Rescue must be undertaken by a suitably qualified specialist prior to vegetation clearance.* *All relevant plant permits must be in place prior to the removal or removal and relocation of protected species.* *Plant SCC found within the proposed site must either be housed in an onsite nursery for use during rehabilitation or be relocated to suitable areas where vegetation clearance will not occur.* *Areas of the proposed site which contain large populations of SCC must be avoided where possible.* *The clearance of vegetation, at any given time, must be kept to a minimum to reduce the possibility of soil erosion.* *The clearing of vegetation and damage to plants may not be permitted in any areas which have demarcated as no-go areas, these include the Southern Mistbelt Forest patches (Beggars Bush State Forest) as well as the Ecca Local Authority Nature Reserve.* *Where possible, all temporary infrastructure must be placed in areas which have already been transformed.* *Existing roads must be used as far as practically possible.*	*MODERATE*	**MODERATE -**
		CUMULATIVE	**LONG TERM**	**STUDY AREA**	**DEFINITE**	**SEVERE**	**HIGH -**		*MODERATE*	**MODERATE -**
		NO-GO	**LONG TERM**	**LOCALISED**	**DEFINITE**	**SLIGHT**	**LOW -**	*No mitigation possible.*	*DIFFICULT*	**LOW -**
REMOVAL OF ALIEN VEGETATION	The clearance of vegetation associated with the development of the Albany WEF and associated infrastructure will include the clearance of alien vegetation which is already present on portions of the proposed site. This will be a positive impact as alien invasive species will be removed, which will improve the condition of the existing indigenous vegetation as there will be less competition from alien invasive species.	**DIRECT**	**SHORT TERM**	**LOCALISED**	**DEFINITE**	**SLIGHTLY BENEFICIAL**	**LOW +**	*A site-specific Alien Vegetation Management Plan must be implemented during the construction phase, and continued monitoring and eradication needs to take place throughout the life of the project.* *Alien vegetation, within the development footprints, must be removed from the site and disposed of at a registered waste disposal site.* *The development footprints and immediate surroundings must be monitored for the growth/regrowth of alien vegetation throughout the construction (and operation) phase.*	*MODERATE*	**MODERATE +**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**LONG TERM**	**STUDY AREA**	**DEFINITE**	**MODERATE**	**MODERATE -**	*No mitigation possible.*	*DIFFICULT*	**MODERATE -**
POLLUTION OF SURFACE WATER RESOURCES	The proposed site contains numerous wetlands and watercourses. None of the proposed turbines, according to the current layout, are situated within wetlands or watercourses but numerous turbines are located within the 500 m regulatory buffer of wetlands. Sections of associated infrastructure, such as roads, are also routed within 500 m of numerous wetlands and within the 100 m regulatory buffer of a watercourses. Water use authorisation is required from the	**DIRECT INDIRECT**	**MEDIUM TERM**	**LOCALISED**	**PROBABLE**	**SEVERE**	**MODERATE -**	*No concrete mixing must take place within 50 m of a wetland or watercourse during the construction phase.* *Concrete mixing must only take place on impermeable surfaces.* *No construction machinery must be parked within 50 m of a wetland or watercourse overnight.* *Construction machinery must be maintained*	*MODERATE*	**LOW -**

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	Department of Water and Sanitation (DWS) prior to the commencement of any construction activities within the regulatory buffers of these wetlands and watercourses. Activities associated with the proposed development could result in the pollution of surface water resources both directly and indirectly through activities such as the inappropriate storage of hazardous materials which could result in spillages and the resultant contamination of surface water resources.							*regularly to reduce the risk of oil and fuel leaks.* - *All stationary machinery must be equipped with drip trays to retain potential oil and fuel leaks.* - *Emergency plans must be in place to remedy oil and fuel spill leaks.* - *Chemical toilets must not be placed within 50 m from wetlands and watercourses. Toilets must be maintained/serviced regularly to prevent the contamination of the surrounding environments, including wetlands and watercourses.*		
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
REHABILITATION	Inadequate rehabilitation could result in limited revegetation and/or an invasion of alien vegetation which will result in long term ecological degradation and damage.	**DIRECT**	**LOCALISED**	**LONG TERM**	**DEFINITE**	**SEVERE**	**MODERATE -**	- *A Rehabilitation Management Plan must be developed and implemented during the construction phase as construction is complete at each site.* - *Measures must be put in place to prevent the accidental or unintentional introduction of alien vegetation during rehabilitation.* - *The development footprints and immediate surroundings must be monitored for the growth/regrowth of alien vegetation throughout the construction phase.* - *Indigenous species must be used for rehabilitation.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
HERITAGE IMPACT ASSESSMENT										
DESTRUCTION OF HERITAGE ARTIFACTS	Middle Stone Age (MSA) stone artefacts occurred in various locations over the proposed development area within the exposed and disturbed surface areas. This would generally be expected as the immediate and wider region is rich in the occurrence of Middle Stone Age as well as Early Stone Age archaeological material. It is possible that stone artefacts will occur between the surface and 50 cm – 80 cm below the ground. Several stone packed features were also recorded within the proposed development area. These included stone packed / walled kraals, an historical stone packed / walled farm boundary as well as the remains of foundations. The built environment component included historical ruins that included farmhouses, other buildings and a church. A graveyard is associated with the church. An old historical wagon route was pointed out by the owner of the Farm Grobbeler's Kloof situated at the entrance to the farm south off the N2 national, running parallel to N2 national road. The potential negative impact on the stone walling (BHSW2) was initially of concern. The revised layout followed the recommendation that an alternative	**DIRECT**	**LOCALISED**	**PERMANENT**	**POSSIBLE**	**SEVERE**	**HIGH -**	- *An archaeological walk-through assessment must be conducted when the final layout of the Albany wind energy facility is determined. The walk-through assessment will be conducted to assess changes in the positions of the turbines, access roads and cabling between the turbines as well as other associated infrastructure relative to the original footprint. Further mitigatory recommendations may be necessary if any of the changes may impact negatively upon heritage resources.* - *The stone packed features and stone walling must be noted and a no-impact / no-development buffer of 20 m be established.* - *If any of the buildings are planned to be demolished during the course of development, a built environment specialist, historical architect should be appointed to assess the buildings proposed for demolition.* - *If concentrations of pre-colonial archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum (046 622*	*EASY*	**LOW -**

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	access road be constructed south of the stone walling to access the four turbines (WTG 70, WTG 5, WTG 7, WTG 9) on the northern boundary of the Farm Glen Craig 241. The road has been realigned to the south running parallel to the stone walling in order to avoid this impact. At a cumulative level, the archaeological and historical heritage resources must be appropriately mitigated at a project / site specific level so that there is less of a risk of losing the information after the construction of these alternative energy facilities. The loss of information at regional scale is at risk as these facilities cause an immense amount of surface disturbance and destruction where archaeological and historical heritage resources are at risk of being destroyed without justification.							*2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.* • *A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.* • *The developer / ECO / or construction manager must apply to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for a destruction permit to disturb the stone artefact scatters prior to the commencement of the development.*		
		CUMULATIVE	**LOCALISED**	**PERMANENT**	**POSSIBLE**	**SEVERE**	**HIGH -**	• *Surveying of sites must be done at project specific level to ensure that heritage sites are protected.*	*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							
NOISE IMPACT ASSESSMENT										

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CONSTRUCTION NOISE	Considering the projected noise levels as well as the expected daytime ambient sound level (higher than 45 dBA), there is a very low risk for a noise impact during the construction phase for daytime construction activities (see Table 9-1). Similarly, considering potential night-time equivalent rating levels for a rural noise district (35 – 42 dBA) the significance of a construction noise impact would be low. Construction noises will cumulatively add to any other noises in the area, but it will be insignificant.	**DIRECT**	**LOCALISED**	**SHORT TERM**	**UNLIKELY**	**SLIGHT**	**LOW -**	*Ensure a good working relationship between the developer/contractor and all potentially noise-sensitive receptors. Communication channels must be established to ensure prior notice to the sensitive receptor if work is to take place close to them (especially if work is to take place within 500m from them at night). Information that must be provided to potentially sensitive receptor(s) includes:* ▪ *Proposed working dates, the duration that work will take place in an area and working times;* ▪ *The reason why the activity is taking place;* ▪ *The construction methods that will be used; and* ▪ *Contact details of a responsible person where any complaints can be lodged should there be an issue of concern.* *Minimize simultaneous night-time construction activities close to receptors 17, 28, 18, 19, 21 and 10 where possible. When night-time activities are to take place close to these receptors they must be as per previous recommendation;* *The use the smaller/quieter equipment when operating near receptors;* *Ensure that equipment is well maintained and fitted with the correct and appropriate noise abatement measures if available. Engine bay covers over heavy equipment could be pre-fitted with sound absorbing material. Heavy equipment that fully encloses the engine bay must be considered, ensuring that the seam gap between the hood and vehicle body is minimised;* *Locate access routes as far as possible from identified receptors, especially if these roads will be used during night-time construction activities.*	*EASY*	**LOW -**
		CUMULATIVE	**REGIONAL**	**SHORT TERM**	**UNLIKELY**	**SLIGHT**	**LOW -**		*EASY*	**LOW -**
		NO-GO	**NO IMPACT**							
PALAENTOLOGICAL IMPACT ASSESSMENT										

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DESTRUCTION OF PALAEONTOLOGY RESOURCES	Due to the extreme weathering of strata at surface along the ridges, soil development and extensive vegetation cover, current outcrop was found to be extremely sparse and no palaeontological material was observed at the actual proposed wind tower positions. Quarries and roadworks within the study area and within the district have however demonstrated that excavation into the Witpoort Formation not infrequently intercepts black shale layers and lenses that may be of great palaeontological value. Palaeontological investigations of these layers, in the Grahamstown district, has provided the world's only window into high latitude conditions at the end of the Devonian, a time of extreme importance in understanding the process of vertebrate terrestrialisation and the lead up to the second global Mass Extinction Event. There is therefore a reasonable chance that excavation of holes for casting wind tower footings will intercept fossiliferous shales, which may contain important unique heritage material. Lag deposits, containing fossil stems and possibly bones might also be found preserved within the quartzites. The extreme inaccessibility of many of the proposed positions furthermore suggests that access roads will need to be excavated in order for construction equipment to reach the positions. These may also disturb palaeontological material. Excavations into Lake Mentz Subgroup strata are somewhat less likely to disturb palaeontological material, but should they do so this would also be significant, potentially providing insights into the recovery fauna and flora after the end Devonian Extinction.	**DIRECT**	**MUNICIPAL**	**PERMANENT**	**DEFINITE**	**SEVERE**	**MODERATE -**	*All excavated holes for wind tower footings (with the exception of WTG positions 19 and 21) should be examined by a palaeontologist after excavation and before casting of footings.* *All new access roads should simultaneously be inspected by a palaeontologist prior to any rehabilitation.* *During excavation of WTG positions 19 and 21 the ECO should check for any palaeontological material and immediately report any finds or suspected finds to the palaeontologist.*	*DIFFICULT*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
SOCIAL IMPACT ASSESSMENT										
EMPLOYMENT	**EMPLOYMENT OPPORTUNITIES** During the 24-month labour intensive construction period, skilled employment amounts to 613 person-month and unskilled to 900 person-month. Unskilled workers are required to do basic labour such as site clearing, digging of trenches, erection of fences and the laying of foundations. Skilled professionals would include, but not be limited to Land Surveyors, Project Managers, Assistant Project Managers, Engineers and an Environmental Control Officer, machine operators and so forth. Although the construction periods do not overlap, construction of the two wind farms in Makana LM contribute positively towards employment and skills transfer for locals, including semi- and higher skilled individuals. Social and economic advantages for	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**LOW +**	*Maximise local employment (unskilled, semi- and skilled workers) as well as the number of local SMMEs and vendors. Set standards for local employment in the Contractor Services Management Plans.* *Implement a fair and transparent employment process through the EPC contract and employ a Community Employer Relations Officer for the duration of the construction period.* *Implement a SMME skills development programme (training on how to tender, understanding contracts, etc.) at least 4 months prior to inviting SMMEs to tender. The programme must not only assist local small businesses but also aim to do skills development for the local Municipality.* *Communication with the affected communities must be done constructively*	*DIFFICULT*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**DEFINITE**	**MODERATE**	**LOW +**		*DIFFICULT*	**LOW +**

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	individuals and families. No-go: No employment and associated benefits will accrue to local communities or the broader Makana LM as a result of this project.	**NO-GO**	**NO IMPACT**					*through one channel, such as the Community Employer Relations Officer through the assistance of the local councillors. This will assist to manage expectations and avoid potential conflict.*	**NO IMPACT**	
	EMPLOYMENT EQUITY Many local businesses, especially those headed by youth, women and persons with disabilities, are feeling left out in the economic agenda of the province. To address this concern the Makana LM is implementing the Local Economic Development Procurement Framework ("LEDPF") and the revised Preferential Procurement Policy Framework Act has been in effect since April 2017, which makes it compulsory for all contracts above R30 million to sub-contract 30% of work to small or black owned enterprises where feasible. Equally important is the development of skills and sustainable youth enterprises as part of the radical economic transformation agenda and Makana LM has allocated a budget to cater for this demand. SMMEs are registered on the 'Central Supplier Database' to enable them to do business with government (Makana IDP).	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**PROBABLE**	**SLIGHT**	**LOW +**	*A policy regarding employment equity of minority groups must be formulated and implemented wherever possible.* *As part of the tender documents, the Contractor/s have to provide subcontracting values per package and the plan on how they will meet procurement of minority groups (women, youth, disabled) and SMMEs targets assigned.* *Implement relevant measures should the Contractor/s not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work, etc.).*	*EASY*	**LOW +**
	For this project, the inclusion of Blacks in employment and the entire supply chain forms part of the scorecard according to which the DMRE will rank the projects submitted for bidding. At this stage, DMRE requires a minimum of 30% skilled Black people to be involved in the construction phase, which could be raised during the course of the process. The DMRE encourages the Project to procure with suppliers that have a BBBEE Generic scorecard or who are Qualifying Small Enterprises, Exempt Micro Enterprises and Women Owned Vendors. However, no constructive guidelines/thresholds exist to address employment equity for women, youth and the disabled. It is unknown what the cumulative contribution towards employment of minority groups have been and the impact on employment equity can thus not be determined.	**CUMULATIVE**	**MUNICIPAL**	**MEDIUM TERM**	**UNSURE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
	No-go: Minority groups will not have an opportunity to take part in the Makana local economy through this construction project.	**NO-GO**	**NO IMPACT**						**NO IMPACT**	

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	LOCAL EMPLOYMENT The term "local" means a community or communities residing within the area of jurisdiction of the district municipality in which the project site is located (i.e. SBDM); or residing in one or more residential areas or villages within 50km from the Project Site (refer Figure 3. 50km radius). At this stage DMRE prescribes that between 12 and 20% of people employed on a project have to be residents of local communities (as defined above). This threshold is not set and could change. From a socio-economic perspective, the benefits and overall significance of this impact would increase if the number of locals working on the project is maximised. It is anticipated that the majority of the unskilled and semi-skilled positions could be filled by locals. The number of foreigners/expatriates employed on renewable energy projects has decreased over time, as skills have gradually been transferred to South Africans. Skilled professional would be available locally due to experience gained during construction of the Waainek Windfarm and similar projects in the Eastern Cape. Although probable, the percentage of local employment at Waainek Wind Farm is unknown and the cumulative impact cannot be rated. In the Eastern Cape (in BW1-4) 4 737 construction jobs (job years) have been created for all renewable energy projects combined; and 53% local people (2 509) were employed in construction. This is more than the Northern and Western Cape provinces, where 51 and 45% locals retained construction jobs (McDaid, 2016). No-go: No economic benefits, skills development or economic spin-offs will manifest for locals during construction.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**DEFINITE**	**SLIGHT**	**LOW +**		*EASY*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**PROBABLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
LOCAL ECONOMIC IMPACTS	**PROCUREMENT** In order to promote preferential procurement and local content, a percentage of the scorecard ranked by DMRE to select winning bids will be based on: • How much of the facility is manufactured in South Africa; and • The amount of goods and services procured through South African companies that have a BBBEE Generic scorecard or who are Qualifying Small Enterprises, Exempt Micro Enterprises and Woman Owned Venders. It is anticipated that many of the high-technology components required would be imported and local procurement would thus be more focused on general	**DIRECT**	**REGIONAL**	**SHORT TERM**	**PROBABLE**	**SLIGHT**	**LOW +**	• *Formulate a local procurement strategy that specifically also aims to increase the local content of the Project to its maximum.* • *Involve the Makana LED Department in the early processes and commence discussions with them during financial close already.* • *Do a Value-chain analysis of services required (directly and indirectly related to construction such as transport, laundry, catering, uniform supplies, etc.) and communicate this to the Makana LM at least four months prior to the tender process commencing. Do skills development and training for the SMME's and Makana LM to*	*MODERATE*	**LOW +**

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	construction material and goods and infrastructure elements. Building material could be sourced from local towns and aggregate material from licenced borrow pits as close to the site as possible. The specific procurement strategy will be formulated closer to the time. Some of the strategies are confidential and can thus not be revealed at this stage. Local procurement at the various wind energy projects in the Eastern Cape would result in technology development and positive cumulative economic impacts for the local and regional economies.	**CUMULATIVE**	**REGIONAL**	**MEDIUM TERM**	**PROBABLE**	**MODERATE**	**LOW +**	*ensure that SMMEs / contractors are prepared and equipped to take part in the tender processes.*	*MODERATE*	**LOW +**
	No-go: No positive local economic impacts as a result of procurement. None of the local suppliers and manufacturers would benefit.	**NO-GO**	**NO IMPACT**						**NO IMPACT**	
	IMPACTS AS A RESULT OF SALARIES AND WAGES The unemployment rate in Makana LM is 32.5%, and averages 29.8% in the three affected wards (refer Section 7.1: Unemployment rate and employment status). This is higher than National and Provincial averages. Between 12 and 20% of people employed on the project have to be residents of local communities and the assumption can be drawn that the majority of the unskilled workforce will be unemployed prior to the construction phase commencing. Incomes in the form of salaries and wages would thus hold economic benefits for these individuals, households and communities for the duration of the construction period. Cumulative local economic impacts as a result of an increase in spending power would benefit the Eastern Cape region.	**DIRECT**	**REGIONAL**	**SHORT TERM**	**DEFINITE**	**SLIGHT**	**LOW +**		*MODERATE*	**LOW +**
		CUMULATIVE	**REGIONAL**	**MEDIUM TERM**	**DEFINITE**	**MODERATE**	**LOW +**		*MODERATE*	**LOW +**
	No-go: No economic benefits for individuals and households or induced impacts for the municipality/region as a result of salaries and wages.	**NO-GO**	**NO IMPACT**						**NO IMPACT**	
	INDUCED IMPACTS When households spend earnings from project development, salaries and wages as well as procurement, these earnings circulate in the regional economy and manifest as induced impacts. These effects associated with the construction phase could include: - Contracts with SMME's and local service providers (catering, transport, etc.) that are not directly related to construction;	**DIRECT**	**REGIONAL**	**SHORT TERM**	**DEFINITE**	**SLIGHT**	**LOW +**		*MODERATE*	**LOW +**

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	⅄ Manufacturing jobs related to turbine and supply chain impacts; ⅄ Retail sales, childcare, leisure and hospitality; and ⅄ Real estate sectors and accommodation of foreigners in local establishments and related spin-offs, such as tourism. Cumulative enhanced local economic opportunities, industrialisation, job creation and other economic spin-offs for the region.	**CUMULATIVE**	**REGIONAL**	**MEDIUM TERM**	**PROBABLE**	**MODERATE**	**LOW +**		*MODERATE*	**LOW +**
	No-go: No economic spin-offs will manifest for the Makana LM or region.	**NO-GO**	**NO IMPACT**						**NO IMPACT**	
IMPACTS ON THE SOCIAL AND DEMOGRAPHIC STRUCTURE OF THE LOCAL MUNICIPALITY	**INFLUX OF JOBSEEKERS AND THE IMPACT OF TEMPORARY CONSTRUCTION WORKERS** Should the project be a successful bidder and the construction period becomes public knowledge, jobseekers and temporary construction workers from the Eastern Cape Province, or wider country, could pose various challenges and negative impacts: ⅄ Conflict between locals and 'outsiders' if an outside labour force receives preference; ⅄ Conflict due to cultural differences and impacts on social networks; ⅄ An increase in the size and number of informal settlements in and around the study area; ⅄ Provision of accommodation for temporary workers could become an economic and social burden for the Project and the local and district Municipalities (erection of a construction camp to house workers is however not foreseen); ⅄ Workers that remain in the area after the construction period ended could place additional pressure on local government for housing and associated infrastructure and services; ⅄ 'Outsiders' that have short-term relationships with local women resulting in unwanted pregnancies and an increase in HIV/AIDS and other STD's, thereby placing more pressure on healthcare facilities; ⅄ An increase of single-headed households without a main income provider and pressure on healthcare, social grants and infrastructure; and ⅄ Safety and security issues for the surrounding landowners due to an influx of 'jobless' people. It is unknown whether Waainek Wind Farm (or other renewable energy projects in the region) resulted in an influx of jobseekers and the severity of the cumulative impact can thus not be rated. The likelihood of the impact manifesting is possible but is rated with an overall LOW significance as locals should have been primarily employed in accordance with DMRE requirements. Confidence in the rating is low.	**INDIRECT**	**MUNICIPAL**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**LOW -**	⅄ *Ensure that the Community Employer Relations Officer has knowledge of the local communities, is educated with good public relation skills, committed to the cause and is accessible for community members.* ⅄ *Care must be taken to communicate the project requirements and time frames to the local communities to avoid raising unrealistic expectations. Work through limited communication channel such as the Community Employer Relations Officer and ward Councillor.* ⅄ *Contractually obligate contractors and subcontractors to employ temporary workers through the labour desk/job seeker registration database and make this fact known to the communities. This would address and limit the uncoordinated influx of jobseekers to the site and to the surrounding towns, as they would be unable to secure work if not through the established routes.* ⅄ *Recruitment of temporary workers at the access to the construction site is not allowed.*	*DIFFICULT*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**SHORT TERM**	**POSSIBLE**	**UNSURE**	**LOW -**		*DIFFICULT*	**LOW -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (PROBABILITY/ LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	REVERSABILITY/ MITIGATION	SIGNIFICANCE POST-MITIGATION
SKILLS DEVELOPMENT, CAPACITY BUILDING AND SOCIAL RESPONSIBILITY	**IMPACTS ON THE SIZE AND STRUCTURE OF THE LOCAL MUNICIPAL POPULATION** Changes in the size, gender, race and age composition of the local population would be affected by the scale of 'outsiders' moving into the area and the length of the period that they remain. Adequate management of the employment processes and strict measures in terms of local employment would mitigate this impact effectively. Although possible, the severity of this impact manifesting for the Municipality as a result of cumulative factors is unknown and a LOW overall negative significance is awarded. Confidence in the rating is low.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**		*DIFFICULT*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**LOW -**		*DIFFICULT*	**LOW -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	TRAINING / SKILLS DEVELOPMENT OF INDIVIDUALS / GROUPS / SMMES During the construction phase the Project's subcontractors will provide locally recruited staff with suitable training to safely undertake the roles they will perform on site. If required as part of the subcontractors' own strategy to maintain their BBBEE Level, subcontractors may provide additional capacity building to specific individuals, groups of individuals or SMMEs employed on the Project. The type of training and/or capacity building would generally be specific to the needs of the individuals/groups/SMMEs being supported. For example, this may include training in health and safety legislation, first aid, fire-fighting, construction skills, basic electrical training, quality management, legal compliance or business skills. Any such capacity building or training is at the discretion of the individual subcontractor. An important outcome of skills development and training is that it increases the employability of a region's workforce, resulting in enhanced economic opportunities and thus addressing poverty alleviation over the medium to long term. Cumulative impacts include: Capacity building for unskilled and semi-skilled individuals and SMMEs in the broader Makana LM, thereby increasing its employability; Individuals would be able to use their skills gained to secure employment at similar renewable energy projects in future. No-go: No positive impacts for the employability of the local and regional labour force over the medium or long term.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**LOW +**	*Clearly define the study area and beneficiary communities who would benefit directly through employment, equity, SED and ED spend.* *Collaborate with Waainek Wind Farm to determine the beneficiaries on its Community trust, and how their SED and ED expenditures are allocated. This will ensure that overlapping do not take place. Co-ordinate projects and training programmes wherever possible.* *Monitor social performance of contractors and determine how contractors fair on each KPI. Implement relevant measures should the contractors not comply with the social management plan they submitted (impose penalties, termination where necessary, review of future prospective work).* *Require larger contractors to work with small SMMEs to train and transfer skills and include this requirement in the CSMP.* *Implement a SMME skills development programme to train and educate SMMEs and other small vendors how to tender, understanding contracts, basic business skills and so forth.* *Partner with consulting firms and initiatives that support the Eastern Cape Department of Economic Development Environment and Tourism's SMME support programme. Conduct workshops for the eligible SMMEs that were selected for tailored support measures, issue SMME Resource Packs, provide one-on-one enterprise development support, provide office space (where*	*MODERATE*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**PROBABLE**	**MODERATE**	**LOW +**		*MODERATE*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	BENEFICIARY IDENTIFICATION Communities within a 50km radius of the project are eligible to become beneficiaries of the program. The identification of beneficiary communities could however be problematic as the social and political dynamics can be negatively impacted by selectively identifying some people as beneficiaries over others. Also, the 50km radius often competes with other administrative boundaries. Such a radius can stretch over one or more municipal areas and can even cross provincial and national boundaries, which makes the alignment of SED and ED plans with Government policies difficult. For the Albany WEF the 50km radius would include Grahamstown and a number of smaller inland and coastal towns (refer Figure 3: 50km radius). It is thus necessary to shrink the 'project impact area' that would benefit directly through equity, SED and ED significantly and the Albany WEF will aim to prioritize projects implemented in close proximity to the project site. Coordination and cooperation in terms of beneficiary identification between the Waainek and Albany WEF's would avoid fragmented spending, ensuring that economic advantages of the Project are fairly and equally distributed. Cumulative impacts associated with beneficiary identification (such as conflict) is possible, but it is not known whether the beneficiation process resulted in negative impacts at other WEF projects.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	*feasible), finance and support liaising with relevant government and state-owned agencies.* - *Create a point of contact for the public such as a community liaison office, a visitor centre, a website with contact details or even a Facebook group.*	*MODERATE*	**LOW -**
		CUMULATIVE	**REGIONAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	COMMUNITY PROJECTS, ED AND SED CONTRIBUTIONS Due to the ED and SED commitments being linked to revenue received during the operational phase of the project, Albany Wind Power will not be implementing any ED and SED projects during its construction phase. However, the developer will assess the potential of utilising ED and SED funds from its neighbouring project (Waainek Wind Farm) for the benefit of the commonage farmers occupying land on the Albany Site. Waainek Wind Power has committed to allocating a total of 2.1% of its revenues on ED (0.6%) and SED (1.5%) projects within a 50km radius form the project. Although few ED and SED benefits are anticipated during the Albany WEF's construction phase, the cumulative impact would hold some benefits for the local Municipality over the medium term. Plan 8 WEF SED and ED contributions are unknown.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**SLIGHT**	**LOW +**		*MODERATE*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**PROBABLE**	**SLIGHT**	**LOW +**		*MODERATE*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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INDIVIDUAL AND FAMILY LEVEL IMPACTS	**DISRUPTIONS IN DAILY LIVING AND MOVEMENT PATTERNS** Short-term disruptions in daily living and movement patterns for surrounding community members and road users could manifest as a result of the transport of components and construction activities on site. The majority of these impacts would take place during the laying of foundations and the erection phases. Disruptions could include: • The construction phase of potential road improvements to accommodate the development (widening of accesses and so forth); • Road closures to cater for abnormal loads (transport of turbine components); • Damage to road infrastructure due to the frequency of heavy vehicles; • Potential unroadworthy construction vehicles and negligent drivers that disobey traffic rules; and • Potential noise, dust, visual and air pollution for land owners in close proximity to the site and along gravel access roads (addressed in Section 11.5.2: Intrusion impacts). Infrastructure components will in all likelihood be transported from the Coega Harbour (Port Elizabeth) by road (N2 freeway) to the project site. A Traffic Impact Assessment ("TIA") and traffic management plan will be prepared to select the most appropriate route, and all relevant approvals and permits sought from the relevant authorities such as SANRAL and Eastern Cape Department of Transport. The proposed accesses to the site are via existing accesses. No new accesses/intersections are proposed. There are three proposed accesses along the R67 and a further four accesses along the N2. The existing accesses to be used are general "farm" type accesses and will need to be temporary improved in order to facilitate the expected abnormal loads during the construction stage (Traffic feasibility study, January 2020). It is possible that the construction of other wind farms in the Eastern Cape Province take place simultaneous with Albany WEF and cumulative impacts as a result of the transport of large turbine components and road closures on the N2 is thus possible. However, these factors are unknown at this stage and the overall significance cannot be determined.	**DIRECT**	**REGIONAL**	**SHORT TERM**	**DEFINITE**	**SEVERE**	**HIGH -**	• *Road safety:* ▪ *If major roads are used, it is proposed that abnormal trucks transporting components (which would normally result in road closures over a long periods) rather be segmented into two trucks at a time, to allow normal traffic to use the roads at intervals during the affected days.* ▪ *Collaborate with the traffic department and use relevant mediums to inform the public of road closures and alternative routes, e.g. erect sign boards well in advance, radio broadcasts on local radio stations and notices to the established community organisations.* ▪ *Impose penalties for reckless drivers as a way to enforce compliance to traffic rules.* ▪ *Inspect trucks and other heavy vehicles on a regular basis to avoid oil spillages and unroadworthy vehicles that could lead to accidents.* ▪ *Display a contact number on the construction vehicles where motorists can report reckless driving.* ▪ *Erect signboards indicating accesses to the construction site.* ▪ *No informal traders to be allowed on or near the construction site.* ▪ *Upgrade the access roads prior to the construction period commencing and maintain the roads during the length of the construction period. Once construction is finalised, ensure that damaged road surfaces have been repaired.* ▪ *Implement all mitigation and management measures as proposed in the TIA Report.* • *Security measures:* ▪ *Do a security risk assessment and base the exact security measures on the detailed assessment of the risks at the site.* ▪ *Clearly demarcate and/or fence the construction areas, ensure access control and allow no trespassing of workers outside the designated construction areas.* ▪ *Security personnel that patrol the wider areas surrounding the turbine*	*MODERATE*	**MODERATE -**
		CUMULATIVE	**REGIONAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	INTRUSION IMPACTS AT THE CONSTRUCTION SITE Intrusion impacts refer to noise, visual and light pollution and possible dust/air pollution during the construction phase, as a result of emissions, movement of construction vehicles on site, earthworks and general construction activities. Where relevant these impacts were investigated and rated individually in a scientific manner by the respective Specialists. Although short-term in nature, the severity of the impact would increase if sensitive receptors are located close to the construction areas. There is no potential for a cumulative noise and dust/air impacts from other wind farms in the area. Cumulative visual impacts may occur if the construction phases of the Albany and Plan 8 WEF's overlap.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	*construction footprints, and not limited to the construction areas, could be considered pending the outcome of the security risk assessment.* ▪ *Fencing surrounding all construction areas.* ▪ *Signboards at the accesses and along the major roads warning motorists of the dangers of a construction site and of heavy vehicles turning.* ▪ *Workers must not be allowed to remain in and around the construction site when they are off duty; workers transported to their places of residence after each shift.* *Intrusion impacts:* ▪ *Dust alleviation methods: Vehicles carrying dusty materials must be securely covered before leaving the site; water gravel, dirt and roads regularly; temporarily cover earthworks if possible and minimize drop heights; monitor the dust fall out concentrations; etc.* ▪ *Generally construction activities must not take place before 8am and after 5pm and not on Sundays and public holidays. This would however not always be realistic, as deadlines and specific construction activities could take 12+ hours.* ▪ *Implement all mitigation and management measures of the respective Specialist Reports (AIA, VIA and Noise Impact Assessment).* *Awareness and communication:* ▪ *Keep open communication channels with the landowners and address any potential issues as a matter of priority.* ▪ *Make contact details of the Contractor and procedures to lodge complaints available to the local communities through the local Councillor, a visitor centre, a website with contact details or even a Facebook group.* ▪ *Make a complaints register / log book available at the entrance to the construction site and act immediately should issues arise. Circulate summaries of monitoring results to the local communities / landowners when necessary.* ▪ *Announce road disruptions such as road closures by using the local media, road sign boards and other Municipal structures.* ▪ *Consult with surrounding landowners whose livestock, private residences and*	*DIFFICULT*	**MODERATE -**
		CUMULATIVE	**MUNICIPAL**	**SHORT TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	SECURITY IMPACTS Crime and security issues during the construction phase are often associated with the influx of outsiders and an increase in jobless people. The increase in human activities and materials and equipment brought to site could attract criminals, which would be exacerbated by the mismanagement of the recruitment process. Although possible, this cumulative impact cannot be rated, as the security risks and issues experienced at the other wind farms are unknown.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*MODERATE*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**

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		NO-GO	**NO IMPACT**					*other infrastructure could be affected by dust, noise and other impacts that result from traffic movement and construction activities.* ▪ *Provide a schedule of the construction activities to landowners and relevant I&APs.* ▪ *Keep the local SAPS, other emergency services and Ward Councillors informed about the construction progress and time-lines.* ▪ *Consider circulating summaries of monitoring results (dust, ambient noise levels, etc.) to the local Councillor and landowners.* ▪ *Agree on a procedure to notify the Municipality and emergency services, so that immediate and appropriate measures can be put in place to rectify any problems.* ▪ *Comply with all regulations of the Occupational Health and Safety Act.*	**NO IMPACT**	
IMPACTS ON INFRASTRUCTURE AND SERVICES AND GENERAL IMPACTS ON THE MAKANA LM	**DISRUPTIONS OF SERVICES** Temporary road closures when turbine components are transported to the construction site are eminent and have been assessed in the previous impact: Disruptions in daily living and movement patterns. Electricity might be disrupted temporarily when the wind farm switching station is connected into the grid, but this will be done within acceptable parameters prescribed by Eskom.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**LOW -**	*Upgrade access roads prior to the construction period commencing and maintain the roads during the length of the construction period. Once construction is finalised, ensure that damaged road surfaces have been repaired.* *Should electricity or any other service disruptions occur, inform the local landowners/communities thereof in advance and restore the service as quickly as possible.* *Include Makana LM in all relevant processes from the onset of the Project:* ▪ *Inform Council on a regular basis of expected timelines and issues arising;* ▪ *Establish a Project Steering Committee ("PSC") or similar structure for the duration of the construction period. Members of the PSC (developer, Contractor, Municipality, land owner representatives, etc.) would meet on a quarterly basis to discuss issues that may arise during the course of the construction period;*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**						**NO IMPACT**	
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	DAMAGE TO ROAD INFRASTRUCTURE AND SURFACES Damage to road infrastructure as a result of an increase in traffic and large/abnormal vehicles could impact financially on government and landowners (repairs to road surfaces) as well as on the safety of road users. The N2 freeway and access roads that lead to the construction sites will mainly be affected. Cumulative impacts relating to damage to road infrastructure in the region and province is possible but cannot be rated. No-go: Road infrastructure will not be impacted on; Upgrading of local access roads would not take place.	**DIRECT**	**REGIONAL**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*EASY*	**LOW -**
		CUMULATIVE	**REGIONAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	GENERAL IMPACTS ON THE MAKANA LM The proposed construction project would hold economic advantages for the Makana LM in terms of employment, skills development, SMME development and so forth. However, local government is also faced with various responsibilities and challenges during the feasibility and construction phases, which could place pressure on municipal resources, such as: • Collaboration with the Project for permits for the submission of a compliant bid; • Management of stakeholder and community relations; • Involvement in the employment process by assisting the Community Employer Relations Officer with the job seeker registration database; • Participation in SMME training and SMME support programmes; • Monitoring of the construction site and processes to ensure compliance with municipal bylaws; and so forth. It is possible that there are shortfalls in capacity and management experience within the municipality and bureaucratic procedures and financial constraints could also hamper progress. As a result of Waainek, Plan 8 and Albany Wind Farms pressure on roles, responsibilities and resources of Makana LM would increase.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	• *Include the affected local Councillors in the employment process to cooperate with the Community Employer Relations Officer in compiling and managing the job seeker registration database;* • *Involve the relevant LED structure in training and skills development programmes for SMME development and certification;* • *Inform the municipality of the Procurement strategy to be implemented and obtain their inputs where required and feasible;* • *Apply timeously for the relevant zonings and permits with Council.* • *Establish a protocol for landowners and other affected parties to raise complaints: make a complaints' register available at the entrance to the construction site; make the contact details of the main contractor, CLO, PSC and Ward Councillor available; address complaints speedily.*	*MODERATE*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
HEALTH AND SAFETY IMPACTS	**HEALTH AND SAFETY RISKS FOR CONSTRUCTION WORKERS** Inadequate management of the construction process and general construction related activities could result in health and safety risks for workers, manifesting in the following ways: • Construction related accidents due to structural safety of project infrastructure; • Dust generation and air pollution resulting in respiratory diseases; • High ambient noise levels caused by machinery and construction equipment resulting in loss in hearing or similar health issues; • Dehydration, sunburn and related issues due to unsafe and insufficient drinking water and high temperatures during summer months; and • An increase in HIV/AIDS and other STDs due to prostitution activities and temporary sexual relationships with local women, unwanted pregnancies that place further pressure on Basic Health Care Services. It is unknown whether construction related accidents and/or health issues as a result of the construction process manifested at Waainek Wind Farm and the severity of the cumulative impact cannot be determined.	**DIRECT**	**LOCALISED**	**SHORT TERM**	**POSSIBLE**	**SEVERE**	**MODERATE -**	• *Health and safety measures to protect workers and the broader community:* • *Construction workers to wear protective clothing (e.g. masks that minimize dust inhalation and clothing that protects against sunburn) and earplugs.* • *Lock away dangerous plant, equipment and material when not supervised or in use.* • *Provide safe and clean drinking water and instil regular water breaks to keep workers hydrated.* • *Provide sufficient ablution facilities (chemical/portable toilets, etc.) at strategic locations that are cleaned regularly.* • *Keep the local police, emergency and ambulance services informed of construction times and progress.* • *Ensure that emergency vehicles / ambulance is on stand-by for the duration of the construction period.* • *Erect a safety fence around the entire construction site to prevent illegal trespassing of humans and livestock.* • *Display "danger" warning signs and "no*	*MODERATE*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	COMMUNITY HEALTH AND SAFETY RISKS Community health and safety impacts as a result of poor management of the construction site and construction activities could include: • Road accidents, subsequently placing pressure on local emergency, disaster management and health services (fire, ambulance, police services, etc.); • Unauthorized access / trespassing at the construction site, resulting in theft, public safety issues and accidents; • Fire hazards at the construction site and the possibility of fires spreading and damaging surrounding farmland and infrastructure; • Pollution problems, flies, rodents and pests and possible contamination of ground and surface water sources due to poor management of the construction activities (e.g. insufficient sanitation facilities, littering and refuse); • High ambient noise levels that damage hearing (unlikely); and • Dust generation and air pollution caused by gravel roads, construction activities and machinery resulting in respiratory diseases. The risk/likelihood of the impact manifesting as well as its severity will, to a large extent, depend on the proximity of sensitive receptors (residences, farming activities, livestock, etc.) to the construction sites. It is required of the Project to comply with all the provisions of the Occupational Health and Safety Act 85 of 1993 in order to mitigate potential health and safety issues. It is not known whether community health and safety risks manifested during the construction of Waainek Wind Farm and the severity of the cumulative impact cannot be determined.	**INDIRECT**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**POSSIBLE**	**MODERATE -**	*public access" signs at all potential accesses, paths and along the periphery of the construction areas in English and the local languages.* ▪ *Ensure good visibility at the accesses to the site.* ▪ *Adhere to the Emergency and Safety plan procedures for the duration of the construction phase.* ▪ *Implement all mitigation measures as proposed in Section 11.5.4: MITIGATION AND MANAGEMENT MEASURES to address individual and family level impacts during the construction phase; and as proposed in the Specialist Noise and Air Impact Assessment Reports to address potential community health and safety impacts.* • *Environmental health and safety measures:* ▪ *Implement measures to suppress dust, such as spraying water on gravel roads, surfaces and stock piles on a regular basis.* ▪ *Dispose of the various types of waste generated in the appropriate manner at licensed waste landfill sites at regular intervals.* ▪ *Store any materials away from sensitive locations in fenced-off areas.* ▪ *Accommodation and facilities of security guards and any other personnel that may stay on site must comply with health and safety standards.* ▪ *Inform the Municipality and emergency services if harmful substances are spilled.* ▪ *Designate a suitable area for cooking fires (if required).*	*MODERATE*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**MEDIUM TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
TRAFFIC FEASIBILITY STUDY AND MANAGEMENT PLAN										
TRANSPORTATION OF INFRASTRUCTURE	Vehicles required for the transport of infrastructure (e.g. turbines and cables) and materials would result in a direct negative impact on the used roads and road users.	**DIRECT**	**REGIONAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	• *Please see Appendix A of the Traffic and Transport Management Plan for a full detailed plan regarding mitigation for this impact.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
CONSTRUCTION TRAFFIC	Increased traffic from workers travelling to and from the site will result in a negative direct impact on people who use the site, the N2, the R67 and the access roads within the site.	**DIRECT**	**LOCALISED**	**SHORT TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	• *Please see Appendix A of the Traffic and Transport Management Plan for a full detailed plan regarding mitigation for this impact.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
		NO-GO	**NO IMPACT**							
DELAYS CLOSE TO SITE ACCESS ROADS	Increased delays on vehicles at road construction sites, particularly at the accesses onto the two national roads (i.e. the N2 and the R67).	**DIRECT**	**LOCALISED**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	• *Please see Appendix A of the Traffic and Transport Management Plan for a full detailed plan regarding mitigation for this impact.*	*MODERATE*	**LOW -**
		CUMULATIVE	**NO IMPACT**							

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		NO-GO	**NO IMPACT**							
VISUAL IMPACT ASSESSMENT										
VISUAL IMPACT OF CONSTRUCTION ACTIVITY	There are various activities which will take place during the construction phase which may have impacts on sensitive visual receptors: • Large areas of vegetation will need to be cleared to make way for digging of the turbine foundations, hardstand areas, substation footprints, access roads, laydown areas, workshops and storage yards. • Construction of wind turbines will potentially draw attention if they are exposed above the skyline. • There will be an increase in the movement of vehicles in the area: large trucks delivering supplies and construction material; graders, excavators and bulldozers; light vehicle movement around site; large trucks hauling rubble and construction waste, etc. • Soil stockpiles and heaps of vegetation debris. • Dust emissions from construction activity. • Activity at night is also probable since transport of large turbine components may occur after work hours to minimise disruption of traffic on main roads. The most significant cumulative visual impacts will come from the Operational Waainek WEF and the Proposed Plan 8 WEF. Both these facilities are located within 20km of the Albany site. The Waainek Wind Farm consists of eight turbines, each with a hub height of 84m and a rotor diameter of 117m, and the Plan 8 facility facility will host up to 22 turbines, each with a hub height of up to 91.5m and a rotor diameter of up to 117m. The cumulative visual impacts of these three facilities will be high, with the proposed Albany WEF making the largest contribution to the impact.	**DIRECT**	**LOCALISED**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	• *The construction contractor must clearly demarcate construction areas to minimise site disturbance.* • *Construction of new roads must be minimised, and existing roads must be used where possible.* • *Clearance of vegetation must be minimised, and restoration of cleared areas must start as soon as possible.* • *Erosion risks must be assessed and minimised as erosion scarring can create areas of strong visual contrast which can often be seen from long distances.* • *Laydown areas and stockyards must be located in low visibility areas (e.g. valleys between ridges) and existing vegetation must be used to screen them from views where possible.* • *Treat roads to reduce dust emissions.* • *The site must be kept neat and tidy. Littering must be fined, and the ECO must organise rubbish clean-ups on a regular basis.* • *Night lighting of the construction sites must be minimised within requirements of safety and efficiency. See section on lighting for more specific measures.*	*MODERATE*	**MODERATE -**
		CUMULATIVE	**REGIONAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*MODERATE*	**MODERATE -**
		NO-GO	**NO IMPACT**							
OPERATIONAL PHASE										
AGRICULTURE IMPACT ASSESSMENT										
None identified by specialist										
AVIFAUNAL IMPACT ASSESSMENT										
DISPLACEMENT OF BIRDS	Once operational the facility could displace certain birds from the area or cause them to fly further to get around the facility. Displacement of birds is judged to be of LOW NEGATIVE significance pre mitigation.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	• *The duration and scope of post-construction monitoring must be informed by the outcomes of the previous year's monitoring and must be reviewed annually. Post-construction monitoring of bird abundance and movements should span a minimum of one year and monitoring for fatalities should*	*EASY*	**LOW -**

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		CUMULATIVE	**STUDY AREA**	**LONG TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**	*take place over a minimum of two to three years and repeated at year five and every five years thereafter. The duration of monitoring must be increased should significant impacts be observed.* *A contingency mitigation budget must be planned for in the operational phase to allow adaptive management of impacts that arise. If such a situation arises possible necessary mitigation measures could include: further research into the problem (including possibly bird tracking studies); human based turbine shutdown on demand; habitat alteration; bird deterrence from site; and any others identified as feasible at the time.*	*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**							
COLLISION OF BIRDS WITH TURBINE BLADES	Birds in flight on the site could collide with operational turbine blades, thereby being killed or seriously injured. Collision of birds with turbines is judged to be of MODERATE NEGATIVE significance pre mitigation.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	*The duration and scope of post-construction monitoring must be informed by the outcomes of the previous year's monitoring and must be reviewed annually. Post-construction monitoring of bird abundance and movements should span a minimum of one year and monitoring for fatalities should take place over a minimum of two to three years and repeated at year five and every five years thereafter. The duration of monitoring must be increased should significant impacts be observed.* *A contingency mitigation budget must be planned for in the operational phase to allow adaptive management of impacts that arise. If such a situation arises possible necessary mitigation measures could include: further research into the problem (including possibly bird tracking studies); human based turbine shutdown on demand; habitat alteration; bird deterrence from site; and any others identified as feasible at the time.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**							

SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (PROBABILITY/ LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	REVERSABILITY/ MITIGATION	SIGNIFICANCE POST-MITIGATION
				BAT IMPACT ASSESSMENT						
BAROTRAUMA	FORAGING BAROTRAUMA Bat deaths by collision with or due to barotrauma caused by wind turbines have been reported worldwide (Kunz et al., 2007; Arnett et al., 2008; Baerwald et al., 2008; Rydell et al., 2010; Baerwald and Barclay, 2011; ; Hull and Cawthen, 2013; Voigt et al., 2012; Lehnert et al., 2014), including for South Africa (SA) (Doty and Martin, 2012; MacEwan, 2016). There is not a single WEF in SA, where operational monitoring is being conducted, that has not had any bat fatalities (Perrold and MacEwan, 2017). There are various hypotheses as to why certain species of bats are killed by wind turbines, but one common hypothesis that is emerging worldwide, is that bats that move and feed in less cluttered and more open air space environments, are more vulnerable to collisions with wind turbines than those moving and feeding in more cluttered environments (Arnett, 2017). Based on the activity levels measured during pre-construction monitoring, the Albany WEF is classified as having a High turbine fatality risk for its Ecoregion, according to the estimated bat fatality risk levels in Sowler et al (2017). Therefore, the significance of bat fatality impacts during foraging is considered High, especially considering the fact that numerous bat fatalities of the of *T. aegyptiaca* and *N. capensis*, the two most common bat species recorded at the Albany WEF, are being found at operational WEFs in the Eastern and Western Cape. This impact can be reduced to Low by the following mitigation measures.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	*During operational monitoring, quarterly progress reports and annual monitoring reports to be submitted to SABAAP, EWT, the DEA, the Eastern Cape Department of Economic Development (EC: DEDEAT), Environmental Affairs and Tourism and to the SANBI Bird and Bat Database.* *The above recommendations must be written into the authorisation of this application.* *With the exception of compulsory civil aviation lighting, minimise artificial lighting at night, especially high-intensity lighting, steady-burning, or bright lights such as sodium vapour, quartz, halogen, or other bright spotlights at sub-station, offices and turbines.* *All non-aviation lights must be hooded downward and directed to minimise horizontal and skyward illumination.* *All non-aviation internal turbine nacelle and tower lighting must be extinguished when unoccupied.* *For turbines built within the Medium and Medium-High bat sensitive zones, Table 9, Bat Impact Assessment is recommended from the commencement of operation in order to keep bat fatalities to a minimum.* *Post-construction/ operational bat monitoring must be performed according to the South African Good Practise Guidelines for Operational Monitoring for Bats at Wind Energy Facilities (Aronson et al 2014) or later version valid at the time of monitoring. IWS recommends the initial 2 years and then every third year for the remainder of the project.* *The above measures are highly likely (50-75% certainty) to minimise bat fatalities, as only 50% of bat activity occurs above wind speeds of 5 m/s and 25% of bat activity occurs above 7.5 m/s.* *However, should operational monitoring show that adjusted annual bat fatalities (adjusted for biases such as searcher efficiency and carcass persistence) ever equal or exceed the threshold level of fatalities guided by SABAAP:* ▪ *60 bats per annum based on the thresholds provided for Drakensberg Montane Grasslands, Woodlands and Forest ecoregion in MacEwan et al.*	*MODERATE*	**LOW -**
		CUMULATIVE	**REGIONAL**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	MIGRATION BAROTRAUMA Internationally, migrating bats have been shown to be at risk of fatality due to wind turbines. Whilst the migrating bats in South Africa are different species and are not tree-roosting species, the long distances that they travel and the height at which they fly also puts them at risk of fatality. In South Africa, migrating bat species, such as *M. natalensis* and the Egyptian Rosetta *Rousettus aegyptiacus* have been fatality victims at wind turbines in the Eastern Cape (MacEwan, 2016), however, only a handful of each to date. At the Albany WEF, there is evidence of increased *M. natalensis* activity in autumn, although the numbers are moderate. The significance of this impact is considered to be Medium. Mitigation measures recommended above in will assist to reduce the risk of fatalities of migrating bats and reduce the significance of the impact to Low.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**POSSIBLE**	**SEVERE**	**MODERATE -**		*MODERATE*	**LOW -**
		CUMULATIVE	**REGIONAL**	**LONG TERM**	**POSSIBLE**	**SEVERE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	ROOSTING BAROTRAUMA Bats have been shown, through thermal imagery studies, to be attracted to wind turbines, either looking for potential roost sites, or out of curiosity and are often struck by the moving blades (Horn et al., 2008). This has been further confirmed by Rollins et al. (2012). Unfortunately, no mitigation measure has been found to effectively prevent this. Whilst ultrasonic sound emitters are currently being investigated as a deterrent for bats from wind turbines internationally and in South Africa, the research is still in its infancy. Hence, we cannot yet recommend this, but as more information comes available, deterrents could be a valuable mitigation measure. The most well-documented measure is curtailment.	**DIRECT**	**REGIONAL**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	*(2017).* ▪ *39 bats per annum based on site specific thresholds calculated according to the methods provided in MacEwan et al. (2017).* ⅄ *Both methods use the entire 6500ha project boundary area and both threshold levels apply to fatalities of single species, i.e. if two species were among the fatalities estimated for a site, the threshold would apply to each, not to the grouped number of all species combined.* ⅄ *Then mitigation actions will only be required at specific turbines that have killed 2 or more bats of the particular bat species that has exceeded the fatality threshold for the previous year of monitoring.* ⅄ *Such actions at the individual turbines include increasing the cut-in wind speed to 7.5m/s (only exposing 25% of bat activity to spinning blades).* ⅄ *When dealing with living animals that can respond in different and unpredictable ways to changing environmental, climatic and developmental parameters, it is very difficult to make guaranteed predictions. Lintott et al. (2016) state that the nightly and seasonal activity data collected during pre-construction surveys may provide an indication of the extent of curtailment that is required and therefore the economic viability of the project, however, they highlight the need for a feedback mechanism for practitioners to share the success or failure of mitigation strategies, i.e. adaptive mitigation. The bat specialist conducting the operational monitoring has the right to make further recommendations should they see fit.* ⅄ *Given the magnitude and extent of wind-turbine related bat fatalities worldwide, the conservation implications are critically important and bat fatalities must be avoided, minimised or mitigated proactively.*	*DIFFICULT*	**HIGH -**
		CUMULATIVE	**REGIONAL**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**HIGH -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
ELECTROMAGNETIC INTERFERENCE	Bat collision with power lines is considered as a negligible impact on bats at the Albany WEF, owing to no evidence of this occurring in South Africa to date and no evidence of fruit bats occurring on site. Furthermore, whilst some laboratory studies have shown that electromagnetic radiation can have behavioural effects on bats and rats, it is uncertain	**DIRECT**	**STUDY AREA**	**PERMANENT**	**IMPROBABLE**	**LOW**	**LOW -**	⅄ *The only mitigation, at this stage, would be for all power line routes to avoid High Bat Sensitive areas, where possible. Should evidence of bats being affected by power lines be reported at Albany WEF, adaptive mitigation measures must be implemented, in consultation with a bat specialist.*	*MODERATE*	**LOW -**

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	that this would be the case outside of the lab in natural circumstances.	**CUMULATIVE**	**REGIONAL**	**PERMANENT**	**IMPROBABLE**	**LOW**	**LOW -**		*MODERATE*	**LOW -**
ECOLOGICAL IMPACT ASSESSMENT										
INVASION OF ALIEN VEGETATION	The clearance of vegetation associated with the development of the Albany WEF and associated infrastructure will create open/bare habitats which are likely to be colonised by pioneer plant species. While this is partly a natural revegetation/regeneration process, which would ultimately lead to the re-establishment of secondary vegetation cover, it also favours the establishment of alien vegetation.	**DIRECT**	**LOCALISED**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	*The site-specific Alien Vegetation Management Plan must be implemented for the first two (2) years of the operational phase. Thereafter, alien vegetation must continue to be monitored and eradicated annually throughout the life of the project.* *Alien vegetation, within the development footprints, must be removed from the site as they appear and must be disposed of at a registered waste disposal site.*	*MODERATE*	**LOW -**
		CUMULATIVE	**LOCALISED**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**		*MODERATE*	**LOW -**
		NO-GO	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	*No mitigation possible*	*DIFFICULT*	**MODERATE -**
HERITAGE IMPACT ASSESSMENT										
None identified by specialist										
NOISE IMPACT ASSESSMENT										
OPERATIONAL NOISE OF WIND TURBINES	Considering long term ambient sound levels of the Albany WEF site, projected noise levels are less than the noise limits as proposed by MoE (see Figure 2-1 of Noise Impact Report) at all wind speeds for all receptors. The duration will be the full project life. The wind turbines may be audible up to 1,500 m during special conditions. The proposed renewable power generation activities (worst-case evaluated) could raise the ambient sound levels at potential noise-sensitive developments (mainly NSD17 during the operational phase at night). It is expected that the noise from the wind turbines may be audible at most of the identified receptors during very quiet periods and audible at NSD17. The sound levels will not be disturbing (will not change the existing ambient sound levels with more than 7 dB).	**DIRECT**	**LOCALISED**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*Should the houses at NSD17 be (continue to be) used for residential purposes during the operational phase:* ▪ *the applicant should undertake ambient sound level measurements over a period of at least 5 nights to clearly define the night-time ambient sound levels at this point;* ▪ *These measurements should be repeated during the operational phase of the WEF to ensure that the noise levels are less than 45 dBA.* *If the noise levels (due to the operational wind turbines) exceed 45 dBA, the applicant should develop a noise curtailment programme.*	*EASY*	**LOW -**
		CUMULATIVE	**NO IMPACT**							
	The reduction in the number of turbines and amendment of the layout was also influenced by the identification of sensitive noise receptors (NSD17), which were initially identified as having a medium risk of noise impact during the operational phase. Mitigation was proposed that would reduce this potential impact. There is no potential for a cumulative noise impact from other wind farms in the area. Following the change in the scope of the AWEF (reduction in the number of turbines from 66 to 43, the relocation of 7 turbines and the inclusion of the Grid Infrastructure), EARES submitted a supplementary	**NO-GO**	**LOCALISED**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*No mitigation possible*	*DIFFICULT*	**LOW -**

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	report, which concluded the following: The proposed layout: • Locates the WTGs on average further from the identified NSD. • No WTG is moved closer than 1,000m from any NSD. • The total number of WTG within 1,000 m from NSD 17, are reduced from three (3) to two (2). This reduction will result in a slight reduction in noise levels due to the reduction in cumulative noises (from three to two WTGs) and likely reduce the significance of the operational noise impact from Medium to Low. WTGs further than 1,000m from any identified NSD, with the closest WTG approximately 1,580 m from NSD10. Therefore, considering the proposed locations of the WTGs and the potential noise impact, that: • The change will not increase the significance of the noise impact (the noise level will likely reduce at NSD 17 considering previous noise levels modelled). • A full noise impact assessment with new modelling will not be required and the recommendations as contained in the previous document will still be valid. • The cumulative noise impact will not change, as there are no new or proposed wind turbines (from a different WEF), located within 2,000m from identified NSDs that will cumulatively increase the noise levels. • There are no new limitations or assumptions. • The changes will not increase the significance of the noise impacts identified in the original report and as such an updated noise impact assessment would not be required. Noise levels will be of medium-high magnitude at a number of other receptors. The wind turbines will be clearly audible, but considering the likely ambient sound levels the significance of the noise impact is considered to be low. Mitigation is not required but general recommendations are proposed for the developer to consider. There is no potential for a cumulative noise impact.									
PALAEONTOLOGICAL IMPACT ASSESSMENT										
None identified by specialist										
SOCIAL IMPACT ASSESSMENT										

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IMPACTS ON EMPLOYMENT	**DIRECT EMPLOYMENT** The Albany WEF shall have permanent Service Technicians on site during the operational phase and assistants (if any). At this point the following person-months are estimated: • Skilled: 1690 person-months; and • Unskilled: 240 person-months. Skilled positions usually relate to technicians, electricians, IT specialists, engineers and mechanics and unskilled workers entail cleaners and site maintenance. Furthermore, ahead of the operational phase, an Implementing and Monitoring Agent ("IMA") is appointed to administer and manage ED and SED contributions. Temporary staff will be employed periodically through service providers for civil works and site maintenance (roads, crane pads, etc.), site clearance to minimize potential veld fires, painting of buildings and small maintenance jobs such as plumbing. These numbers cannot accurately be determined at this stage. The cumulative impact of permanent and temporary employment of the three wind energy facilities in Makana LM would hold benefits of LOW overall significance, as the wind farms are not labour intensive. Employment, training and capacity building at the three wind farms would enhance skills of the workers, especially if the local workforce is maximised. No-go: The Municipality will not benefit in terms of employment or any other economic spin-offs.	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**LOW +**	• *Even though mitigation will not impact on employment significantly, it is proposed to:* ▪ *Make use of local service providers and SMMEs and increase the frequency and number of temporary employment opportunities wherever possible;* ▪ *Through ED contributions do training and capacity building of SMMEs where necessary;* ▪ *Make employment creation one of the SED program's targets, aims and objectives. Local businesses that apply for SED funding to demonstrate their commitment to employment creation as one of the criteria for evaluation by the Implementing and Monitoring Agent.* • *No mitigation is possible to address job losses due to a potential decline in tourism, as turbines cannot be screened (height and size). It is however suggested that:* ▪ *Wherever possible turbines not be erected in direct view of lodges and strategic viewpoints at the Game Reserves.*	*MODERATE*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**LOW +**		*MODERATE*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	INDIRECT EMPLOYMENT Job creation as a result of the funding spent on SED projects, such as construction/infrastructure projects, literacy/educational programmes, sport development and so forth, is probable. At this premature stage it is not possible to determine or estimate the number of indirect job opportunities that will manifest. Indirect job creation, training and capacity building at the three wind farms in Makana LM could contribute to individual/household incomes, address poverty levels and enhance skills of the local municipal workforce. No-go: Local communities will not benefit in terms of indirect job creation, skills development or any other economic spin-offs.	**INDIRECT**	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW +**		*MODERATE*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**MODERATE**	**LOW +**		*MODERATE*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	LOSS OF EXISTING JOBS AS A RESULT OF THE PROJECT Turbines will not impact agricultural land uses and no negative impact on existing jobs in this sector is foreseen. The existing tourism industry contribute meaningfully towards local and regional employment on direct and indirect levels and the possibility that the Project could result in job losses therefore has to be analysed and considered. This impact is directly linked to the potential impact of the Project on tourism, which is assessed in greater detail in Section 11.2.1 of the SIA (Potential loss in incomes: Tourism/Gaming/Hunting industries). Section 5.3 of the SIA (Land uses in and around the study area) makes reference to the Game Reserves within the Project's area of influence. Permanent employment of the Game Reserves that submitted questionnaires amount to 347. No-go: Status quo in terms of direct and indirect employment by the agriculture, tourism, gaming and hunting sectors would prevail. No additional employment as a direct result of the Project or indirectly through SED and ED contributions and community projects.	**DIRECT INDIRECT**	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
LOCAL ECONOMIC IMPACTS	**POTENTIAL LOSS IN INCOMES: TOURISM/GAMING/HUNTING INDUSTRIES** The assessment of negative local economic impacts, and specifically impacts on incomes/livelihoods, as a result of the Albany WEF cannot be done with certainty due to confining factors and information. Although other wind farms in South Africa, such as Cookhouse, Dassiesridge and Waainek also affect game/hunting farms, the Albany WEF's potential negative impact on the study area could be higher due to various facts: • Game Reserves within the study area are mostly high-end luxury tourist attractions and many are frequented by overseas visitors; • The number of turbines planned are relatively high (43); and • The visual impact on some of the game reserves and protected areas in the study area are anticipated to be moderate to high (VIA, February 2021). Visual and aesthetic concerns raised by I&APs and the subsequent negative impacts the development poses to their businesses, livelihoods and investments are thus understandable. Since no local data on the subject currently exists, reference has to be made to international research results. These findings need to be used with caution	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *Mitigate potential intrusion impacts, implement relevant security measures, maintain infrastructure, fencing and roads and implement dust control measures in co-operation with the private landowners to ensure that their property values do not decrease.* • *Assist and guide the local community with regards to the needs of the WEF plant and the types of supporting industries and services required for its successful operation. Make ED funding available to assist the local SMME's with skills training and capacity building, etc.* • *It is suggested that turbines, if possible, not be erected in direct view of lodges and strategic viewpoints at the Game Reserves.* • *Implement all recommendations, mitigation and management measures of the Visual Impact Specialist wherever necessary to ensure that any intrusion impacts on surrounding establishments be limited.*	*DIFFICULT*	**MODERATE -**

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	since the receiving environment (communities, tourist activities, landscape), location, technologies, size of the wind farm developments and so forth differ between the various sources and from this Project. The following is a summary of various international articles and publications that aimed to investigate the impact of wind farms on tourists and tourist destinations. Results often contradict each other, which illustrate the contentious nature of the topic: • Many visitors/tourists would criticize the proximity to wind turbines; many would also accept their presence. • Many of the respondents in the various studies/surveys stated that wind farms had no impact on their destination of choice; many respondents revealed they would not frequent areas with visible turbines. • Many of the studies concluded that the presence of a wind farm in an area does not influence destination of choice; whilst other publications list the attractiveness of local nature and scenery as one of the most important aspect in tourists' choice of destination. • The reported avoidance effect diminishes with greater distance from the tourist area. • Aesthetic perceptions (both positive and negative) is one of the strongest single influence on individuals' attitudes towards wind power projects. • There tend to be greater opposition towards wind farms that are greater in size. • In some instances factors such as quality of service, hospitality and (for foreign tourists) the currency exchange rate, rather than only the wind farm presence in a landscape, often affect local tourism development more. • Some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area; whereas others were consistent in their conclusion that wind farms are innocuous in terms of local tourism demand, numbers, revenue and experiences. • No measurable economic impact of wind farms on tourism abroad could be obtained. It is clear from the above that no consensus exists with regards to wind farms' actual impacts on tourism and that impacts would rather be subject to local conditions and markets. For this Project, landscape (scenic resources) and the tourism market (eco-tourism and high-end luxury accommodation) would be considered some of the determining factors. The tourism market is a highly competitive industry and could be susceptible to subtle changes in market conditions and it is recognised that a marginal change in the numbers of tourists could have a significant knock-on economic effect.	**CUMULATIVE**	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	Silva and Delicado (2017) state that: "Wind farms' tourism conflict is particularly pronounced in areas where the productive functions of the countryside come into conflict with the consumptive function." Landscapes have now become part of "countryside capital", a wide range of rural resources or products that are bought and sold through tourism (Silva and Delicado, 2017). On a local level, game farm owners in close proximity to the Cookhouse (66 turbines) and Waainek (8 turbines) wind farms were consulted to obtain their experiences with the developments. During the EIA draft report review period, Lalibela and Pumba Game Reserves submitted additional comments that have been included below: • Some of the game farms are affected visually from various viewpoints on the farms; • Natural features (such as mountainous areas) assist to mitigate visual impacts to a certain extent; • Views from Kichaka Lodge (Lalibela) look straight over a water hole and upslope into three (3) turbines in the distance. The rich landscape scenery has partially ameliorated the visual impact during the day, but the turbine lights are a significant intrusion during the night and have drawn comment from visitors to the extent that the game farm will be implementing special lighting around the lodge and water hole to distract from the turbine light intrusion; • Lalibela Game Farm reported that they have had to change game drive routes to avoid turbine visual impact. Certain routes can now only be driven in direction away from Waainek and certain areas can only be traversed in daytime as night drives are spoiled by turbine light flicker; • Gameston Wildlife Retreat (Pumba) faces the Waainek turbines across the valley. As a result of complaints from visitors, a decision was made to remove the Gameston lodge from the Pumba Reserve offering and to remarket the facility to a different market; • It was stated that guests do not complain about the turbines, as many are European visitors who have most likely become used to the sight of wind farms; • The game farm representatives that were telephonically interviewed were asked whether the wind farms affected their tourism and businesses, and none reported any significant impact ; and • The eZulu Game Reserve informed that the Reserve was being sold to overseas buyers "who made an offer that could not be refused" As a result of the appeal lodged by Indalo, Amakhala and Pumba Game Reserves in opposition to the									

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	issuance of the Environmental Authorisation ("EA") for Waainek WEF, the number of turbines were reduced from 27 to eight (8). The reduction in the number of turbines have undoubtedly also ameliorated impacts on these tourist establishments. Kwandwe Game Reserve did a client survey to determine perceptions with regards to wind farms and its potential impact on tourists' perceptions (refer to Addendum, Section 14.1.6). Three (3) questions were asked and the results are summarised below: • Several clients simply answered "yes" to all three questions, i.e. (1) That the nature and type of infrastructure that is visible from Kwandwe will be relevant to their visual / aesthetic experience; (2) That being able to see a wind farm during both the day and the night (aviation warning lights) will impact on their choice of destination for a wildlife tourist experience in South Africa; and (3) That the visibility of wind farms from within Kwandwe Game Reserve would impact on their decision to visit Kwandwe. • The bulk of the responses were individuals that responded in more detail and reasons provided for visiting the reserve mostly related to "the unique wilderness experience" and that they "frequent Kwandwe to escape from the city to nature". • Although the majority of respondents stated that a wind farm would influence their destination of choice and would impact their decision to return to Kwandwe negatively, a number responded that it would either not influence their decision, or that their decision would depend on the scale of the wind farm development and its visibility. The following general conclusions, which relate to impacts on tourism and livelihoods, are made: • No local research and published surveys could be obtained with regards to impacts on tourism/livelihoods; • Wind farms and tourist destinations aboard (on which the published literature is based) differ from the study area in terms of the tourist product offered, landscapes, communities affected, localities of the wind farms as well as the sizes of the development; • From international literature consulted, no consensus exists with regards to wind farms' actual impacts on tourism (volumes, experiences, and revenue), tourists' destination of choice and so forth; • Some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area; whereas others were consistent in their conclusion that wind farms are innocuous in terms of local tourism demand, numbers, revenue and experiences; • Most respondents in the Kwandwe survey									

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	indicated a negative response towards such a development and the impact it would have to their experience (Africa and bush experience) and destination of choice; - Impacts that have manifested for game reserves affected by Cookhouse and Waainek WEF's were mostly as a result of visual aspects (especially night light flicker). Game reserves have had to implement measures to address visual intrusions, i.e. to change game drive routes, do refurbishments and install lighting that distracts from light disturbances; - The tourism industry is highly competitive, sensitive and susceptible to subtle changes in market conditions and it is recognised that a marginal change in the numbers of tourists could have a significant knock-on economic effect; - Proximity to turbines and their localities (visual impacts on lodges and strategic viewpoints on the game farms) together with impacts on the sense of place, which could be influenced by changes in landscape (scenic resources), could potentially influence the local tourism market and subsequently livelihoods. Based on comments received relating to the draft EIA and VIA reports, the project proponent has reduced the number of turbines with 23, which has addressed some of the visual impacts associated with this Project. It is however acknowledged that visual impacts alone is not the only determining factor and that impacts on the sense of place and changes to the fabric of the landscape (as a result of cumulative impacts) could also influence tourists' perception of the study area and ultimately their choice of destination.									
	POTENTIAL IMPACTS ON INCOMES: RENTAL INCOMES For the duration of the operational phase 15 landowners/legal entities directly involved in the Project, would benefit financially. Long-term lease agreements are put in place and a positive economic impact is experienced in this regard. Cumulatively, landowners at the three wind farms benefit financially through rental incomes.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW +**		*EASY*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW +**		*EASY*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	POTENTIAL IMPACTS ON LAND VALUES: FARM PORTIONS INCLUDED IN THE PROJECT The Albany Wind Farm and related infrastructure would in all likelihood add value to land that is included in the Project, as rental incomes would be secured for the duration of the project. For the duration of the operational phase a possible positive economic impact in terms of land values is anticipated for those landowners. On a cumulative level, economic benefits for the landowners affected by the three WEFs are expected.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW +**		*EASY*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW +**		*EASY*	**LOW +**
		NO-GO	**NO-GO**						**NO IMPACT**	

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	POTENTIAL IMPACTS ON LAND VALUES/MARKET VALUES: SURROUNDING FARMS AND GAME RESERVES Concerns have been raised that visual impacts of wind farms could potentially impact negatively on land values/market values of surrounding agricultural land and/or Game Reserves. From a socio-economic perspective, experience indicates that infrastructure such as Eskom power lines and turbines would not have a negative impact on agricultural property values, although the potential impact on commercial land values would be more complex to determine. In addition to this, research done on the impact of wind turbines on tourism landscapes recognises that wind turbines are perceived more positively compared to other types of industrial facilities. The SIA Specialist conducted an interview with a land Valuer in 2014 who at the time indicated that Farm No. 68, Bedford district in extent of 919,920 hectares and located in very close proximity to the Cookhouse WEF, sold for R11,5 million (R150 000/ha for irrigated land and R7 800/ha for veld), which was far above market value. The wind turbines have a significant visual impact on Farm No. 68 as well as surrounding farms. Thirty hectares of Farm No. 68 were under irrigation then and 889 hectares veld (grazing). Construction of the Cookhouse WEF therefore had no negative impact on the market value of the farm. In a more recent interview, a former estate agent in the Somerset-East area indicated that the resale value of an agricultural farm in close proximity (approximately 8km) to the Cookhouse WEF has also increased significantly over the last number of years when it was sold recently. In terms of commercial land, the former owner of eZulu Game Reserve, located close to Cookhouse WEF and visually impacted by turbines, informed that the Reserve was sold to overseas buyers at the beginning of 2020 “who made an offer that could not be refused”. Negative cumulative impacts are unlikely. However, the detailed assessment of possible cumulative impacts on land/market values of farms fall outside the scope of this SIA study and should be investigated and rated by a Land Valuer/Economist if required.	**DIRECT**	**NO IMPACT**						**NO IMPACT**	
		CUMULATIVE	**NO IMPACT**						**NO IMPACT**	
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	GENERAL IMPACTS FOR THE LOCAL ECONOMY During the operational phase, the local economy could benefit in the following ways: • A possible increase in municipal rates and taxes, as the lease areas would be zoned "Special Use for Renewable Energy Infrastructure", resulting in higher levels of rateable income. • Induced impacts on retail sales, childcare, leisure and hospitality, real estate, etc. as more money circulates in the local economy due to: • Salaries and wages; • SED and ED contributions (currently the target set by DMRE is 2.1% of revenue); and • Shareholding in respect of local ownership (currently expected to be around 26%) , which leads to the increase in financial resources for the local community (local ownership dividends start accruing in most projects from year five to fifteen onwards, depending on the project finance structure); and • The establishment of local downstream industries and services that would support the Wind Farm's operations (to a lesser extent).	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**LOW +**		*EASY*	**LOW +**
	Cumulative: Positive impacts that are beneficial for the local economy have already been generated and would further be enhanced with the implementation of the Albany and Plan 8 WEF's. Locally, the Makana Winds of Change Community Trust, which emanates from the neighbouring Waainek Wind Farm, is a 26% shareholder in Waainek Wind Power (RF) (Pty) Ltd, which is operational since 2016. Dividends received are contributed on community development projects/initiatives within a 50 km radius of the wind farm (Refer Addendum, Section 17.2 for the SED and ED projects implemented). The cumulative impact of renewable energy projects for the country as a whole is significant. Based on the submitted numbers in the bid documents there is a 90% probability that the total resources committed to SED and ED around the 64 approved projects in round one to three of the procurement programme will accumulate to R570 780 737 million over the next 20 years. Local ownership is also expected to result in a significant financial value associated with dividends. Summarising the financial commitments of projects in the first three rounds for SED, ED and local ownership, a total of R1.17 billion has been allocated towards local economic development investments in communities around projects. This is generated and will be available over the next 20 years (Wlokas, 2015). In the Eastern Cape Province the IPP projects procured will make a combined SED commitment of R4.5 billion over the 20-year project life and R1.2 billion has been committed to ED alone (IPP Office, 2018).	**CUMULATIVE**	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**LOW +**		*EASY*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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SKILLS DEVELOPMENT AND SOCIAL RESPONSIBILITY	**COMMUNITY PROJECTS, SED AND ED CONTRIBUTIONS** To identify suitable projects for the SED and ED component, an Implementation and Monitoring Agent ("IMA") is appointed ahead of the operational phase to do a needs assessment and, following a stringent application process, source projects that are in line with the ED/SED program targets, aims and objectives. Pursuant to thorough evaluation by both the IMA and the Project, a decision is made by the Project Company to enter into a contract with the beneficiary for a specified duration. Such contract makes provision for a subsequent monitoring period of 6 months after the funding commitment has been fulfilled. Such monitoring is to ensure the project delivers as per its proposal and provide the necessary reports. The Project is required to report quarterly to the DMRE's Independent Power Producer Office ("IPPO"), which allows the IPPO to monitor use of SED and ED funds as committed by the Project (approximately 2.1% of revenue), as well as monitor the impact such contributions have on the community through funding of existing projects and enterprises. Albany WEF is committed to further design its own KPIs to assist monitor the direct impact each beneficiary has on the community, i.e. social inclusion, job creation and skills transfer. Cumulative: The collaboration of the three wind energy projects would increase the economic power within the "renewable energy development nodes" and ED and SED projects would be able to compete in the broader economy of the region and country. Enhance local food security, employment creation and skills development, thereby increasing the local workforce. In the Eastern Cape up to date, R4.5 billion has been committed to SED in local communities (IPP Office 2018). No-go: None of the benefits associated with community shareholding, ED and SED would manifest for locals. Skills development and capacity building through training and enterprise development would not occur.	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**LOW +**	*Identification of projects and respective training programmes must be done once a community needs analysis has been executed. Empower communities through training and leadership – not only to maintain a welfare relationship.* *Make gender and youth issues a specific outcome of the analysis to ensure that these groups are targeted.* *Provide feedback to the local communities and then draw up a community-accepted plan.* *All SED and ED plans must be transparently available to the local government and the community. If possible local government could play a role in monitoring progress of SED and ED projects.* *Effective information sharing could be done through the industry associated websites, emailed newsletters, municipal noticeboards, information events and meetings and existing local community channels used by the various wards.* *Ensure that the Trust/legal entity consists of democratically elected trustees.* *Community trustees need to have an understanding of how trusts work, financial management basics as well as some training in community facilitation and conflict resolution. There are tertiary institutions that are initiating such a programme and these could be approached to help deliver.* *It is recommended that fragmented community projects should at best be avoided and holistic income-generating projects for long-term income generation, employment creation and skills development would ensure greater sustainability.* *Link with existing NGOs and pre-established projects but make it a pre-requisite (and set targets) that new community-driven development processes be established and that the NGOs assist in skills transfer to these new groups and processes.*	*EASY*	**MODERATE +**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE +**			**MODERATE +**
		NO-GO	**NO IMPACT**							

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	TRAINING, SKILLS DEVELOPMENT AND CAPACITY BUILDING Training, skills development and capacity building during the operational phase will take place as follow: • Training for employees during operations. This shall be determined by the needs identified during the operational phase of the project and cannot be quantified at this stage; • Offering internships and possibly bursaries; and • Support of educational projects through ED contributions (approximately 0.6% of revenue). In addition to the contractual obligation with the DMRE in terms of targets and obligations, Albany WEF would set their own set of KPIs to assist to monitor the impact of skills transfer. Positive cumulative impacts of capacity building and training due to the three WEFs in Makana LM would hold some benefits and enhance skills of the local and regional workforce. As a result of the Waainek Wind Power's GYD Programme since inception in 2016, 619 people have benefited from skills transfer. This impact has been achieved with a 24MW wind farm, and the cumulative impact with Albany (140MW) is thus expected to be greater. In the Eastern Cape up to date, 37.9% of SED contributions have been used for education and skills development (IPP Office 2018). No-go: No skills transfer and capacity building in terms of renewable energy technology. No skills development and training in terms of community upliftment and income-generating projects. No long-term advantages associated with training (entrepreneurial development, small business development, poverty alleviation, etc.) would manifest.	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**SLIGHT**	**DEFINITE**	**LOW +**	• *There is a need for Wind Power companies to communicate with each other. Waainek, Albany and the Plan 8 WEFs need to at least be aware of each other's approaches in order to effectively communicate with local stakeholders and plan coherently.* • *Implementation of appropriate structures and partnerships with the Municipality LED Unit to manage projects, distribute funds and monitor progress. Ensure that the community priorities and projects are co-ordinated with the IDP priorities.*	*EASY*	**LOW +**
		CUMULATIVE			**MODERATE**	**DEFINITE**	**LOW +**		*EASY*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
INDIVIDUAL AND FAMILY LEVEL IMPACTS	**IMPACTS ON THE 'SENSE OF PLACE'** ''Sense of place' has at least two meanings. Firstly, even though someone has not even visited a place they could have a sense of what it is like. That image could be realistic or unrealistic, or may be dramatically simplified, but is usually based on the physical characteristics of that place. The second meaning is the particular sense that individuals have of places they know by experience (www.encyclopedia.com). In the study area biodiversity conservation is particularly important, which is exemplified by the Indalo Protected Environment and the supporting land uses of the majority of farms in and around the Project area (eco-tourism, game viewing and so forth). Respondents in the Kwandwe survey indicated that they visit the reserve to "have a bush experience" and that visual intrusions of turbines would "be a reminder of the (city) environment, which they are trying to escape". Potential impacts of turbines on wildlife, aesthetics and the landscape, and factors such an increase in crime, could thus alter the community and	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	• *Do a Security Risk Assessment with the inputs of private landowners and include land use management responsibilities for all affected parties in the lease agreements where applicable.* • *Implement all mitigation and management measures as proposed in the Specialist Noise and Visual Impact Assessment Reports.* • *Implement measures to increase communication and transparency between the landowners and Project as proposed in the previous sections of this report.* •	*DIFFICULT*	**MODERATE -**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	

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	tourists' sense of place. Even though wind farms are usually perceived less negative than other industrial infrastructure (Frantal and Kunc, 2011), the establishment of more wind farms in the study area have the potential to increase negative cumulative impacts on the community's sense of place.									
IMPACTS ON INFRASTRUCTURE AND SERVICES	**IMPACTS ON SERVICES AND COMMUNITY INFRASTRUCTURE** The Project will contribute to constant supply of energy to the region, which would be conducive for future developments and industry. On-site roads and fencing are likely to be upgraded and should be maintained as part of the landowners' lease agreement. Positive cumulative impacts of energy supply to the region, with advantages for households, business and industry.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	*Engage with the LED Unit and inform them of local investments and plans. This unit is crucial for the needs analysis and for the planning and implementation of local community investments. Ensure that results of the needs assessment and SED and ED expenditure are aligned and included with the IDP priorities.* *Build capacity within the Municipality and include the relevant officials in training programmes that is provided for the consultants and company top- and middle management in terms of conflict resolution, community engagement, gender and race awareness, development economics, social justice and constitutionalism.*	*EASY*	**LOW +**
		CUMULATIVE	**REGIONAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**LOW +**		*DIFFICULT*	**LOW +**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	GENERAL IMPACTS ON MAKANA LM AND THE BROADER REGION Even though the cost-competitiveness of renewable energy sources still holds many challenges, the proposed Albany Wind Farm would also introduce positive impacts on a local and regional level. The proposed Wind Farm reinforces the strategy of the Eastern Cape to gear the Eastern Cape as the capitol for energy generation in South Africa, it is sustainable and cannot be depleted, requires less maintenance and lower operational costs than in the case of fossil fuels, produces little or no waste products such as carbon dioxide and other chemical pollutants and would contribute to a constant supply of energy to the region. Implementation and operation of renewable energy projects, however, require local government involvement to assist with managing stakeholder and community relations. This poses various challenges, as there might be shortfalls in terms of capacity and management experience within the Municipality. Engagement between the IPP and local Municipality is also required during the operational phase to align SED and ED projects with LED priorities. Cumulative impacts could manifest for the Makana LM, which will depend on the level of their involvement in the three WEF Projects' socio-economic and enterprise development projects and Trust/legal entity operations. Confidence in the rating is low.	**DIRECT**	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW -**		*EASY*	**LOW +**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW -**		*DIFFICULT*	**LOW -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
LAND USE IMPACTS	**LAND USE MANAGEMENT** An agreement between Albany Wind Power and the landowners would be required to manage and maintain collective infrastructure such as fences and	**DIRECT**	**LOCALISED**	**LONG TERM**	**PROBABLE**	**MODERATE**	**LOW -**	*For the duration of the lease period retain on-going involvement with the current land management structures (landowners etc.) to ensure that responsibilities with regards*	*EASY*	**LOW +**

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	roads and to ensure that adequate resources are allocated to address potential issues of trespassing, an increase in security risks (livestock, copper and cable theft, etc.), veld fires as a result of illegal activities and so forth.	**CUMULATIVE**	**LOCALISED**	**LONG TERM**	**UNSURE**	**UNSURE**	**DON'T KNOW**	*to land management are adequately financed - collectively and individually where required. Responsibilities and financial provisions must form part of the lease agreements and it could be a mandatory requisite of the agreements that landowners use a portion of their incomes towards land management (security, fencing and so forth).*	*DIFFICULT*	**DON'T KNOW**
	Land use management practices and impacts at Waainek and Plan 8 WEFs are unknown and cannot be rated.	**NO-GO**	**NO IMPACT**						**NO IMPACT**	
	IMPACTS ON ARCHAEOLOGICAL/HISTORICAL SITES AND CULTURAL PRACTICES An Archaeological Impact Assessment ("AIA") was done for the proposed Albany WEF to establish the range and importance of the exposed and in situ archaeological heritage material remains, sites and features; to establish the potential impact of the development; and to make recommendations to minimize possible damage to the archaeological heritage (Booth Heritage Consulting; May 2018, Revised May 2019). It was found that: • Middle Stone Age (MSA) stone artefacts occurred in various locations over the proposed development area within the exposed and disturbed surface areas. • Several stone packed features were also recorded within the proposed development area. These included stone packed / walled kraals, an historical stone packed / walled farm boundary as well as the remains of foundations. • The built environment component included historical ruins that included farmhouses, other buildings and a church. A graveyard is associated with the church. • An old historical wagon route was pointed out by the owner of the Farm Grobbeler's Kloof situated at the entrance to the farm south off the N2 national, running parallel to N2 national road. Two wind energy facilities (Waainek WEF and Infinite Plan 8 WEF) that are situated within a 200 km radius of the proposed Albany WEF as well as the adjacent regions may spark a concern with regards to cumulative impacts that these projects may have on the heritage resources and the cultural landscape (Archaeological Impact Assessment, May 2019).	**DIRECT**	**LOCALISED**	**PERMANENT**	**PROBABLE**	**MODERATE**	**MODERATE -**	• *Structures and ancillary infrastructure be appropriately planned and placed and maintained in neat and appealing way.* • *Should any land claims arise (that have been verified by the Regional Land Claims Commissioner), conduct negotiations with legitimate claimants and affected landowners to determine how economic benefits must be distributed.* • *Consider all recommendations made in the Specialist AIA Report to minimise and/or eliminate potential impacts on archaeological / heritage resources.*	*EASY*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**PERMANENT**	**POSSIBE**	**SEVERE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
COMMUNITY / INSTITUTIONAL ARRANGEMENTS	**COMMUNITY MOBILIZATION** Negative attitude formation and community mobilization against the Project could result should adverse social and economic impacts manifest for landowners, communities, Private Game Reserves and other tourism related businesses as a result of visual/aesthetic impacts or the general wind farm operations. Another concern raised by I&APs was the	**DIRECT**	**MUNCIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**	• *Keep open communication channels with the landowners and Private Game Reserves and address any potential issues as a matter of priority.* • *Effective information sharing could be done through the industry associated websites, emailed newsletters, municipal noticeboards, information events and*	*DIFFICULT*	**LOW -**

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	potential of social conflict amongst communities due to unequal spread of financial benefits.	**CUMULATIVE**	**MUNCIPAL**	**LONG TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**	*meetings and existing local community channels used by the various wards.* • *Join the local Business Chamber of similar organisation that represent local business interests.* • *Consult with surrounding landowners whose livestock, private residences and other infrastructure could be affected by dust, noise and traffic on access rods.* • *Comply with all regulations of the Occupational Health and Safety Act*	*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
HEALTH AND SAFETY IMPACTS	**HEALTH AND SAFETY RISKS FOR WORKERS** Operation and maintenance of the wind farm/turbines are not labour-intensive and would be intermittent, which decreases the likelihood of construction related accidents occurring. Temporary workers doing site clearance and maintenance would be on site occasionally over short periods in time, and possible health issues due to dust (respiratory issues), noise and dehydration would be limited, although still possible. Health and safety issues at other wind farms are unknown and the cumulative impact cannot be determined.	**DIRECT**	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**SLIGHT**	**LOW -**	• *Implement measures to suppress dust on a regular basis, such as spraying water on gravel roads, surfaces and stock piles.* • *Workers on site to wear protective clothing.* • *All on-site activities to comply with the Occupational Health and Safety Act and with Standards of conditions of employment.* • *Safety fencing around the construction areas to prevent illegal trespassing.* • *Fire breaks to prevent the spreading of veld fires.* • *Display "danger" warning signs and "no public access" signs in English and the local languages at all potential accesses.* • *Implement all the safety and security measures as identified in the Security Risk Assessment.* • *Make the procedure to lodge complaints available to the surrounding property owners and Ward Councillor/s to enable them to lodge complaints when problems with regards to community and/or environmental health arise. Keep a complaints register at the entrance to the site.*	*EASY*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**UNSURE**	**DON'T KNOW**		*DIFFICULT*	**DON'T KNOW**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
	COMMUNITY HEALTH AND SAFETY RISKS Community health and safety risks could include: • Uncontrolled veld fires that destroy or damage surrounding farmland and infrastructure; • Road accidents if employees of the wind farm do not adhere to speed limits and implement general road safety practices; and • Unauthorized access / trespassing at the wind farm infrastructure resulting in public safety issues. Cumulative impacts on community health and safety may manifest once Plan 8 WEF is operational. Confidence in the rating is low.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*EASY*	**LOW -**
		CUMULATIVE	**MUNICIPAL**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**						**NO IMPACT**	
TRAFFIC FEASIBILITY STUDY AND MANAGEMENT PLAN										
None identified by specialist										
VISUAL IMPACT ASSESSMENT										
IMPACT OF WIND TURBINES ON VISUALLY SENSITIVE RECEPTORS	The draft Albany WEF VIA was conducted for 66 wind turbines. This has been reduced by 23 turbines to 43 turbines mostly due to concerns raised by I&APs relating to the visual intrusion of turbines. This includes the removal of 12 turbines in the western turbine cluster which are particularly visible to Kwandwe and Indalo Protected Environments in the west and north west, of which five turbines were located almost immediately adjacent to the south east boundary of Kwandwe (unprotected portion). While the remaining turbines still remain visible, this reduction in turbine numbers will reduce the density of turbines and numbers of visible turbines. The blade tip height of the remaining 43 proposed	**(DIRECT) ECCA NATURE RESERVE**	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SEVERE**	**HIGH -**	• *Other than the removal of further turbines from the Albany WEF project (in addition to the 23 turbines already removed since the draft VIA), there are no other feasible mitigation measures that will further reduce the visual intrusion of the wind turbines due to their size, height and visibility, and the lack of screening opportunities in the landscape. However, there are a number of measures and suggestions that can enhance the positive aspects of the impact.* ▪ *Ensure that there are no wind turbines closer than 500m to a residence.* ▪ *Turbines must be properly maintained. A spinning rotor is perceived as being*	*DIFFICULT*	**MODERATE -**
		(DIRECT) WATERS MEETING NATURE RESERVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) ROUNDHILL ORIBI LOCAL AUTHORITY NATURE RESERVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) KAP RIVER NATURE RESERVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT)	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**

SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (PROBABILITY/ LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	REVERSABILITY/ MITIGATION	SIGNIFICANCE POST-MITIGATION
	turbines is 215m (worst case scenario) above the ground. The viewshed of the 43 wind turbines was calculated using this value. As seen in the cumulative viewshed for the 43 Albany WEF turbines (Please see Figures 9.1 and 9.2 in the VIA), turbine hubs and blades will be visible from a wide area surrounding the WEF. Notable features within the viewshed include: the towns of 1) Makhanda, 2) Bathurst and 3) KwaNdwanyana, public nature reserves such as the 4) Great Fish River Nature Reserve, private game reserves such as 5) Kudu Ridge, 6) Bucklands, 7) Kwandwe, 8) Buffalo Kloof and 9) Coleridge, 10) multiple homesteads, 11) the N2 and R67 roads. The most significant cumulative visual impacts will come from the operational Waainek WEF located between over 10-15 km to the south west and the Proposed Plan 8 WEF located between about 5-10km to the north east of the Albany WEF site. The Waainek Wind Farm consists of eight (8) turbines, each with a hub height of 84m and a rotor diameter of 117m, and the Plan 8 facility will host up to 22 turbines, each with a hub height of up to 91.5m and a rotor diameter of up to 117m. Since turbine visibility diminishes with distance, as already described in this VIA, it is suggested that, due to the distances between the three respective wind farms, that the overall cumulative visual impacts will be MODERATE during the daytime. However, the impacts of night lighting could be HIGH, with the proposed Albany WEF making the largest contribution to the impact.	**GREAT FISH NATURE RESERVE 13-20 KM**						*useful. If a rotor is stationary when the wind is blowing it is seen as not fulfilling its purpose and a negative impression is created (Gipe 1995).* ▪ *Signs near wind turbines must be avoided unless they serve to inform the public about wind turbines and their function. Advertising billboards must be avoided.* ▪ *According to the Aviation Act, 1962, Thirteenth Amendment of the Civil Aviation Regulations, 1997: "Wind turbines shall be painted bright white to provide maximum daytime conspicuousness. The colours grey, blue and darker shades of white must be avoided altogether. If such colours have been used, the wind turbines shall be supplemented with daytime lighting, as required."* ▪ *Lighting must be designed to minimise light pollution without compromising safety. Investigate using motion sensitive lights for security lighting. Turbines are to be lit according to Civil Aviation regulations* ▪ *Aviation standards and CAA Regulations for turbine lighting must be followed.* ▪ *The possibility of limiting aircraft warning lights to the turbines on the perimeter according to CAA requirements, thereby reducing the overall impact, must be investigated.* ▪ *Other available navigation lighting technologies must be investigated such as:* *- Detection-Based Activated Lights Systems (where specific receptors turn on lights only when an aircraft is detected).* *- Pilot Activated Lights (where the aircraft pilots activate the lights manually when they are in the vicinity – system is currently not preferred by CAA).* ▪ *Lighting of ancillary buildings and structures should be designed to minimise light pollution without compromising safety. Motion sensitive lighting can be used for security purposes.*		
		(DIRECT) GREAT FISH NATURE RESERVE 20-50 KM	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) BEGGARS BUSH STATE FOREST	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) KWANDWE PRIVATE GAME RESERVE (INDALO) NORTH	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**HIGH -**
		(DIRECT) KWANDWE WEST INDALO PROTECTED ENVIRONMENT	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**HIGH -**
		(DIRECT) BUFFALO KLOOF PROTECTED ENVIRONMENT	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) KWANDWE PRIVATE GAME RESERVE NORTH (NONE INDALO)	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**HIGH -**
		(DIRECT) KUDU RIDGE PRIVATE GAME RESERVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) BUCKLANDS PRIVATE NATURE RESERVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) SALVATORE FARMS	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) COLERIDGE PRIVATE GAME RESERVE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) HUNTERSHOEK LODGE	**MUNICIPAL**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		(DIRECT) MAKHANDA	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**LOW -**
		(DIRECT) BATHURST	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) KWANDWANYANA	**MUNICIPAL**	**LONG TERM**	**PROBABLE**	**SLIGHT**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) RESIDENTS ON LOCAL FARMS	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**

SYNTHESIS OF SPECIALIST IMPACTS AS EXTRACTED FROM THE SPECIALIST REPORTS										
ISSUE	**DESCRIPTION OF IMPACT**	**NATURE OF IMPACT**	**SPATIAL SCALE (EXTENT)**	**TEMPORAL SCALE (DURATION)**	**CERTAINTY SCALE (PROBABILITY/ LIKELIHOOD)**	**SEVERITY / BENEFICIAL SCALE**	**SIGNIFICANCE PRE-MITIGATION**	**MITIGATION MEASURES**	**REVERSABILITY/ MITIGATION**	**SIGNIFICANCE POST-MITIGATION**
		(DIRECT) N2 TO PEDDIE AND MAKHANDA	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) ECCA PASS	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) N2	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) BLAAUWKRANTZ PASS	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) R67 TO FORT BEAUFORT	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) R67 TO PORT ALFRED	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		(DIRECT) COMMITTEES DRIFT ROAD	**LOCALISED**	**LONG TERM**	**POSSIBLE**	**MODERATE**	**LOW -**		*DIFFICULT*	**LOW -**
		CUMULATIVE	**REGIONAL**	**LONG TERM**	**DEFINITE**	**SEVERE**	**HIGH -**	There are no feasible mitigation measures that the Albany WEF is able to implement to further reduce its contribution to the cumulative impacts of the three wind farms on the surrounding areas, in addition to the 23 turbine reduction already implemented by the applicant. If each wind farm implements the mitigation measures suggested in their respective individual VIAs and Environmental Management Programmes, this will contribute to a reduction in the cumulative impact to some extent. With respect to night lighting, the mitigation measures described above with respect to reducing turbine lighting, will also likely contribute to a reduction in cumulative impacts.	*DIFFICULT*	**HIGH -**
		NO-GO	**NO IMPACT**							
IMPACT OF NIGHTLIGHTS ON EXISTING LANDSCAPE	Wind farms are required by law to be lit at night as they represent hazards to aircraft due to the height of the turbines. Marking of turbines depends on wind farm layout and not all turbines need to be lit. Marking consists of a red flashing light of medium intensity (2000 candela). Sensitive visual receptors that would experience the high lighting intrusion include Ecca Nature Reserve, Kwandwe Private Game Reserve North (Indalo), Kwandwe West Indalo Protected Environment, Buffalo Kloof Protected Environment, Kwandwe Private Game Reserve (non Indalo) and Kudu Ridge Private Game Reserve. High lighting intrusion particularly relates to the 20 turbines located in the western cluster.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**	Aviation standards and CAA Regulations for turbine lighting must be followed. The possibility of limiting aircraft warning lights to the turbines on the perimeter according to CAA requirements, thereby reducing the overall impact, must be investigated. Other available navigation lighting technologies must be investigated such as: ▪ *Detection-Based Activated Lights Systems (where specific receptors turn on lights only when an aircraft is detected).* ▪ *Pilot Activated Lights (where the aircraft pilots activate the lights manually when they are in the vicinity – system is currently not preferred by CAA).* Lighting of ancillary buildings and structures	*MODERATE*	**HIGH -**
		CUMULATIVE	**REGIONAL**	**LONG TERM**	**PROBABLE**	**SEVERE**	**HIGH -**		*DIFFICULT*	**HIGH -**

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	The applicant estimates that up to 50-60% of the Albany WEF turbines will need to have navigation lights (i.e. 40-50% will not require lighting). While this reduced aviation lighting will significantly mitigate the night lighting impacts, this is still subject to approval and very much dependent on the requirements of the CAA. The most significant cumulative visual impacts will come from the operational Waainek WEF located between over 10-15 km to the south west and the Proposed Plan 8 WEF located between about 5-10km to the north east of the Albany WEF site. The Waainek Wind Farm consists of eight (8) turbines, each with a hub height of 84m and a rotor diameter of 117m, and the Plan 8 facility will host up to 22 turbines, each with a hub height of up to 91.5m and a rotor diameter of up to 117m. The impacts of night lighting could be high, with the proposed Albany WEF making the largest contribution to the impact.							should be designed to minimise light pollution without compromising safety. Motion sensitive lighting can be used for security purposes.		
		NO-GO	**NO IMPACT**							
SHADOW FLICKER	According to the data sets available to the author there are five buildings within 500m and 130 degrees either side of south of a turbine. However, these buildings farm stores/sheds and are not residential dwellings.	**NEGLIBIBLE – THIS LAYOUT WILL NOT RESULT IN IMPACTS ASSOCIATED WITH SHADOW FLICKER**								
DECOMMISSIONING PHASE										
AGRICULTURE IMPACT ASSESSMENT										
None identified by specialist										
AVIFAUNAL IMPACT ASSESSMENT										
DESTRUCTION OF BIRD HABITAT	Construction of the facility will result in a certain amount of destruction and removal of natural vegetation which was previously available to avifauna for use. This impact is anticipated to be of MODERATE NEGATIVE significance pre mitigation. The area is also significantly disturbed by various human activities including: the N2 highway; pipelines; roads; power lines; and general farming practices.	**DIRECT**	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	*The sensitivity map in Chapter 6 of the Avifaunal Report must be adhered to.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**STUDY AREA**	**LONG TERM**	**DEFINITE**	**SLIGHT**	**LOW -**	*No mitigation possible*	*DIFFICULT*	**LOW -**
DISTURBANCE OF BIRDS	This is rated as LOW NEGATIVE significance, on account of there being no known breeding sites of sensitive bird species on or near site.	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**LOW -**	*The sensitivity map in Chapter 6 of the Avifaunal Report must be adhered to.*	*EASY*	**LOW -**
		CUMULATIVE	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**STUDY AREA**	**SHORT TERM**	**PROBABLE**	**SLIGHT**	**LOW -**	*No mitigation possible*	*DIFFICULT*	**LOW -**
BAT IMPACT ASSESSMENT										
DESTRUCTION / DISTURBANCE OF BAT ROOSTS	If the construction of roads, power lines, turbines, office and maintenance buildings, substations and other infrastructure for the proposed Albany WEF causes disturbance or destruction of a few small farm buildings on site, this would affect only a small number of house-dwelling bats. However, construction would have a significant impact on local bats if it affected	**DIRECT**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**	*Clearing of natural vegetation areas be kept to a minimum.* *Whilst it is unlikely that any new large roosts (consisting of more than 50 bats) will be discovered on site or immediately adjacent, such roosts must be reported if found during the operational phase.*	*EASY*	**LOW -**

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	larger roosts. While IWS only found small roosts, there is a moderate to high potential of roosts in the steeper, rocky sections in the south and south-east of the Albany WEF site. The deep rocky gorges are likely to provide suitable roosting habitat to several species and the diversity of species recorded at AL2 is testament to this. These areas were not accessible to fully assess. This potential impact, therefore, has a Medium Significance rating, which can be reduced to Low by the following recommended mitigation measures.	**CUMULATIVE**	**STUDY AREA**	**SHORT TERM**	**POSSIBLE**	**MODERATE**	**MODERATE -**		*DIFFICULT*	**MODERATE -**
		NO-GO	**NO IMPACT**							
ECOLOGICAL IMPACT ASSESSMENT										
The ecological impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.										
HERITAGE IMPACT ASSESSMENT										
None identified by specialist										
NOISE IMPACT ASSESSMENT										
None identified by specialist										
PALAEONTOLOGICAL IMPACT ASSESSMENT										
None identified by specialist										
SOCIAL IMPACT ASSESSMENT										
The socio-economic impacts associated with the decommissioning phase will be similar to those listed in the construction phase and the associated mitigations measures must be updated and implemented to reduce potential adverse impacts.										
TRAFFIC FEASIBILITY STUDY AND MANAGEMENT PLAN										
None identified by specialist										
VISUAL IMPACT ASSESSMENT										
REMOVAL OF TURBINE STRUCTURES	Wind farms are typically designed for a 25-year life. After 25 years, the proposed Albany Wind Farm may either be refurbished (re-powered) or decommissioned. If it is decommissioned, the impacts during the decommissioning phase will be very similar to those identified in the construction phase.	**DIRECT**	**MUNICIPAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**MODERATE -**	*The construction contractor must clearly demarcate construction areas to minimise site disturbance.* *Clearance of vegetation must be minimised, and restoration of cleared areas must start as soon as possible.* *Erosion risks must be assessed and minimised as erosion scarring can create areas of strong visual contrast which can often be seen from long distances.* *Treat roads to reduce dust emissions.* *The site must be kept neat and tidy. Littering should be fined, and the ECO should organise rubbish clean-ups on a regular basis.* *Night lighting of the construction sites must be minimised within requirements of safety and efficiency. See section on lighting for more specific measures.*	*MODERATE*	**MODERATE -**
		CUMULATIVE	**REGIONAL**	**SHORT TERM**	**DEFINITE**	**MODERATE**	**HIGH -**		*DIFFICULT*	**HIGH -**
		NO-GO	**NO IMPACT**							