

# PROPOSED GRID CONNECTION FROM IMPOFU WIND FARMS TO CHATTY SUBSTATION NEAR PORT ELIZABETH, EASTERN CAPE

DEA Ref. No.: 14/12/16/3/3/1/2018

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## NON-TECHNICAL SUMMARY OF THE DRAFT BASIC ASSESSMENT REPORT

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### INTRODUCTION

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Red Cap Impofu (Pty) Ltd (Red Cap) is overseeing the proposed development of a Grid Connection to evacuate power generated from the proposed Impofu Wind Farms, comprised of Impofu North Wind Farm (DEA ref. no.: 14/12/16/3/3/2/1102), Impofu East Wind Farm (DEA ref. no.: 14/12/16/3/3/2/1104) and Impofu West Wind Farm (DEA ref. no.: 14/12/16/3/3/2/1103). An initial environmental screening process identified a preferred assessment corridor between the proposed wind farms and the Chatty substation near Port Elizabeth, approximately 2 km wide. This corridor was assessed in the Basic Assessment to see if an acceptable alignment for the overhead powerline could be located within this corridor. The Final Environmental Impact Reports (EIRs) for all three Wind Farm Applications were submitted to the Department of Environmental Affairs (DEA) on 26 June 2019 for decision-making. This Draft Basic Assessment Report (BAR) relates only to the proposed Grid Connection. In August 2018, a version of this Non-Technical Summary (NTS) was circulated to the public as a pre-application NTS. It was later updated in April 2019 to an official draft BAR NTS based on comments received, ongoing landowner consultation, as well as further specialist input. Subsequently in September 2019, the Draft BAR NTS has been updated to include a new alignment of the Grid Corridor.

Red Cap will be responsible for the construction phase of the proposed grid connection development. After construction is complete, ownership of the grid connection infrastructure will be transferred to Eskom, who will then be responsible for the long-term operation and maintenance of the infrastructure, as well as decommissioning should the need arise.

In terms of the current environmental law<sup>1</sup>, a Basic Environmental Assessment (BA) process is needed because the proposed project triggers several listed activities in the regulations, namely activities 11, 12, 19, 27, 28 of Government Notice (GN) R983 of 2014 (as amended), and activities 4, 12, 15 and 18 of GN R985 of 2014 (as amended). The purpose of the BA process is to evaluate the environmental and socio-economic characteristics of the proposed project and the consequences of the project on the environment and people living in the area that could be affected by the proposed project activities. The proposed project therefore requires authorisation by the environmental decision-maker, which in this case is the National Department of Environmental Affairs (DEA). Red Cap as the Proponent has appointed Aurecon South Africa (Pty) Ltd (Aurecon) as the environmental consultancy to undertake the environmental authorisation process for the proposed project. The various stages of the BA process are shown in Figure 1. This document is a non-technical summary (NTS) of the draft Basic Assessment Report (BAR) prepared for the project. It provides an overview of:

- the infrastructure that is being proposed;
- the corridor within which the grid connection will be located that has been considered in the project;
- a summary of the potential environmental impacts as well as highlighting some of the key mitigation measures;
- details of the public participation process conducted to date; and
- the way forward.

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<sup>1</sup> National Environmental Management Act (Act No 107 of 1998) (as amended) (NEMA) and the associated Environmental Impact Assessment Regulations.

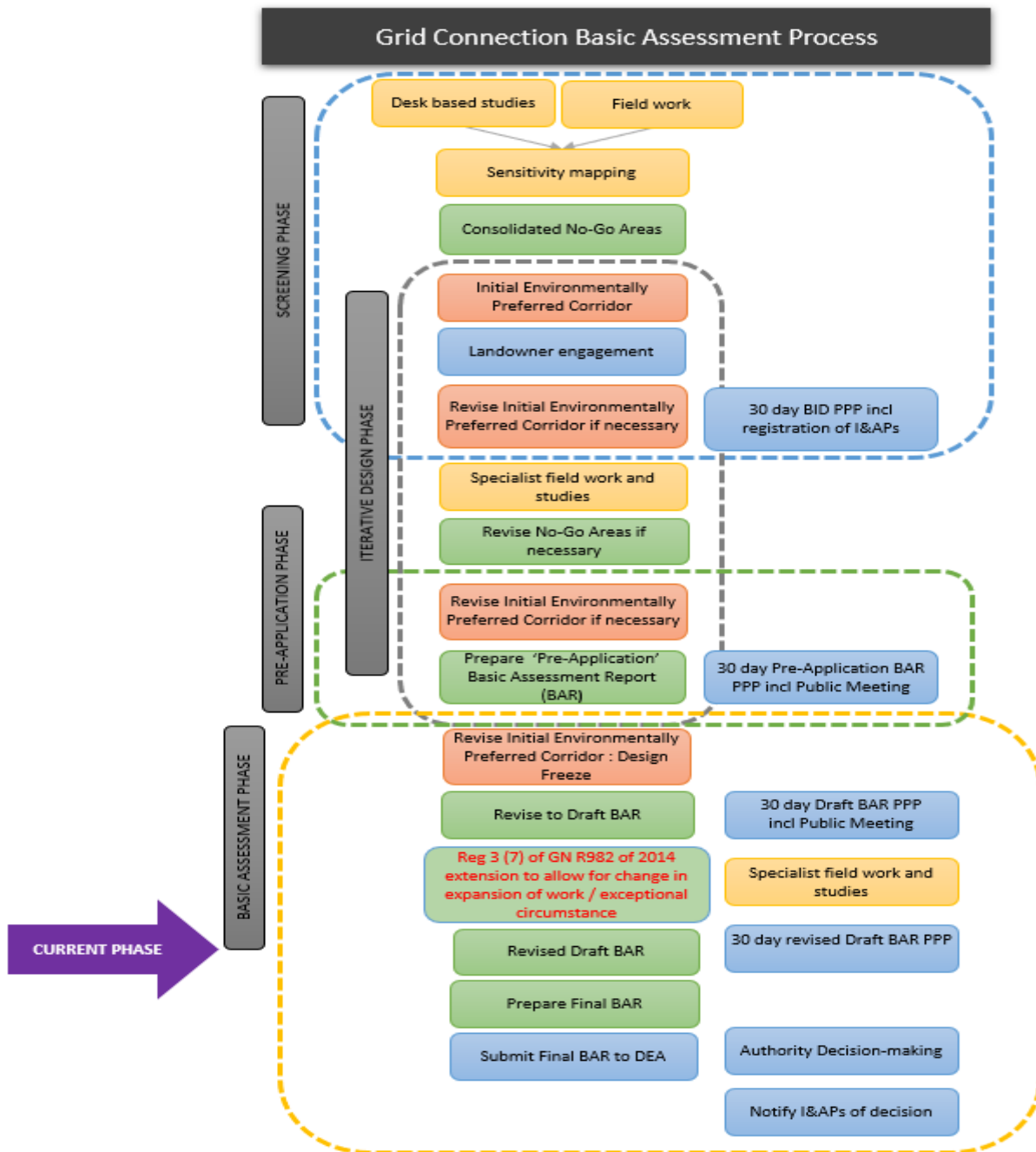


Figure 1: The BA process for the proposed project

## WHAT IS BEING PROPOSED AND WHERE?

To evacuate the power generated by the proposed Impofu Wind Farms, a connection to the national Eskom electricity grid is required. The proposed Grid Connection includes three short separate overhead powerlines that originate at the three proposed wind farms' switching stations which then run to a combined central "collector switching station" situated on one of the wind farms' land. From this collector switching station, a single overhead powerline will continue towards Port Elizabeth via the existing Eskom Melkhout Substation, following the existing Eskom overhead powerlines where possible.

Due to the complexity of aligning linear infrastructure to avoid environmental sensitivities, adhere to technical specifications, and satisfy the concerns of affected landowners and other interested and affected

parties, this BA considers a corridor of approximately 2 km, within which the overhead powerline will be located. Ultimately, the overhead powerline will require a 31 m servitude, 15,5 m either side of its centre line within this 2 km corridor.

Within this corridor, the line may pass through the existing Eskom Melkhout substation located just north of Humansdorp and will continue to the western outskirts of Port Elizabeth where it connects into the Nelson Mandela Bay Municipality (NMBM) Sans Souci substation. From Sans Souci substation the line then continues to the NMBM Chatty substation where the grid connection terminates. The reason it is proposed that the powerline goes through the Eskom Melkhout substation and the NMBM Sans Souci substation is to improve the evacuation capacity and technical parameters of the grid connection, as well as improving the overall stability and reliability of the Eskom and NMBM networks. Currently the intention is for the powerline to link into the existing Eskom Melkhout substation, however there is a possibility that prior to construction Eskom may choose not to connect based on an assessment of their network. Should this be the case, the line will run just passed Melkhout and the short section of line linking into the substation will not be constructed. A potential area for expansion around the existing Melkhout, Sans Souci and Chatty substations has been included in this application which may be required to allow the powerline to connect to the substations.

A variety of different monopole pylon options are required along the powerline, depending on if they are along a straight section in the line, or positioned at bends, and then how sharp the bend is or if there is a large river/ gorge to cross. The type of pylon and distance of the spans between pylons depends on the topography and alignment of the line. Figure 2 illustrates the main pylons that could be used and what the switching stations could look like.

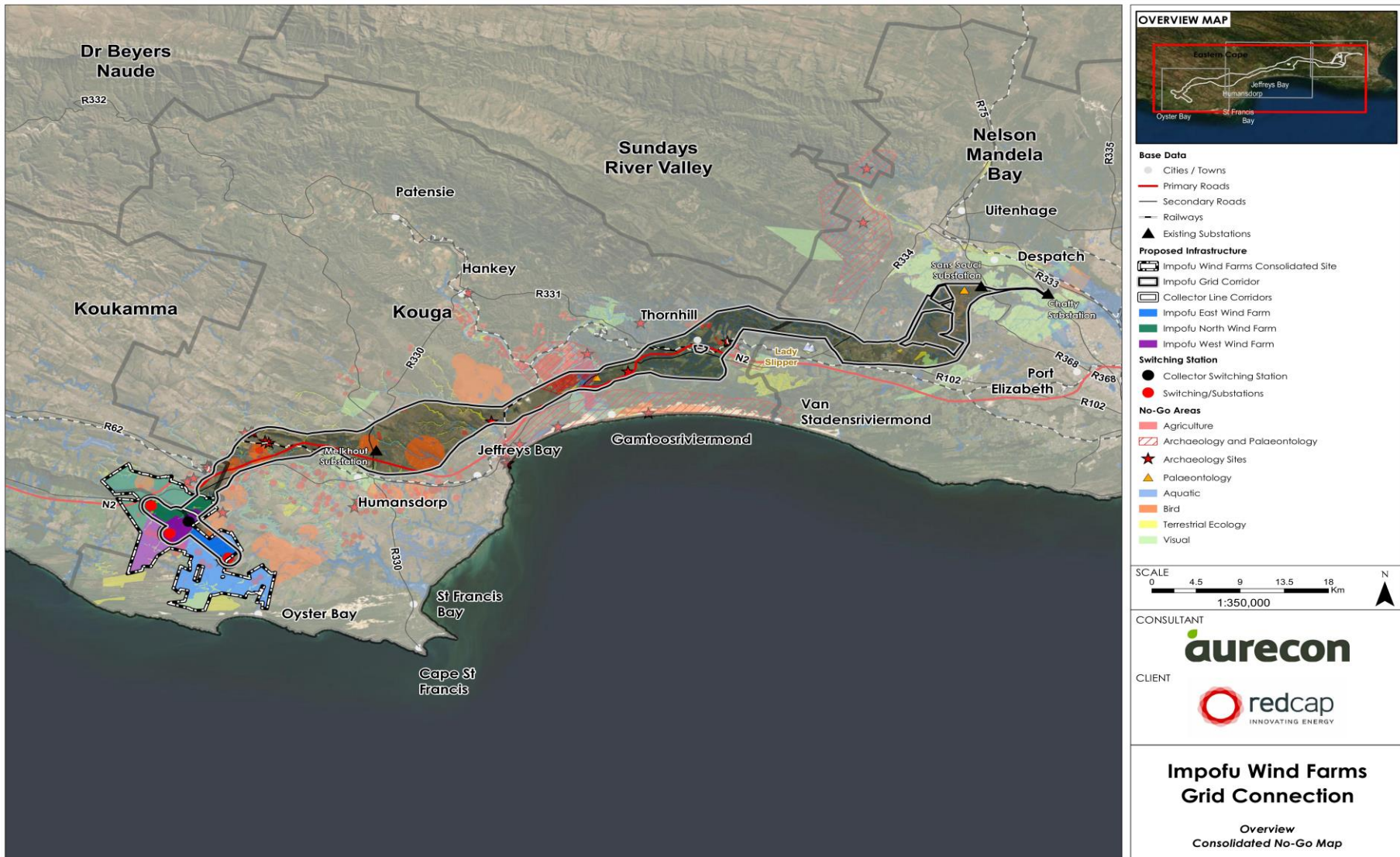


**Figure 2: Examples of the main types of pylons to be used and of a switching station (see BAR for detail)**

Other infrastructure required will include roads, fencing, temporary laydown areas and site camps. The roads/ tracks will be required for construction purposes and would remain in place for the operational lifespan of the line for maintenance. Existing roads will be used as far as possible and upgraded only if necessary. New access tracks (unsurfaced tracks of approximately 4 m wide) will only be developed where no access road/track currently exists.

The location of the proposed grid connection corridor in relation to the proposed Impofu Wind Farms and other energy projects in the area, is illustrated in the Locality Map (Figure 3) on the following page.





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Figure 3: Overview of the proposed Impofu Grid Connection

## ALTERNATIVES CONSIDERED?

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The NEMA process requires that alternatives are considered during the environmental impact assessment process, unless motivation can be provided as to why alternatives have not been considered. An alternative is defined as a possible course of action, in place of another, that would meet the same purpose and need.

Alternatives have been screened out of this BA through a detailed screening process. The need for this proposed Grid Connection is coupled with the proposed development of the Impofu Wind Farms. Based on the existing electricity grid infrastructure in the area, it was determined that a 132 kV overhead powerline would need to be constructed between the proposed wind farms near Oyster Bay, and the nearest reasonable substations that could evacuate the electricity generated by the wind farms. It was determined that this would require a 132 kV powerline between the Kouga area (Dieprivier/ Melkhout substations) and Port Elizabeth (Grassridge/ Chatty substations), covering a distance of approximately 120 km.

High-level environmental screening was undertaken which included high-level biodiversity (plants and animals), avifauna (birds), bats, surface water, soils, agricultural potential and landowner issues as criteria. This also used the significant amount of information on grid alignments and impacts in the area that were assessed in the Thyspunt 400 kV EIA process that was undertaken by Eskom, but which never received Environmental Authorisation.

Following the appointment of Aurecon, a screening phase (see Figure 1) was undertaken to refine the proposed assessment corridor. Through desktop and field-based assessments, a broad corridor was mapped with environmental sensitivities and No-Go areas identified by specialists. In September 2017, the team of specialists (listed below in Table 1), environmental consultants from Aurecon, engineers and Red Cap met on site for a multi-day site visit, as well as a set of workshops to discuss the receiving environment and the proposed development. Together, a preferred 3 km corridor was selected, acknowledging the mapped sensitivities as well as the existing infrastructure in the area. After a meeting with the competent authority (DEA) in October 2017, it was advised that a smaller corridor should be assessed to reduce risk relating to the level of assessment that was possible. Following their advice, the average width of the corridor has been reduced to 2 km to allow for the uncertainties with regard to landowner consent, lowering the risk of unnecessarily involving additional I&APs and ensuring that robust specialist studies could still be undertaken.

The location of the substation/collector switching stations and the short HV overhead powerlines were developed iteratively (with input from landowners, specialists & engineers) during the prelim design stage and these locations /alignments were then assessed during screening and were further refined. These were then settled on as the preferred alternatives as they were found to be the least environmentally sensitive, most landowner friendly and most technically feasible.

The No-Go alternative has been assessed and this assumes that the proposed activity does not go ahead, and the *status quo* will continue. This alternative can provide the baseline scenario against which other alternatives can be compared. In this case the benefits of the project would be relinquished and the opportunity to provide renewable energy contributing to national targets would not be achieved in this instance.

Red Cap have proactively sought to identify the best practical environmental option possible for the identified project site through a rigorous, iterative and multi-disciplinary process, that drew on the considerable body of existing knowledge and expertise relating to the study area. This approach aligns with the NEMA principles advocating for sustainable development through the adoption of the mitigation hierarchy as set out in section 2 of NEMA and depicted in Figure 4 below. Thus, the project team is confident that the most reasonable and feasible alternative has been considered in this BA process, and no further alternatives are considered in this report.

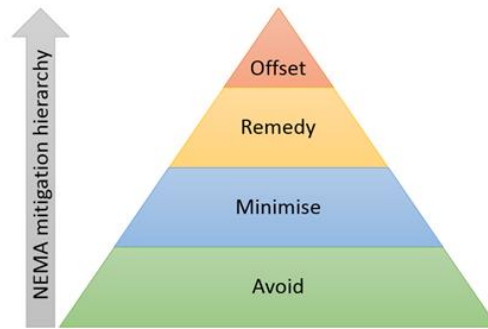


Figure 4: Mitigation hierarchy

## WHAT ARE THE ANTICIPATED ENVIRONMENTAL IMPACTS & BENEFITS?

The construction and operation of the proposed Grid Connection, could potentially harm the environment and at the same time could result in positive impacts. The purpose of this BA is therefore to see what impacts could occur, and how best they could be mitigated, i.e. how they could be reduced if they are negative impacts or enhanced if they are positive impacts. A team of specialists was employed to undertake specific assessments based on their experience in each of the environmental aspects.

The significance of these impacts was assessed using a consistent methodology supplied by the EAP and is described in detail in the BAR. It is also possible that the impacts created by the development of the proposed Impofu Grid Connection could add to the potential impacts that additional new linear infrastructure could have in the area. The cumulative impact is therefore also assessed.

Table 1: BA project team

Role	Consultant	Company
<b>BA and Project Management</b>		
Project Leader	Charles Norman	Aurecon South Africa (Pty) Ltd
Environmental Assessment Practitioner	Charles Norman	Aurecon South Africa (Pty) Ltd
<b>Sub-Consulting Specialists</b>		
Terrestrial ecology	Simon Todd	3 Foxes Biodiversity Solutions (Pty) Ltd
Agriculture	Johann Lanz	Private Consultant
Avifauna	Chris van Rooyen	Chris van Rooyen Consulting
Aquatic ecology, incl. geohydrology	Dr Brian Colloty	EnviroSci (Pty) Ltd
Archaeology	Dr Peter Nilssen	Private Consultant
Palaeontology	John Almond	Natura Viva
Socio-economic/ tourism	Matthew Keeley and Thomas Parsons	Urban Econ Development Economists
Visual	Bernard Oberholzer and Quinton Lawson	Bernard Oberholzer Landscape Architects (BOLA)



**TERRESTRIAL ECOLOGY (excluding birds)**

The construction of the proposed switching stations, collector switching station and pylons for the overhead powerline will require land to be transformed/ disturbed and vegetation to be cleared which will lead to potential negative impacts on the plants and animals, i.e. the terrestrial ecology. The loss of this natural vegetation and groundcover has the potential to impact the ecological systems and processes that currently exist.

The proposed Grid Corridor covers a large area which has fourteen different vegetation types, including the Gamtoos Thicket, Albany Coastal Belt, Groot Thicket and Sundays Thicket which fall within the Albany Thicket Biome; Tsitsikamma Sandstone Fynbos, Kouga Sandstone Fynbos, Kouga Grassy Sandstone Fynbos, Algoa Sandstone Fynbos and Humansdorp Shale Renosterveld which are part of the Fynbos Biome. Some of these vegetation types are more sensitive than others and are mapped as critical biodiversity areas (CBAs) and ecological support areas, which mean that they need to be conserved.

There are not many plant species of conservation concern that occur along the corridor, however there are several sections that are more sensitive than others and include protected plant species like Milkwood trees. These areas have been provided to the design team and will be avoided as far as possible, with some areas being marked as No-Go. The terrestrial ecologist has recommended that a preconstruction walk-through of the final powerline alignment should be undertaken to reduce the potential impact on sensitive species, although it is likely that there will be some unavoidable residual impact on species of concern. However, as the footprint of the power line is largely linear in nature, the impact in any one area is likely to be low and it is not likely that any species would be significantly compromised or reduced as a result of the powerline

In the NMBM area, specific attention should be paid to reducing impact on intact vegetation and the powerline should align with existing disturbances as much as possible. The final alignment should be reviewed by the ecological specialist to ensure that an acceptable impact on CBAs has been achieved. The footprint of the powerline in any one place is however low and as a result a significant loss of biodiversity within the CBAs is highly unlikely and the potential for disruption of ecological processes is also very low.

The terrestrial ecologist considered mammals and the total extent of habitat loss within each habitat along the powerline is low and a significant resulting impact on mammals is considered unlikely and no species would likely be disproportionately impacted by the proposed grid connection infrastructure. The major impact would occur at the construction phase as a result of habitat loss with impacts during operation likely to be low as there is little scope for negative interaction between the grid connection corridor and mammals

Regarding amphibians, there are numerous earth dams, wetlands and drainage lines present along the grid connection corridor which represent important habitat for frogs. However, as these features would be avoided as far as possible, direct impact on important amphibian habitats would be low and no significant impacts on any particular species or habitats would occur. Overall, impacts on reptiles are likely to be relatively low due to the transformation of much of the grid connection corridor and the low footprint within the intact areas.



**Figure 6: Frogs commonly observed in the area include from top right, Common Caco, Cape River Frog and Raucous Toad**



The sensitivity of the proposed powerline route varies a lot and is driven primarily by the high degree of transformation that some areas have experienced and the contrasting high conservation value of the some of



the remaining intact areas. The on-site and collector switching station positions are all located within areas that are transformed or highly degraded and no significant impacts from this component of the development is likely. The powerline itself is relatively long and as a result traverses a wide range of habitats and ecosystems including a variety of listed or sensitive ecosystems. However, due to the linear nature of the powerline, the impact in any one place is low and significant habitat loss or impact within sensitive areas can be reduced through careful placement of the pylons and reducing the development footprint as much as possible. The current levels of cumulative impact which can be attributed to powerline development within the area remains low.

## AVIFAUNA (birds)

Negative interactions between wildlife and electricity structures take many forms, but two common problems in southern Africa are electrocution of birds (and other animals) and birds colliding with powerlines. Other problems include electrical faults caused by bird excreta when roosting or breeding on electricity infrastructure, and displacement through disturbance and habitat destruction during construction and management activities.

The avifaunal habitats over which the proposed Grid Corridor is located, ranges from low to very high sensitivity. There is a broad gradient from highly sensitive to least sensitive from west to east, with the habitat west of the Gamtoos River being significantly more sensitive than to the east of the Gamtoos River

The Grid Corridor does not overlap with any Important Bird Areas (IBAs). The closest IBA is the Swartkops Estuary - Redhouse and Chatty Saltpans IBA SA096, located at least 1.4 km east of the Chatty substation. The movement of birds associated with the IBA is expected to be along the Swartkops River, which runs in a north-westerly direction, away from the alternative alignments. During the latest count<sup>2</sup>, in January 2018, two Red Data species, African Marsh-harrier and Caspian Tern (see Figure 7), were recorded.



Figure 7: Red Database species, African Marsh-harrier (left)<sup>3</sup> and Caspian Tern (right)<sup>4</sup>

Several Red Data species which could potentially occur within the Grid Corridor were identified by the specialist and are listed in the report. These birds are found within a range of bird habitat classes including inland coastal vegetation, dams, pastures, forests, fynbos and renosterveld, grassland, areas of heavy alien degradation, plantations, savanna, thicket as well as urban and industrial areas.

Based on the knowledge of the area, and the understanding of how birds interact with large electrical infrastructure, the bird specialist provided input into the sensitivity mapping that was undertaken during the Screening Phase to identify areas that should be avoided in the alignment of the Impofu Grid Corridor. No-Go areas included active Martial Eagle nests (with a 1.5 km buffer due to the nest being out of site from construction as it is in a kloof), Black Harrier communal roost (2 km buffer) and Denham's Bustard display sites (1 km buffer), as well as the IBAs. In some areas along the corridor, the proposed Impofu Grid

<sup>2</sup> ADU 2018. <http://cwac.adu.org.za/>

<sup>3</sup> Image source: Ian Wood, IBC1089958. Accessible at [hbw.com/ibc/1089958](http://hbw.com/ibc/1089958)

<sup>4</sup> Image source: Dick Daniels/Wikimedia (CC BY-SA 3.0)

Connection is likely to run adjacent to the existing Eskom 132 kV overhead powerline, and this will be accepted within the No Go buffer areas, given that this would result in a lower negative impact by having both gridlines in the same area rather than deviating from each other. In some areas of higher sensitivity, the specialist indicated that bird flight diverters should be placed on the overhead powerline. These devices make the powerline more visible to the birds and could result in up to 57 % less of an impact.

## **AQUATIC ECOLOGY**

The proposed Grid Corridor falls over nine quaternary catchments of the South Eastern Coastal Belt Ecoregion within the Mzimvubu-Tsitsikamma Water Management Area. Mainstem river systems that occur within these quaternary catchments include the Klifdrift River, Krom/ Diep rivers, Gellhoutboom River, Seekoei/ Swart rivers, Kabeljous River, Gamtoos River, Van Stadens/ Maitlands rivers, Brak River, and Swartkops/ Chatty rivers.

In terms of the National Freshwater Ecosystems Priority Areas (NFEPA) assessment, all the watercourses within the initial grid assessment corridor are mostly moderately to largely modified but with some biological significance. This is largely because the areas within the catchments have been transformed from natural vegetation to pasture, for agriculture.

The only remaining riparian zones (areas on the banks of watercourses) are found within the steep river valleys associated with the study area, most of which have been lost to alien tree invasion, while several wetlands remain as these areas are too wet for agricultural production or grazing. The only exceptions being the Brak, Swartkops and Chatty river reaches that no longer have any natural function. This is due to the industrial development, large scale transformation for housing and the associated illegal dumping and leaking sewers that have affected these systems.

Wetlands that occur within the study area are classified as channelled and unchannelled valley bottom wetlands, endorheic pans/ depressions, artificial or man-made systems such as dams, reservoirs/ irrigation balancing dams, and the Gamtoos Estuary.

The proposed Grid Connection would have limited impact on the aquatic environment if any of the proposed structures regardless of type, avoid the delineated wetlands (with 50 m buffer applied to each) and water courses. Furthermore, by making use of existing tracks or roads as far as possible and where new access roads are required, sensitive aquatic areas must be avoided.

It is unlikely that the proposed Impofu Grid Connection would add more than a minor negative impact on the aquatic ecology in addition to the proposed additional infrastructure in the region, given that existing access routes will be used where possible, and other impacts such as erosion or sedimentation would be small scale and localised when considering the overall state of the aquatic environments.

## **SOCIO-ECONOMIC CONTEXT**

The proposed Impofu Grid Corridor begins in the Koukamma Local Municipality and runs through the Kouga Local Municipality, both local municipalities fall within Sarah Baartman (formally Cacadu) District Municipality, and then into NMBM. The land use within the western portion of the corridor is mostly agriculture, including cattle and sheep farming, chicken/ egg production, dairy production, cultivated fields as well as natural game and wildlife, and a seedling/ plant nursery. As the corridor enters the NMBM the land use becomes more urbanised, running between developed housing areas as it gets closer to the NMBM substations.

The proposed Grid Connection is likely to have a mix of positive and negative, direct and indirect impacts on the socio-economic context of the area. Approximately 230 temporary job opportunities will be created for the construction period and will last for approximately 18-24 months. The work will require approximately 100 unskilled workers (construction labourers, security staff, etc.), 60 semi-skilled workers (drivers, equipment operators, etc) and 70 skilled workers (engineers, land surveyors, project managers etc.). Members from the local communities in the area are likely to qualify for most of the low skilled and semi-skilled employment

opportunities. It is possible that the temporary jobs may create an influx of construction workers into the area that could result in social conflicts between the local population, existing construction workers currently working in the area and this new workforce. The presence of these new people could place pressure on local services as well as social networks.

The construction activities associated with the Grid Connection could result in negative impacts to the local tourism industry through changes in the visual environment and several nuisance impacts that could affect residents like an increase in dust, traffic and noise. However, these are not anticipated to be experienced for long, and can be mitigated.

More broadly, the construction of the Grid Connection would have a moderate positive impact of strengthening the electricity grid and supply of local renewable electricity from the proposed Impofu Wind Farms. A sustainable increase in national and local government revenue could also be realised through the various tax mechanisms, as well as an indirect result of local economic development attributed to the stronger supply of energy in the area.

## **AGRICULTURE**

The proposed Impofu Grid Corridor is covered mostly by land zoned as agriculture, covering more than 500 farm portions, many of which are working farms. While the majority of the corridor is used as grazing land, with small isolated patches of cultivation, the extreme western end of the corridor supports intensive high production dairy farms with cultivated kikuyu-based pasture plus additional fodder crops, both with and without irrigation.

Pylons cannot be located in centre pivots, and therefore they are considered to be No-Go areas for the proposed overhead powerline. However overhead powerlines can cross centre pivot areas if required but are then required to be higher than normal to prevent the irrigation infrastructure connecting with the powerlines. All other areas of the Grid Corridor were considered to have low agricultural sensitivity, and the specialist therefore found that the proposed development has a negligible agricultural impact. This is partly because once the overhead powerline has been constructed, farming activities can continue below the powerlines.

## **HERITAGE, ARCHAEOLOGY AND PALAEOLOGY**

Heritage resources include archaeological material (e.g. rock paintings, stone tools), paleontological material (e.g. fossilised materials) and cultural heritage material (e.g. old graveyards, fences, ruins of buildings, or sense of place). Since some potential heritage material is buried, it is often only found during the construction phase of a project. However, this area has been well researched by both archaeologists and palaeontologists, and is well known to the local Gamtkwa Khoisan Council, and therefore a number of known sensitive areas are already known and can be avoided from the beginning of this BA process.

Based on the mapped geology of the area, the palaeontologist was able to identify that most of the area covered by the Grid Corridor is of low palaeontological sensitivity. This is due to fossils not being preserved within some sorts of rocks, as natural weathering processes destroy them. Two small sites were identified as being highly sensitive, including the steep cliff exposures of the Early Cretaceous Kirkwood Formation along the eastern banks of the Gamtoos River that are rich in fossil plant material, and low fossiliferous scarp exposures of the Late Jurassic Bethelsdorp Member (lower Kirkwood Formation) along a pan margin more than a kilometre west of the Sans Souci Substation. It was recommended that if the steep cliffs near the Gamtoos River require excavation then the Environmental Control Officer (ECO) must carefully monitor the site for fossils, while a small area near the Sans Souci Substation should be made a No-Go area for development (this is avoided in the proposed expansion to the Sans Souci Substation).

In terms of archaeological sensitivity, the specialist has advised the avoidance of a sensitive coastal zone, a historic narrow-gauge railway line (the line itself, sidings and structures only), sites listed as medium or high significance by Binneman and Reichart (2017) and stone walling as No-Go areas. High sensitivity areas to avoid include the aesthetic areas including the northern, relatively undeveloped portions of the broader grid

corridor where more hilly and mountainous landscapes are less disturbed, the broad flood plain and adjacent banks of the Gamtoos River (outside the area identified as having already been impacted by the specialists), as well as the coastal zone in the south of the Grid Corridor. Provided that these areas of known sensitivity are avoided in the alignment of the proposed overhead powerline, and that a walk through is undertaken once the final alignment is known to ensure no new sites are impacted, the Grid Connection is unlikely to have a significant negative impact on the heritage of the area.

## VISUAL

The proposed pylons selected for the 132 kV overhead powerline are anticipated to stand at about 26 m tall along the line, but where longer spans are required between pylons, e.g. to cross over other powerlines or rivers, they could be up to 32 m tall. In some areas the proposed Impofu powerline is anticipated to run adjacent to the existing Eskom 132 kV which runs the distance of the Grid Corridor. However, in other areas, the Impofu powerline will diverge and may run alone across open and potentially undisturbed areas.

Users of the N2 National Road and R102 Main Road are likely to see the proposed Impofu powerline over most of the distance, and the corridor crosses the N2 at four different points. The N2 is an extension of the Garden Route and is an important transport corridor running between Durban and Cape Town, carrying both tourists and commuters (and other road users). Others who may be visually impacted by the proposed Impofu Grid Corridor include visitors to the Hopewell Private Nature Reserve as well as the Krom River ravine and Impofu Dam, which are significant water features in the area. Dotted along the Grid Corridor are numerous farmsteads, settlements and other buildings such as the St Albans Correction Facility. Unfortunately, for a linear structure standing up to 32 m tall, little mitigation is available to reduce the visual impact apart from avoiding highly sensitive areas during alignment design. The potential impact of visual obtrusion on the landscape is therefore anticipated to remain moderate negative without and with mitigation, with the highest points of sensitivity occurring around the Gamtoos flood plain.

## WHAT IS THE SIGNIFICANCE OF THE IDENTIFIED ENVIRONMENTAL IMPACTS?

Table 2: Summary of identified impacts for the proposed project and associated infrastructure

Aspect	Impact	Without mitigation	With mitigation
<b>Construction</b>			
Terrestrial Ecology	Impacts on vegetation and plant species of conservation concern	Moderate (-)	Minor (-)
	Direct and indirect faunal impacts	Minor (-)	Minor (-)
	Increased soil erosion risk	Minor (-)	Minor (-)
Avifauna (Birds)	Displacement due to construction-related disturbance	Minor (-)	Negligible (-)
	Displacement due to habitat transformation	Minor (-)	Minor (-)
Aquatic Ecology	Potential impacts on localised water quality	Minor (-)	Negligible (-)
	Increase in sedimentation and erosion	Minor (-)	Negligible (-)
Heritage	Disturbance, damage or destruction of fossils preserved at surface or below ground	Negligible (-)	Negligible (-)
	Damage to graves and graveyards	Moderate (-)	Negligible (-)
	Damage to historic narrow-gauge railway line and associated structures	Minor (-)	Negligible (-)
	Damage to Kabeljous River Rock Shelters	Moderate (-)	Minor (-)
Socio-economic	Creation of employment and business opportunities	Moderate (+)	Moderate (+)
	Harm to social networks with presence of external	Minor (-)	Negligible (-)



Aspect	Impact	Without mitigation	With mitigation
	construction workers		
	Nuisance impacts such as dust, noise and traffic	Minor (-)	Negligible (-)
	Sustainable increase in national and local government revenue	Moderate (+)	Moderate (+)
	Impact on Local tourism industry	Negligible (-)	Negligible (-)
Agriculture	Loss of agricultural potential on the impacted land	Minor (-)	Negligible (-)
Visual	Potential visual intrusion of construction activities on rural landscape and scenic resources	Moderate (-)	Moderate (-)
	Loss of sense of place	Moderate (-)	Minor (-)
<b>Operation</b>			
Terrestrial Ecology	Increased soil erosion risk	Minor (-)	Minor (-)
	Impacts on Critical Biodiversity Areas	Moderate (-)	Minor (-)
Avifauna (Birds)	Mortality due to electrocution	Minor (-)	Negligible (-)
	Mortality due to collisions	Moderate (-)	Minor (-)
Socio-economic	Strengthening of grid and supply of local renewable electricity	Moderate (+)	Moderate (+)
	Sustainable increase in national and local government revenue	Moderate (+)	Moderate (+)
	Impact on farm property prices	Minor (-)	Negligible (-)
	Health impacts associated with exposure to electromagnetic field	Minor (-)	Minor (-)
	Impact on Local tourism industry	Negligible (-)	Negligible (-)
Agriculture	Loss of agricultural potential on the impacted land	Minor (-)	Negligible (-)
Visual	Visual obtrusion of powerline within the grid corridor	Moderate (-)	Moderate (-)
	Visual obtrusion of switching stations and collector switching station	Moderate (-)	Minor (-)
	Loss of sense of place	Moderate (-)	Minor (-)
<b>Decommissioning</b>			
Terrestrial Ecology	Direct and indirect faunal impacts	Minor (-)	Minor (-)
	Increased soil erosion risk	Minor (-)	Minor (-)
Avifauna	Displacement of priority species due to disturbance	Minor (-)	Minor (-)
Aquatic Ecology	Potential impacts on localised water quality	Minor (-)	Negligible (-)
Socio-economic	Creation of employment and business opportunities	Moderate (+)	Moderate (+)
	Harm to social networks with presence of external construction workers	Minor (-)	Negligible (-)
	Nuisance impacts such as dust, noise and traffic	Minor (-)	Negligible (-)
	Sustainable increase in national and local government revenue	Moderate (+)	Moderate (+)
Agriculture	Loss of agricultural potential on the impacted land	Minor (-)	Negligible (-)
Visual	Potential visual intrusion of construction activities on rural landscape and scenic resources	Moderate (-)	Moderate (-)

## PUBLIC PARTICIPATION PROCESS

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Stakeholder engagement is important to ensure that a project is undertaken in a fair, open, transparent and inclusive way. South African Environmental Impact Assessment (EIA) legislation and guidelines have formalised stakeholder engagement in the BA process and refer to it as the Public Participation Process (PPP). PPP therefore forms an integral part of this investigation and enables parties that are directly or indirectly affected by the project (such as landowners, organs of state and other key stakeholders such as conservation groups), or simply interested in the project (such as the greater public), to be included in the process. Within the PPP process, these stakeholder groups are therefore referred to as interested and affected parties (I&APs).

The contributions of I&APs are valued and provide important input into the planning of the project. The PPP is designed to objectively enable I&APs to:

- Ask questions and get clarification on any aspect of the project;
- Raise issues of concern and make suggestions for alternatives and enhanced benefits;
- Contribute local knowledge;
- Verify that their issues have been captured and considered by the technical investigations; and
- Comment on the findings of the BAR.

The PPP is designed to solicit a joint effort by stakeholders to produce better decisions than if they had acted independently. Successful PPP therefore provides an opportunity for I&APs to gain more knowledge about the proposed project, to provide input through the review of documents / reports, and to voice any issues of concern at various stages throughout the BA process (as illustrated above in Figure 1). This process ultimately facilitates better decision-making.

All registered I&APs are notified of the opportunity to review reports and if, during this period, I&APs have any comments, they may send them to the EAP who will ensure that a response is provided and that amendments are made to the reports where required.

A Pre-Application version of the BAR was circulated for a five-week comment period from 1 August to 7 September 2018. The report was updated to reflect the PPP that was undertaken during this period, and more detail can be found in Annexure C of the revised Draft BAR. This version of the draft BAR has been updated to include a new alignment of the Grid Corridor. This Draft BAR is now available for review and comment from **16 September** until **16 October 2019**.

The table on the following page summarises the PPP that has been undertaken to date, and highlights what will be made available to the public going forward.

### Screening and Iterative Design Phase

- A **pre-application meeting** was held on 17 October 2017 with the competent authority, DEA, to ensure that an appropriate EIA process would be followed.
- **Advertisements** in Afrikaans, English and isiXhosa were placed in the provincial newspaper, Eastern Cape Herald newspaper, on 14 December 2017 and placed in the local newspaper, Kouga Express, on 21 December 2017 notifying the broader public of the initiation of the EA processes and inviting them to register as I&APs.
- Trilingual **site notices** (Afrikaans, English and isiXhosa) were erected at various public entrances and public libraries, in December 2017.
- A **Background Information Document (BID)** was compiled which provided a high-level introduction to the project. This was distributed to landowners, identified key stakeholders as well as any registered I&APs between December 2017 and February 2018.
- Three **focus group meetings** were held in PE and St Francis Bay between 6-8 February 2018 with local authorities, landowners and adjacent landowners (of the wind farms) and key identified stakeholders such as conservation bodies and local community groups. The meetings introduced both the Wind Farms and the Grid Connection, however they did focus more on the wind farms. (Meeting notes are included in Appendix 4)

### Pre-Application Phase

- The **pre-application BAR** was made available for a five-week public comment period from **1 August to 7 September 2018**
- Three **public meetings/open days** were held at the St Francis Bay Bowling Club (21 August 2018), Thornhill Hotel (22 August) and Innibos Lapa in Despatch (23 August).
- **Notification** of the public comment period and public meetings were sent in writing (via post or email) to all registered I&APs between 25 and 31 July 2018.
- Trilingual **advertisements** of the public comment period and invitation to attend the public meetings were published in the Eastern Cape Herald and the Kouga Express on 30 and 26 July 2018, respectively.
- The **existing site notices** were updated to indicate the start of the public comment period and announce the details of the public meetings.
- **Hard copies** of the pre-application BAR were made available at the following locations: Kouga Municipality, St Francis Bay; Oyster Inn/ Oyster Bay Estate Agent; Humansdorp Library, Thornhill Hotel and Allan Ridge Library (in Uitenhage).

### BAR Phase

- The **draft BAR** was made available for a 30-day public comment period from **18 April to 23 May 2019**
- Three **public meetings** were held at the St Francis Bay Bowling Club (2 May 2019), and Thornhill Hotel and Innibos Lapa in Despatch (3 May 2019).
- **Notification** of the public comment period and public meetings were sent in writing (via post or email) to all registered I&APs.
- Trilingual **advertisements** of the public comment period and invitation to attend the public meetings were published in the Eastern Cape Herald.
- Trilingual **Site notices** were placed at the same locations used previously to indicate the start of the public comment period and announce the details of the public meetings.
- **Hard copies of the draft BAR** were made available at: St Francis Bay Library, Oyster Inn, Humansdorp Library, Thornhill Hotel and Allan Ridge Library (in Uitenhage).
- **Electronic copies** of the report were made available on Dropbox, Aurecon's PPP website, and via CD on request.
- The **revised Draft BAR** will be made available for a 30-day public comment period from **16 September to 18 October 2019**.
- **Hard copies of the revised draft BAR** will be made available at: St Francis Bay Library, Oyster Inn, Humansdorp Library, Thornhill Hotel and Allan Ridge Library (in Uitenhage).
- **Electronic copies** of the report will be made available on Dropbox, Aurecon's PPP website, and via CD on request.
- Notification of the public comment period will be sent in writing (via post or email) to all registered I&APs.

All I&APs are encouraged to submit comments/issues/ concerns on the proposed Grid Connection Project to the Aurecon team, from **16 September until 16 October 2019**.

**Table 3: Stakeholder engagement team**

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## PROPOSED WAY FORWARD

This revised Draft BAR considered the comments that were raised during the Pre-Application BAR process, the first draft BAR, ongoing landowner consultation, changes in corridor alignment as well as further specialist input and has been updated accordingly. The updated report has now been made available again for a 30-day public comment period in September 2019, as a revised Draft BAR. All comments received on the revised Draft BAR will be collated, responded to and included in the updated Public Participation Report (Annexure C).

Following the closure of the 30-day public comment period in October 2019, the report will be updated to Final and will be submitted to DEA for review and decision making (for 107 days) whereby an Environmental Authorisation would be granted or refused. All registered I&APs will be notified of the outcome of the decision-making process.