



Socio-Economic Impact Assessment

MULILO NEWCASTLE WIND POWER (PTY) LTD WIND ENERGY
FACILITY, KWAZULU-NATAL PROVINCE

Marchelle Terblanche | INDEX Social Consulting Services | January 2023

INDEX Social Consulting Services

PO Box 26275

Monument Park 0105

Cell: 082 804 2945

E-mail: marchelle@indexsa.net



Socio-economic Impact Assessment Report for the proposed Mulilo Newcastle Wind Power (Pty) Ltd Wind Energy Facility	
Report prepared by:	Report prepared for:
Marchelle Terblanche INDEX Social Consulting Services 850 Speek Street Wapadrand Security Village Pretoria 0081 Cell: 082 804 2945 E-mail: marchelle@indexsa.net	Alan Carter NEXTEC CES - Environmental and Social Advisory Services Tel: 021 045 0900 E-mail: a.carter@cesnet.co.za

DECLARATION OF INDEPENDENCE

I, **Marchelle Terblanche**, in my capacity as the Socio-economic Impact Assessment Consultant, hereby declare that I -

- Act as an independent socio-economic assessment practitioner;
- Have 26 years' experience of practice and experience in Socio-economic Impact Assessments and related community development work. My Blurb is attached as Annexure, Section 14.4.
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Based on information provided to me by the project proponent, and in addition to information obtained during the course of this study, have presented the results and conclusion within the associated document to the best of my professional judgement.



2023 / 01 / 11

Date

LEGAL REQUIREMENTS

In terms of the NEMA 2014 EIA Regulations contained in GN R982 of 04 December 2014 (as amended by GN R326 of 7 April 2017) all specialist studies must comply with Appendix 6 of the NEMA 2014 EIA Regulations, 2014 (as amended). The table below indicates the legal requirements for specialist studies.

Legal requirement		Relevant section in Specialist report
(1)	A specialist report prepared in terms of these Regulations must contain—	
	details of-	
(a)	The specialist who prepared the report; and	Page ii
	the expertise of that specialist to compile a specialist report including a curriculum vitae;	Section 14.4
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Page iii
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Section 4.2
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 4.3.3
(e)	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 4.3
(f)	the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 5.4
(g)	an identification of any areas to be avoided, including buffers;	Section 5.4
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Figures 12 and 13
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 4.4

(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Sections 7, 8 and 14.3
(k)	any mitigation measures for inclusion in the EMPr;	Sections 7, 8 and 14.3
(l)	any conditions for inclusion in the environmental authorisation;	N/A
(m)	any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 13
(n)	a reasoned opinion— whether the proposed activity, activities or portions thereof should be authorised; and	Section 12.2
	if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	N/A
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 4.3.6
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Section 4.3.6.3
(q)	any other information requested by the competent authority.	N/A

EXECUTIVE SUMMARY

Mulilo Renewable Project Developments (Pty) Ltd (Mulilo) is planning to develop a 200 MW Wind Energy Facility (WEF) in close proximity to Newcastle in the KwaZulu-Natal (KZN) Province, referred to as the Mulilo Newcastle Wind Power (MNWP) WEF (The Project). The Project will consist of a maximum of 45 turbines with unspecified individual turbine output capacity, with locations currently based on technical considerations.

A Socio-economic Impact Assessment (SEIA) is one of the Specialist studies required for the Environmental Impact Assessment (EIA) application and INDEX *Social Consulting Services* was appointed for this purpose. The SEIA aims to identify and focus on issues and impacts related to the social and socio-economic environment and reflects empirical socio-economic data of the regional and local area that can be used in future studies and for monitoring purposes.

The proposed MNWP WEF is located approximately 15 km north-west of the Newcastle Central Business District (CBD) in Ward 1 of the Newcastle Local Municipality (NLM) and in the Amajuba District Municipality (DM), KZN Province. There are no existing renewable energy facilities present within a 30 km radius nor in the wider KZN Province.

Newcastle is the third-largest urban centre in KZN and with a population of 389 116 is categorized as a secondary city. The current annual population growth of 1.4%, translates to 5 176 people per year, and also includes a significant increase in the Youth proportion of the population. At present the 0 – 34 year old category makes up 72.9% of the total population, which places immense pressure on the provision of educational and recreational facilities, social welfare, health services and the stimulation of the economy to provide job opportunities and economic development. The shortage of higher educational facilities has been identified as a major contributor to the high rate of emigration of Youth from Newcastle to other centres and cities. Should the current population growth trend continue, Newcastle has a vision of becoming a city by the year 2035. The projected population for the year 2038 will be 502 988.

Latest education data indicates the number of people with Gr. 12 as highest qualification at 38.7% and tertiary education levels at 10.2%. The low levels of education in the NLM has a direct negative impact on the employability of the labour force. This is especially pertinent in Ward 1 where illiteracy levels are very high (16%) and the number of people that completed Gr.12 are far below the municipal average (26 vs 38.7%). Unemployment (official) has increased from 29.5% to 31.8% (2013 to 2017). When discouraged work-seekers and the 'not economically active' portion of the population are also taken into consideration, then only 17% of the NLM economically active population (15 – 64 years old) is employed. Half the households in Newcastle fall under the lowest income classification (R0 – R19 000 per annum) and three-quarters of households fall within or below the second lowest threshold (R19 001 – R86 000).

The Manufacturing sector, the sector that once made a significant contribution towards formal employment within Newcastle, contributes 12.2% to total formal employment. The Manufacturing sector has also experienced negative growth trends largely attributed to the current global financial outlook. The municipality, with the assistance of ESKOM, has made substantial progress with the provision of electricity throughout its area of jurisdiction. However, there is limited capacity in Newcastle East – where the

majority of the urbanized population lives – to accommodate the planned housing and commercial developments. This is also the area where the majority health and other social services backlogs exist.

Various initiatives have been implemented by the NLM to stimulate economic growth, which include:

- Newcastle Local Economic Development (LED) Forum, consisting of a variety of local and national stakeholders, which has recently been revived;
- Strategic thrusts have been identified for economic regeneration, such as Industrial Development and Investment; Green Sector Development; and so forth; and
- SMME Development that includes a Preferential Procurement Policy for Small Medium and Micro Enterprises (SMME's); establishment of the Construction Incubator; Skills Development and Training for SMME's; etc.

Should the WEF be constructed, it is recommended that the Independent Power Producer (IPP) slot in with these initiatives and join the Newcastle LED Forum to align procurement and community projects with the goals and objectives identified for the region's trade and industry sector.

Farm portions in the local and site specific study area are mostly used for grazing of livestock. Cropping takes place to the west of the MNWP facility with some fields located within the 2 km buffer. A few rural residences / homesteads occur within the 2 km buffer. Two tourist accommodation establishments are located just outside the 2 km buffer and portions of the Sneeu Berg Protected Environment occur within the 5 – 10 km buffer. According to the latest local SAPS crime statistics there is a declining trend in some of the crime categories, which is consistent with perceptions of landowners, who reported that current crime levels are relatively under control when compared with previous years.

The construction and operational phases of Renewable Energy projects need to conform to the Renewable Energy Independent Power Producers Procurement Programme's (REI4P's) minimum thresholds, thereby ensuring that social and socio-economic benefits of the Project will be realized in the relevant communities. During the 24-month construction period various positive and negative social and socio-economic impacts are likely to manifest. A summary of construction related impacts and their significance ratings, pre and post-mitigation, are provided in the table below.

Construction Phase Impact	Before mitigation	After mitigation
Temporary employment	MODERATE +	MODERATE +
Local procurement	MODERATE +	MODERATE +
Induced local economic impacts	LOW +	LOW +
Impacts on livelihoods for directly benefitting landowners	LOW -	LOW +
Training / skills development / capacity building	LOW +	MODERATE +
Employment equity	LOW +	MODERATE +
Impacts associated with an influx of jobseekers / temporary construction workers	MODERATE -	LOW -
Land use and resource impacts	LOW -	LOW -

Impacts on tourism / accommodation facilities / Protected Areas	LOW -	LOW +
Intrusion impacts	MODERATE -	LOW -
Health and safety risks	MODERATE -	LOW -

Positive impacts ranges from low to moderate and pertain to short-term employment (approximately 1 500 person-month job opportunities), local procurement, employment equity, skills development and subsequent induced local economic impacts that will realize locally and nationally.

Perceived negative impacts (low to moderate negative) are those typically associated with construction activities and can generally be mitigated successfully, such as an influx of jobseekers, intrusion impacts and health and safety risks. Landowners may incur net income losses during construction (low negative), but this will be off-set by compensation earned through the long-term lease agreements, thereby becoming beneficial after mitigation (low positive). It is likely that a large portion of the skilled workforce will be sourced nationally and accommodated in local accommodation establishments, with positive impacts on tourism revenue for the duration of construction (low positive). The positive off-set when workers are housed in local establishments will thus be greater when measured against potential tourism losses as a result of nuisance / intrusion impacts (dust, noise, visual, traffic, etc.) caused by construction activities.

The lifespan of the MNWP WEF is 20 – 25 years. Although the employment component of the facility is not significant, the IPP has to ensure community ownership and social responsibility thereby enhancing the social and socio-economic benefits of the Project. Following is a summary of the positive and negative impacts associated with the operational phase of the MNWP WEF.

Operational Phase Impact	Before mitigation	After mitigation
New employment and economic impacts	MODERATE +	MODERATE +
Impacts on livelihoods for directly benefitting landowners	LOW +	LOW +
Socio-economic contribution / community development	LOW +	MODERATE +
Training / skills development / capacity building	LOW +	MODERATE +
Land use and resource impacts	LOW -	LOW -
Impacts on tourism / accommodation facilities / Protected Areas	LOW -	LOW -
Impacts on land values	LOW -	LOW -
Intrusion impacts	MODERATE -	LOW -
Impacts on sense of place	HIGH -	MODERATE -
Contribution to national power supply	MODERATE +	MODERATE +

Positive impacts during operations (low to moderate significance) are associated with employment and local economic impacts and the benefits that will be attained through Socio-economic Development (SED) and Economic Development (ED) contributions (approximately 2.1% of revenue) towards activities that facilitate sustainable access to the economy for beneficiaries in the areas of rural development, the environment, infrastructure, enterprises, reconstruction of undeveloped areas, development programmes

for women or Youth, education, health care, arts and culture and so forth. By establishing the MNWP WEF in the KZN province, the first of its kind, economic investments and positive socio-economic impacts will be able to reach a new range of beneficiary recipients. In addition, the WEF will generate up to 200MW electricity and enhance the reliability and stability of supply that would contribute to economic development in the country as a whole (moderate positive).

Negative impacts on current land use activities and resources are negligible (low negative), as no residential and agricultural land uses will be affected directly. Impacts on tourism was also rated as low negative, primarily due to the limited number of facilities that would be affected. It is however possible that Grey Goose Game Farm and Newcastle Country Lodge perceive the close proximity and visual impact of specific turbine localities as problematic for their function venues. It is therefore recommended that negotiations take place with these establishments, should complaints be raised. Impacts of wind farms on land values is an indecisive matter. However, based on local and international research and the SEIA Specialist's consultation with estate agents and other experts in the field, the impact on farmland values due to the MNWP WEF is rated with a low negative significance. Intrusion impacts (visual, noise, dust, traffic, indirect impacts on agricultural land uses, etc.) can be mitigated from moderate to low negative. From a social perspective the impact on sense of place is rated as high negative and can be reduced to moderate. The degree of confidence is however 'undecided' as sense of place remains a personal experience.

Negative social and socio-economic impacts associated with decommissioning are expected to be similar to those experienced during the construction phase and can usually be mitigated successfully. It is not possible to accurately rate and assess decommissioning impacts at this early stage of the process due to a changing social environment and it is therefore recommended that a detailed SEIA be undertaken at the time of decommissioning to determine the actual impacts. No rating is thus be provided for impacts associated with decommissioning.

From a social and socio-economic perspective negative impacts that could manifest for this Project are either of low or moderate significance, or can be mitigated to acceptable levels. Sense of place is the only impact with high negative significance, but can be mitigated to a certain degree. Based on the findings of this SEIA it is the opinion of the Specialist that the construction and operation of the MNWP WEF may proceed, provided that the mitigation, management measures and requirements as set out in this report be incorporated in the EMPr and implemented wherever applicable.

GLOSSARY OF ABBREVIATIONS

Abbreviation	
AIDS	Acquired Immune Deficiency Syndrome
ATP	Africa Tourism Partners
BESS	Battery Energy Storage Facility
BBBEE	Broad-Based Black Economic Empowerment
BW	Bid window
CBD	Central Business District
CCV	Closed-circuit Video
CLO	Community Liaison Officer
CPF	Community Policing Forum
CS	Community Survey
CSMP	Contractor Social Management Plan
DFFE	National Department of Forestry and Fisheries and Environment
DGDP	District Growth and Development Plan
DM	District Municipality
DMRE	Department of Mineral Resources and Energy
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
ED	Enterprise Development
EDTEA	Economic Development, Tourism and Environmental Affairs
EMC	Environmental Monitoring Committee
EMPr	Environmental Management Programme report
EPC	Engineering Procurement Construction
FET	Further Education and Training
GVA	Gross Value Added
GNI	Gross National Income
HIV	Human Immunodeficiency Virus
HDI	Human Development Index
IDP	Integrated Development Plan
IPSA	International Power South Africa
IPP	Independent Power Producer

IPPO	Independent Power Producer Office
REI4P	Renewable Energy Independent Power Producer Procurement Programme
IRP	Integrated Resource Plan
IT	Information Technology
KZN	KwaZulu-Natal
KZN-PGDS	KwaZulu-Natal Provincial Growth and Development Strategy
LED	Local Economic Development
LM	Local Municipality
LSDF	Local Spatial Development Framework
LSU	Large Stock Unit
MNWP	Mulilo Newcastle Wind Power
MoU	Memorandum of Understanding
MSDF	Metropolitan Spatial Development Framework
MW	Mega Watts
NGO	Non-governmental Organization
NLM	Newcastle Local Municipality
NDP	National Development Plan
NEMA	National Environmental Management Act
O&M	Operational and Maintenance
OTL	Overhead Transmission Line
PDI	Previously Disadvantaged Individual
PE	Protected Environment
PPP	Public participation process
PSC	Project Steering Committee
QLFS	Quarterly Labour Force Survey
RE	Renewable Energy
REI4P	Renewable Energy Independent Power Producer Procurement Programme
SCDP	Strategic Corridor Development Plan
SANRAL	South African National Road Agency
SED	Socio-economic development
SEDA	Small Enterprise Development Agency
SIA	Socio-economic Impact Assessment

SLP	Social and Labour Plan
SMME's	Small, Medium and Micro Enterprises
SMP	Social Management Plan
TIKZN	Trade & Investment KwaZulu-Natal
VEHE	Vryheid-Emadlangeni-Newcastle-Ermelo
WEF	Wind Energy Facility
WUL	Water Use Licence

TABLE OF CONTENTS

1	Introduction.....	1
1.1	Project Background	1
1.2	Locality.....	1
1.3	Land portions.....	3
2	Description of the Project	3
2.1	Project details.....	3
2.2	Construction phase	4
2.3	Operational phase.....	4
2.4	Social and Socio-economic Processes of the Project	5
2.4.1	Identification of the Beneficiary Communities	6
2.4.2	Employment	7
2.4.3	Procurement.....	7
2.4.4	Financial and Socio-economic Contributions	7
3	Legal framework and Policy Guidelines	8
3.1	International guidelines	8
3.2	National Policy context.....	9
3.3	Provincial context.....	10
3.4	Municipal context.....	11
3.5	Other policy guidelines.....	14
4	Methodology for SEIA	14
4.1	Specialist Credentials.....	14
4.2	Scope and Purpose of Report.....	14
4.3	Method for SEIA	15
4.3.1	Scope of the assessment	15
4.3.2	Desktop studies and literature review	15
4.3.3	Site visit	16
4.3.4	Definition of the Study Area	16
4.3.5	Identification of Stakeholders and Sensitive Receptors.....	16
4.3.6	Primary data	17
4.3.7	Secondary data.....	18

4.3.8	Impact variables to be assessed	18
4.3.9	Significance rating	18
4.3.10	Mitigation and management.....	18
4.3.11	Cumulative impacts	19
4.3.12	Alternatives	19
4.3.13	Conclusion and recommendations.....	19
4.3.14	Social Management Plan and Strategies	19
4.4	Gaps, Assumptions and Limitations	19
5	Description of the Study Area	20
5.1	Regional Study Area	20
5.1.1	Amajuba District Municipality	20
5.1.2	Newcastle Local Municipality	21
5.2	Local Study Area	22
5.3	Site-specific study area.....	25
5.4	Sensitive receptors	25
5.5	Existing Renewable Energy Projects.....	26
6	Baseline Data of the Study Area.....	27
6.1	Population Data.....	27
6.1.1	Population size	27
6.1.2	Language and race.....	29
6.2	Labour Force.....	29
6.2.1	Education / Skills	29
6.2.2	Unemployment.....	30
6.2.3	Youth unemployment.....	30
6.2.4	Incomes	31
6.2.5	Employment per sector	31
6.3	Main economic sectors	33
6.3.1	Agriculture	33
6.3.2	Manufacturing.....	34
6.3.3	Tourism.....	35
6.3.4	Mining.....	37

6.4	Social indicators.....	37
6.4.1	Poverty and inequality	37
6.4.2	Human Development Index.....	37
6.4.3	Crime	38
6.4.4	HIV/AIDS	38
6.5	Institutional profile.....	38
6.5.1	Household services.....	38
6.5.2	Housing backlog	39
6.5.3	Informal settlements.....	39
6.5.4	Educational facilities.....	40
6.5.5	Health care facilities	40
6.5.6	Security / SAPS.....	40
6.5.7	Fire and Rescue Services	41
6.6	Land Reform / Restitution / Land Tenure	41
6.7	Local Economic Development	42
6.7.1	LED Forum	42
6.7.2	Challenges and recommendations.....	43
6.7.3	Economic regeneration strategy	43
6.7.4	SMME Development	44
6.8	IDP Priorities.....	44
7	Potential Socio-economic Impacts during the Construction Phase	45
7.1	Temporary employment	45
7.2	Local procurement	46
7.3	Induced Local Economic Impacts	47
7.4	Impacts on Livelihoods for Directly Affected Landowners.....	48
7.5	Training / Skills Development / Capacity Building.....	48
7.6	Employment Equity	50
7.7	Impacts associated with an Influx of Jobseekers / Temporary Construction Workers.....	51
7.8	Land use and Resource Impacts	54
7.9	Impacts on Tourism / Accommodation Facilities / Protected Areas.....	55
7.10	Intrusion Impacts.....	56

7.11	Health and Safety Risks	57
8	Potential Socio-economic impacts during the operational phase	59
8.1	New Employment and Economic Impacts.....	59
8.2	Impacts on Livelihoods for Directly Benefitting Landowners	60
8.3	Socio-economic Contribution / Community Development.....	61
8.4	Training / Skills Development / Capacity Building.....	62
8.5	Land Use and Resource Impacts.....	63
8.6	Impacts on Tourism / Accommodation Facilities / Protected Areas.....	63
8.7	Impacts on Land Values.....	67
8.8	Intrusion Impacts.....	68
8.9	Impacts on the Sense of Place.....	69
8.10	Contribution to National Power Supply	70
9	Decommissioning phase.....	70
10	Alternatives	71
11	Cumulative Impacts	72
11.1	Employment, Economic Contribution and Induced Impacts.....	72
11.2	Impacts on the Livelihoods of Directly Benefitting Landowners.....	72
11.3	Impacts for the Local and District Municipalities	73
11.4	Impacts associated with an Influx of Jobseekers / Temporary Construction Workers.....	73
11.5	Impacts on Tourism / Accommodation Facilities / Protected Areas.....	74
11.6	Impacts on Land Values.....	74
11.7	Intrusion Impacts.....	75
11.8	Impacts on Sense of Place	75
11.9	Contribution to National Power Supply	76
12	Conclusion and Impact Statement	76
12.1	Summary of findings.....	76
12.2	Conclusion and Impact Statement	80
13	Social Management Plan	81
13.1	Employment, Training / Capacity Building, Local Procurement.....	81
13.2	Awareness / Community engagement.....	83
14	Addenda	84

14.1	References.....	84
14.1.1	Documents	84
14.1.2	Publications / Articles.....	84
14.1.3	Websites	86
14.1.4	Consultation	86
14.1.5	Questionnaire responses.....	86
14.2	Significance rating methodology.....	87
14.3	SEIA: Impact Assessment Significance Rating Table.....	91
14.4	Experience of the SEIA Consultant	127
14.5	Specialist Declaration	129

TABLES

Table 1.	Land portions MNWP	3
Table 2.	Turbine specifications.....	4
Table 3.	Facility component footprints	4
Table 4.	Construction phase.....	4
Table 5.	Operational phase	4
Table 6.	Population data	27
Table 7.	Labour force data	29
Table 8.	Labour force skill levels.....	30
Table 9.	Employment by broad economic sectors	32
Table 10.	Informal settlements	39
Table 11.	LED Challenges and Recommendations	43
Table 12.	Tourist facilities / Protected Areas and distances to MNWP Project.....	55
Table 13.	Visual Impact Index of tourism establishments based on distance	63
Table 14.	SMP: Employment, training / capacity building, local procurement.....	81
Table 15.	SMP: Awareness / community engagement plan	83
Table 16.	SEIA: Impact Assessment Significance Rating Table	91

FIGURES

Figure 1. Regional locality	2
Figure 2. Locality map: MNWP	2
Figure 3. Land portions in the MNWP facility	3
Figure 4. 50 km radius	6
Figure 5. Amajuba District Municipality	20
Figure 6. Newcastle local Municipality Land Use Pattern	22
Figure 7. Ward 1: Newcastle Local Municipality (MNWP:)	23
Figure 8. Eskhaleni Conservancy	23
Figure 9. Grazing land.....	24
Figure 10. Draaiwater Lodge	24
Figure 11. Drakensbergkloof	24
Figure 12. Visual proximity analysis, observer sensitivity and proximity of the proposed MNWP Project ..	25
Figure 13. 2 km buffer with sensitive receptors.....	26
Figure 14. Mulilo Newcastle WEF Complex.....	27
Figure 15. Annual household income (2018)	31
Figure 16. Newcastle LM formal sector employment	32
Figure 17. Economic sector contribution to GVA.....	33
Figure 18. Distribution of Manufacturing GVA in Newcastle (2010).....	34
Figure 19. Amajuba Tourism Route.....	35
Figure 20. Protected Areas.....	36
Figure 21. Human Development Index.....	37
Figure 22. NLM Access to services	38
Figure 23. Newcastle LM Land Reform map (circle indicates Project Area)	42
Figure 24. Grey Goose Game Lodge function venue, view towards the west	64
Figure 25. Newcastle Country Lodge.....	65

1 INTRODUCTION

1.1 Project Background

Mulilo Renewable Project Developments (Pty) Ltd (Mulilo) is planning to develop a 200 MW Wind Energy Facility (WEF) in close proximity to Newcastle in the KwaZulu-Natal (KZN) Province, referred to as the Mulilo Newcastle Wind Power (MNWP) WEF (The Project). The Project will consist of a maximum of 45 turbines with unspecified individual turbine output capacity, with locations currently based on technical considerations. The proposed WEF will connect to the existing Eskom Incandu Substation, near Newcastle, via an approximately 20 - 25 km long 132 kV overhead transmission line (OTL).

An Environmental Impact Assessment (EIA) application for the WEF and a Basic Assessment (BA) application for the OTL need to be submitted to the National Department of Forestry, Fisheries and Environment (DFFE) in terms of Environmental Impact Assessment Regulations (2014 as amended) under Section 24 of the National Environmental Management Act (No. 107 Of 1998) (NEMA). A Socio-economic Impact Assessment (SEIA) is one of the Specialist studies required for the EIA and BA applications and INDEX *Social Consulting Services* was appointed for this purpose. The SEIA for the MNWP WEF's EIA process is the subject of this report. The SEIA aims to identify and focus on issues and impacts related to the social and socio-economic environment and reflects empirical socio-economic data of the regional and local area that can be used in future studies and for monitoring purposes.

1.2 Locality

The proposed MNWP facility is located approximately 15 km north-west of the Newcastle Central Business District (CBD) in the Newcastle Local Municipality (NLM) and in the Amajuba District Municipality (DM), KZN Province (Figures 1 and 2). Access to the site is obtained from Road R34, north of the site.



Figure 1. Regional locality

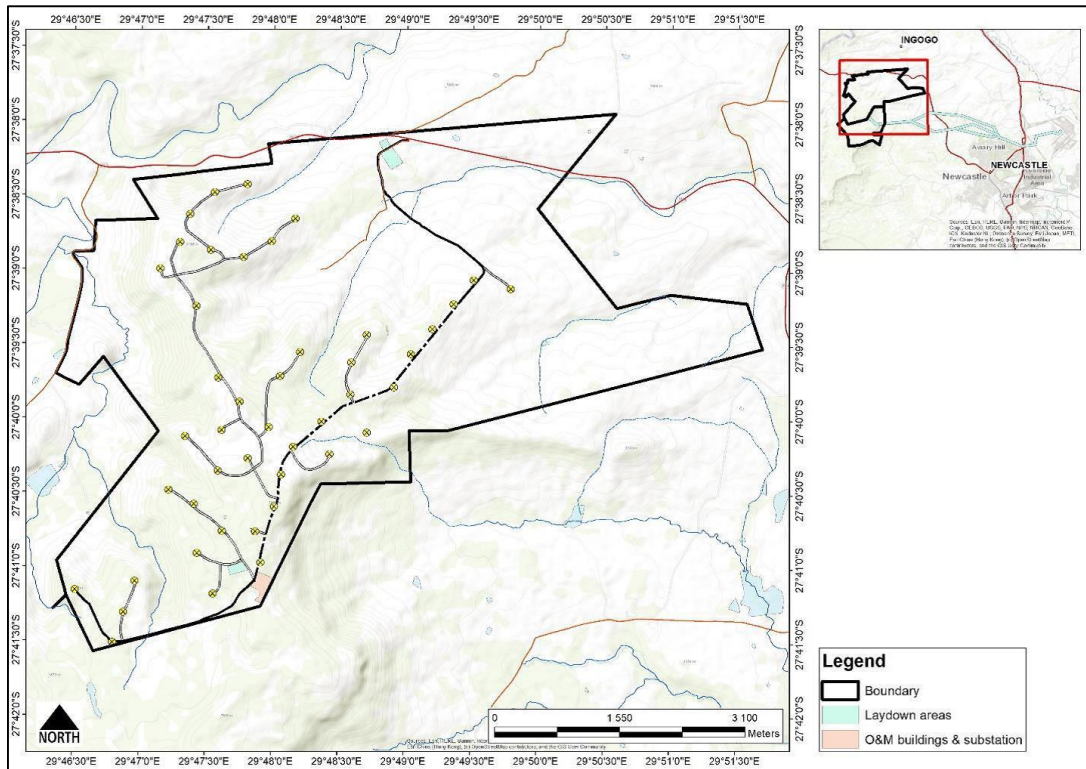


Figure 2. Locality map: MNWP

(Source: INDEX, 2022)

1.3 Land portions

Properties in the MNWP facility are listed below and indicated in Figure 3:

Table 1. Land portions MNWP

Farm Name	Farm Number	Area (ha)
Geelhoutboom	3350	647
Geelhoutboom	3350	567
Bernard	9447	465
Spitskop	16302	280
Cliffdale	9439	587
Byron	9448	392
TOTAL		2 938 ha

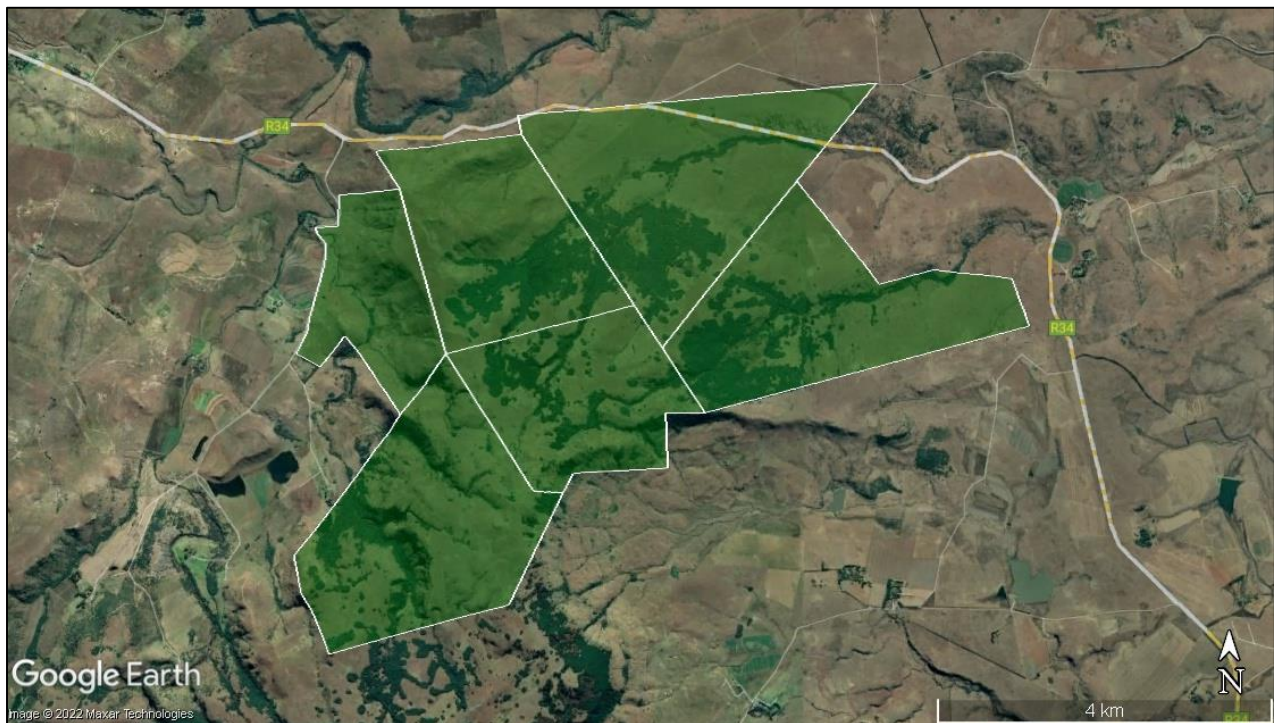


Figure 3. Land portions in the MNWP facility

2 DESCRIPTION OF THE PROJECT

2.1 Project details

The proposed 200MW MNWP WEF will comprise of a maximum of 45 turbines, with unspecified individual turbine output capacity, with locations currently based on technical considerations such as wind resource

and accesses. The final number of turbines and locations will be informed by the findings of the Specialist Assessments. The table below provides key technical details of the turbines.

Table 2. Turbine specifications

Turbine design and WEF specifications	
WEF Capacity	Up to 200 MW
Individual turbine capacity	Unspecified
Number of turbines	Up to 45
Hub Height	Up to 140 m
Rotor Diameter	Up to 200 m
Blade length	Up to 100 m

Infrastructure required for the MNWP Project includes operational and maintenance (O&M) buildings, site access and internal roads, substation, Battery Energy Storage System (BESS) underground electrical cabling linking turbines, on-site switching station, gate house with security and fencing (up to 2m high around the O&M building and the on-site substation) and so forth.

The facility component footprints are indicated in Table 3.

Table 3. Facility component footprints

Construction footprint	Final footprint after rehabilitation
Up to approximately 105 ha	Up to approximately 85 ha

2.2 Construction phase

The construction phase details and its employment components are provided in Table 4. Lower and semi-skilled workers are usually required to perform civil and electrical duties such as earth mobilisation, excavations for foundations, trenching, access roads, cable installations and so forth. Higher skilled professional entail Project Managers, Engineers, Environmental Control Officers, etc.

Table 4. Construction phase

Construction phase	MNWP
Construction period	Approximately 24 months
Number construction jobs	Approximately 1500 person-months
Skill levels required	60% lower skilled 25% semi-skilled 15% skilled

2.3 Operational phase

Operational phase details and its employment component are indicated in Table 5.

Table 5. Operational phase

Operational phase	MNWP
Lifespan	20 – 25 years
Permanent employment and skill levels	18 Total 14 Skilled 4 unskilled

Temporary employment

Contract maintenance work

Although the employment component of the operational phase is not significant, the Department of Mineral Resources and Energy's (DMRE's) Renewable Energy Independent Power Producers Procurement Program (REI4P) implements certain measures to ensure that a portion of the income generated through operational renewable projects is directed towards local economic development. This social / socio-economic process is elaborated on in the following section of the report.

2.4 Social and Socio-economic Processes of the Project

The construction and operational phases of Renewable Energy (RE) projects need to conform to the applicable REI4P minimum thresholds, thereby ensuring that social and socio-economic benefits of the Project will be realized in the relevant communities. In order to select winning bids, the DMRE uniformly ranks all projects submitted according to a scorecard in which (i) 90% of the score is based on the proposed energy Tariff of the respective projects; and (ii) 10% of the score is based on the Economic Development (ED) commitments made by the respective projects on the following seven elements:¹

- **Job Creation:** Employment of South African Citizens, Black People, Skilled, Unskilled and people residing in the local communities where the project is located;
- **Local Content:** Components of the facility/project manufactured in South Africa;
- **Preferential Procurement:** Goods and services procured through South African companies that have a Broad-based Black Economic Empowerment (B-BBEE) Generic scorecard or who are Qualifying Small Enterprises, Exempt Micro Enterprises and Woman Owned Venders;
- **Black Ownership:** The percentage of Black Ownership in the project;
- **Black Top Management:** Senior management that are Black people from the Independent Power Producer within the project;
- **Enterprise Development (ED):** the monetary rand contributions made towards Enterprises in the local communities as a percentage of the revenue; and
- **Socio-Economic Development (SED):** the monetary rand contribution made towards socio-economic challenges in the local communities as a percentage of the revenue.

The minimum criteria required for each of these elements do not always stay stagnant and are from time to time adjusted prior to each bidding window commencing. Jobs and the inflow of funds (where applicable) to the local communities do not occur at once, as the process is staggered. Since the project outcomes are still uncertain during the bid development phase, few project developers liaise with communities at this early stage as they cannot commit to promises in terms of local benefits. In the case of a preferred bidder, and during financial close, consultation will commence and construction will result in the employment of workers. Once a wind farm is operational, SED and ED spent will usually increase.

¹ Based on Round 5 Scorecard, which could be amended for future Bidding Rounds.

Up to date in SA the following economic investments and positive socio-economic impacts through RE developments have occurred (Bid Window (BW) 1-4) (IPPP Overview, December 2021):

- Investment (equity and debt) to the value of R209.7 billion;
- Created 63 291 job-years for South African citizens to date;
- SED contributions of R1.8 billion; and
- ED contributions of R537.9 million.

The majority these investments have realized in the Northern and Eastern Cape Provinces where most of the large Independent Power Producer (IPP) wind and solar PV Projects are located. By establishing the MNWP Project in the KZN province, economic investments and positive socio-economic impacts will be able to reach a new range of beneficiary recipients.

2.4.1 Identification of the Beneficiary Communities

In line with the REI4P requirements, communities within a 50 km radius from a RE Project are eligible to become beneficiaries and are usually defined as the recipient / beneficiary communities. The image below (Figure 4) indicates the 50 km radius from the MNWP facility. This results in the whole of the Newcastle LM being included, as well as portions of the Dannhauser and Emadlangeni LM's, the eastern section of the Phumelela LM (Free State Province) and the southern section Dr Pixley Ka Isaka Seme LM (Mpumalanga Province).

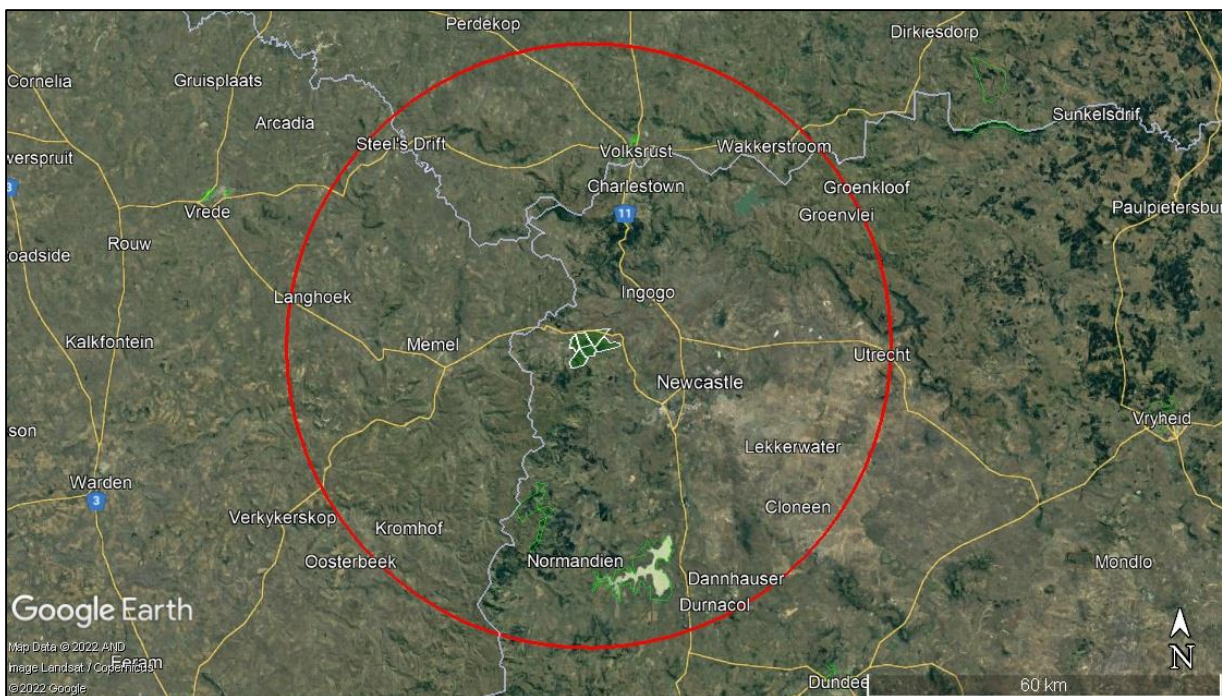


Figure 4. 50 km radius

2.4.2 Employment

The employment requirement of the REI4P ensures that a percentage of the South African workforce (at this stage a minimum of 20%) in the Project comes from the local communities and the MNWP Project is thus also required to comply with these minimum thresholds. The inclusion of locals in employment will mitigate many potential negative impacts that could manifest as a result of an influx of outsiders, conflict between locals and an outside workforce and so forth. Communities' proximity to the construction site should therefore be a direct measure of their likelihood to be presented with an opportunity to participate in the construction phase of the Project.

Since inception of the RE Projects in South Africa (BW 1 – 4), employment thresholds and targets were exceeded consistently. 48 110 job-years during construction, and 15 182 job-years during operations for South African citizens have realized (IPPP Overview, December 2021).

2.4.3 Procurement

In addition to employment, procurement will also be subject to the REI4P, of which local content will weigh 25% of the REI4P Round 5 ED Scorecard for evaluation of wind energy project bids.² Local procurement includes:

- Procurement of local contractors and Small, Medium and Micro Enterprises (SMME's), wherever possible, to build the WEF; and
- Procurement of material, goods and services from local suppliers and small businesses for construction and maintenance and repairs during the operational phase.

2.4.4 Financial and Socio-economic Contributions

The IPP will ensure community ownership and social responsibility as follow:

- **Community trust:** The mechanism established for the community to hold ownership of projects, which aims to ensure that a portion of the income generated is directed towards local economic development. At this stage at least 2.5% equity should be held by communities.³
- **Employment and skills development:** The employment requirement ensures that at least 20% of the South African workforce in the Project comes from the local communities.⁴ At this stage 25% of the scorecard for evaluation of the project is assigned to job creation and 5% to skills development.

² REI4P Round 5 Economic Development Scorecard for evaluation of wind energy project bids. Subject to revision for current bidding window.

³ There is at this stage uncertainty about the emphasis the DMRE would be placing on community trusts in future, as the benefits of Black Industrialists who may invest larger stakes in renewable energy projects could hold more advantages and could be preferred.

⁴ Currently the number is set at a minimum of 20% and could be amended.

- **SED and ED:** SED contributions are allocated towards activities that facilitate sustainable access to the economy for beneficiaries in the areas of rural development, the environment, infrastructure, enterprises, reconstruction of undeveloped areas, development programmes for women or Youth, education, health care, arts and culture. ED refers to contributions to black-owned businesses with the specific objective of assisting or accelerating the development, sustainability and ultimate financial and operational independence of that enterprise. Currently, the target set by the Department in the last version of the tender documents was 2.1% of revenue.⁵

3 LEGAL FRAMEWORK AND POLICY GUIDELINES

The legal framework and policy guidelines within which this Project should function from a social and socio-economic perspective are set out below.

3.1 International guidelines

Basic Human Rights

Basic human rights can be defined as universal moral principles or norms that describe certain standards of human behaviour. Each human being is entitled to these fundamental rights, simply because he or she is a human being, regardless of nationality, language, religion, locality, ethnic origin or any other status.

A foundational principle of basic human rights is that States must protect against human rights abuse within their territory and/or jurisdiction, including abuses caused by business enterprises. States should thus exercise adequate oversight in order to meet their international human rights obligations when they contract with, or legislate for, business enterprises to provide services that may negatively impact upon human rights.

In 2011 the UN's Human Rights Council endorsed the "Guiding Principles on Business & Human Rights" and stated the following: "As the basis for embedding their responsibility to respect human rights, business enterprises should express their commitment to meet this responsibility through a statement of policy". The operational principles of corporate responsibility to respect human rights are briefly summarized below. Enterprises should:

- **Comply with all applicable laws** and respect internationally recognized human rights, wherever they operate;
- **Formulate and implement policies** to meet their responsibility to respect human rights;
- **Carry out human rights due diligence** to identify, prevent, mitigate and account for how they address their impacts on human rights. Due diligence should be ongoing, recognizing that the human rights risks may change over time as the business enterprise's operations and operating context evolve;

⁵ The percentage allocated towards SED and ED could be amended.

- **Identify and assess actual or potential adverse human rights impacts** as a result of their own activities or due to their business relationships;
- Involve meaningful **consultation** with potentially affected groups and other relevant stakeholders;
- **Take appropriate action** within the organisation through internal decision-making, budget allocations and oversight processes;
- **Track the effectiveness of responses** to verify whether adverse human rights impacts are being addressed, based on qualitative and quantitative indicators, and feedback from internal and external sources and stakeholders; and
- Provide for or co-operate in their **remediation through legitimate processes**, where business enterprises identify that they have caused or contributed to adverse impacts.

3.2 National Policy context

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

NEMA stipulates that positive and negative impacts that the proposed activity could have on aspects of the environment and on the community/ies that may be affected (on geographical, physical, biological, social, economic, heritage and cultural levels) be assessed.

Appendix 6 of GN 982 of December 2014 (Gov. Gaz. 38282), as amended, issued in terms of this Act, defines minimum information requirements for specialist reports.

White Paper on Renewable Energy, November 2003

The White Paper on Renewable Energy recognises that the medium and long-term potential of renewable energy is significant. This Paper sets out Government's vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa. It also informs the public and the international community of the Government's vision, and how the Government intends to achieve these objectives; and informs Government agencies and organs of their roles in achieving the objectives.

What is proposed is a strategic programme of action to develop South Africa's renewable energy resources, particularly for power generation or reducing the need for coal based power generation. This should be done by balancing energy demand with supply resources in concert with safety, health and environmental considerations.

Integrated Energy Planning Report, Department of Energy, 2013

Integrated energy planning is undertaken to determine the best way to meet current and future energy service needs in the most efficient and socially beneficial manner, while maintaining control over economic costs; serving national imperatives such as job creation and poverty alleviation; and minimizing the adverse impacts of the energy sector on the environment.

National Development Plan 2030 (NDP)

The NDP focuses on the critical capabilities needed to transform the economy or society. It assists government in confronting the nine primary challenges by providing broad framework to guide key choices

and actions that will help government in its drive to grow the economy, create jobs, address poverty and establish social cohesion, i.e.:

- Create jobs and improve livelihoods;
- Expansion of infrastructure;
- Transition to low carbon economy;
- Reversing the spatial effects of apartheid in urban and rural areas;
- Improving the quality of education, training and innovation;
- Quality health care for all;
- Social protection;
- Building safer communities;
- Reforming the public sector.

In rural areas the NDP states that general productivity has declined due to increased gravitation of productive labour force to urban areas and less investment in rural areas compounded by limited skills and lack of infrastructure. The NDP makes the following recommendations that holds relevance to this Project:

- Identification of non-agricultural opportunities such as tourism, mining and a “green” economy;
- Innovative, targeted and better co-ordinated provision of infrastructure and service provision by the spatial consolidation of rural settlements to enhance densities and associated services;
- Implementing mechanisms to make land markets work more effectively for the poor especially women.

3.3 Provincial context

KwaZulu-Natal Provincial Growth and Development Strategy/Plan (2016)

KwaZulu-Natal Province’s development vision is outlined in the latest version of the Provincial Growth and Development Strategy (KZN-PGDS), which reads as follows:-

“By 2035 KwaZulu-Natal will be a prosperous Province with a healthy, secure and skilled population, living in dignity and harmony, acting as a gateway to Africa and the World.”

The KZN-PGDS is a primary strategy for KwaZulu-Natal that drives growth and development in the Province. It provides the province with a rational strategic framework for accelerated and shared economic growth through catalytic and development orientated interventions, with comprehensive and equitable spatial development initiatives aimed at putting people first, particularly the poor and vulnerable, and building sustainable communities, livelihoods and living environments. The KZN-PGDS asserts the beautiful Province of KwaZulu-Natal as the gateway to Africa and the world, and thus aims to build this gateway by growing the economy for the continued development and improvement of the quality of life of all the people living in the Province, whilst ensuring that those currently marginalized have broader socio-economic opportunities.

The KZN-PGDS (2016) has identified, as the biggest challenge, the continued socio-economic exclusion of millions of South Africans, reflected in high levels of poverty and inequality. Therefore the focus for the KZN-PGDS (2016) will be on unlocking an expanded, sustainable and spatially balanced economic base. This will entail job creation that is labour intensive thus accommodating the marginalized sector of the population. Furthermore, the approach will also entail a prioritization towards improved education outcomes and skills development that is responsive to workplace demands.

The KZN-PGDP identifies seven strategic goals and thirty strategic objectives designed to move the KZN Province progressively towards the attainment of the 2035 development vision. These goals and objectives are as relevant to the Newcastle Municipality as they are for the KwaZulu-Natal Province, despite some not being direct functions of local government. The following sectors are seen as being key in order to address poverty within KZN:

- The agricultural sector's contribution, although still being minimal, has the potential to increase if its full potential is realized. Commercial agriculture is the main employer within major municipalities and forms the economic anchor of some municipalities.
- Reducing employment and poverty may be addressed through a transformation of commercial agriculture and an improved linkage between the first economy commercial agriculture and the second economy subsistence agriculture in order to develop subsistence agriculture into small-scale commercial agriculture.
- Agrarian Reform, coupled with effective Land Reform, are both identified as key instruments towards achieving agricultural development.
- Industrial development potential is anchored by the nodes of eThekweni and Umhlatuze. The corridors between these two nodes extending up to Howick from the primary zone of industrial development in the province are also realized as areas with potential for industrial development. The town's of Newcastle, Ladysmith and Port Shepstone serve as important secondary nodes of industrial development potential to support economic growth and job creation.
- Tourism potential in the areas of Southern Zululand and Dolphin Coast, the Elephant Coast and surrounds, the greater Pietermaritzburg and Durban region, and the Drakensberg region.
- The service sector (government services), which is the largest contributor to the district economies, builds on the concept of developing a comprehensive network of centres throughout the province which will support the delivery of services. It is envisaged that in time growth and development in these rural service centres may lead to the realization of further economic development and activity, justifying additional government investment in the three sectors already discussed.

In terms of this Project and its study area, it is noted that Newcastle has multi-sectoral economic potential. Newcastle has well-developed retail and trade sector, well-developed transportation and the related infrastructure, access to community and social services, and well-developed business and government services. Newcastle is also regarded as a place where the development of all the four major sectors of the economy have been identified i.e. Agriculture, Tourism, Industry and Services sector.

3.4 Municipal context

Amajuba District Growth and Development Plan

The development vision of the Amajuba District is further detailed within the recently developed Amajuba District Growth and Development Plan (DGDP) which is essentially an attempt to cascade the development vision of the KZN PGDP into implementable actions. The main objectives of the plan are as follows:-

- To establish and outline a long term vision and direction for the development in the district (vision 2030);
- To provide an overarching and coordinated framework for planning and development initiatives within each of the local municipalities and across municipal boundaries;
- To provide a spatial context and justification for priority interventions;
- To guide resource allocations of various spheres of government, service delivery agencies and private sector working within the district;
- To develop the institutional arrangement for an effective implementation of the Amajuba DGDP and the KZN PGDS;
- To align and integrate departmental strategic plans at a district level;
- To facilitate commitment of resources (human, financial, etc.) towards the implementation of strategic objectives, catalytic initiatives and other district priorities.

The Amajuba DGDP will achieve its objectives through seven Strategic Goals directly aligned to the KZN PGDP.

	GOALS	INTERVENTION
1.	Job Creation	Expanded provincial economic output and employment.
2.	Human Resource Development	The human resource capacity of the province is adequate, relevant and responsive to growth and development needs.
3.	Human and Community Development	Poverty and inequality in Amajuba is reduced.
4.	Strategic Infrastructure	Strategic infrastructure provides for the social and economic growth and development needs in Amajuba District.
5.	Environmental Sustainability	Reduced global greenhouse gas emissions and create social ecological capacity to climate change.
6.	Governance and Policy	The population of Amajuba is satisfied with the levels of government service delivery.
7.	Spatial Equity	Increased spatial access to goods and services in Amajuba

It is anticipated that this Project will contribute to the achievement of these goals through employment creation, human resource development, infrastructure delivery, contribution to a green economy and subsequently poverty alleviation.

Vryheid, Emedlangeni, Newcastle, Ermelo Strategic Corridor Development Plan

The Vryheid-Emadlangeni-Newcastle-Ermelo (VENE) Strategic Corridor Development Plan (SCDP) is currently being prepared by SMEC South Africa on behalf of the KwaZulu-Natal Department of Cooperative Governance and Traditional Affairs. The main purpose of the VENE-SCDP is that it seeks to consolidate the various strategic plans that have been developed by relevant provincial departments, municipalities and sector departments in the abovementioned areas. Among other goals, the aim is to coordinate public sector resources, so as to support the vision and to create a framework for private investment that promotes economic growth and social well-being in an environmentally sustainable manner within the corridor area.

The SCDP is based on the principle of developing regional economies that have diverse offerings to local communities and in alignment with the goals and objectives contained in the KZN PGDP.

The outcome will be a credible and aligned final product that ensures focused and structured development whilst incorporating electricity transmission, bulk infrastructure provision, rural development, and integrated human settlements, spatial equity and skills development into the project. Further, the SCDP will establish a 25-year strategic framework that identifies the development, land use and transport mobility of the affected area, opportunities, as well as a vision for the Corridor.

Newcastle Local Municipality Vision 2035

Vision 2035 is based on a Growth and Development Strategy that seeks to advance the development of the space economy towards an inclusive city. The strategy places particular focus on the opportunities available in Newcastle for fostering public private partnerships, hence ensuring socio-economic development, and environmental sustainability. The strategy also seeks to improve development coordination internally amongst the different directorates of the municipality, and externally with various government sector department and/or entities.

The Growth and Development Strategy is premised on the municipal vision which reads as follows:-

“By 2035, Newcastle will be a resilient and economically vibrant city, promoting service excellence to its citizens.”

This Project will contribute to the 2035 vision through the:

- **Development of economic infrastructure** to ensure local economic development and a general increase in the GDP of Newcastle, enabling the creation of favourable conditions for the creation of a favourable environment for private businesses and entrepreneurship to thrive.
- **Attract investment** towards the creation of meaningful employment opportunities.
- **Preservation of land with agricultural potential, ecologically significant land, and the open space system.** Agricultural activities can continue unhindered once the wind farm is operational. Farm owners can use the incomes generated through the leases to invest in more farming opportunities on their farms and create employment.

Newcastle Local Municipality Integrated Development Plan (2017/18-2021/22)

The Newcastle Integrated Development Plan (IDP) is a tool for planning and development directed towards the attainment of the municipality’s vision 2035, and also a foundation for incremental development of the city and all areas falling within the municipality’s jurisdiction. Integrated Development Planning is a participatory approach to integrate economic, sectoral, spatial, social, institutional, environmental and fiscal strategies in order to support the optimal allocation of scarce resources between sectors and geographical areas and across the population in a manner that provides sustainable growth, equity and the empowerment of the poor and the marginalized.

In order to curb wasteful expenditure and perpetual spending patterns, focused plans are formulated based on community development needs. The IDP informs the Medium-Term Expenditure Framework, and guides the annual budget process.

A number of key development challenges have been identified that include service delivery and infrastructure, municipal transformation and organizational development, local economic development, financial viability, management and so forth.

3.5 Other policy guidelines

Renewable Energy Independent Power Producer Procurement Programme (REI4P)

The DMRE's Independent Power Procurement Programme (IP4) was established at the end of 2010 as one of the government's urgent interventions to enhance South Africa's electrical power generation capacity.

Energy and supply is, however, not only about technology, but also has to impact economic growth and socio-economic development. As such, the IP4 has been designed to also include and contribute to the national development objectives, such as job creation, social upliftment, local industry development and increasing opportunities for economic ownership.

The Integrated Resource Plan for electricity (IRP) provides South Africa's long-term plan for electricity generation. It primarily aims to ensure security of electricity supply, minimise the cost of that supply, limit water usage and reduce greenhouse gas emissions, while allowing for policy adjustment in support of broader socio-economic developmental imperatives. The IRP2019 was promulgated in October 2019 and replaced the IRP2010 as the country's official electricity infrastructure plan.

The IPP projects of the first seven bid windows (BW1, BW2, BW3, BW3.5, BW4, 1S2 and 2S2) were distributed across all nine provinces of South Africa. However, up to date no large-scale wind and solar PV projects have been established in the KZN Province. This Project will thus contribute to the distribution of economic and social benefits to a broader range of beneficiary recipients.

4 METHODOLOGY FOR SEIA

4.1 Specialist Credentials

The SEIA Specialist's Blurb is attached in the Addenda: Section 14.4 (*Experience of the SEIA Consultant*).

4.2 Scope and Purpose of Report

The primary purpose of a SEIA is to determine and analyze the likely impacts of a proposed development on a specific group of people or a community's way of life, character and social cohesion. This is done by assessing and analyzing the probable social and socio-economic impacts before the development takes place. The aim is for the developer to realize and optimize the Project's benefits and implement mitigation measures that would minimize the possible negative impacts of the proposed development before it occurs.

This SEIA Report provides the following:

- Broad overview of the Project, design and activities to be undertaken;
- Purpose of a SEIA;
- Legal guidelines and policies within which this Project should function from a social and economic perspective;
- Gaps, assumptions and limitations of the study;
- Study scope of work, methodology and the impact significance rating method used;
- Definition of the study area / Project area of influence;
- Identification of sensitive receptors within the site specific study area and a sensitivity map;
- The socio-economic profile of the region and the social characteristics of the affected environment;
- Anticipated positive and negative social and socio-economic impacts for the construction, operation and decommission phases and their significance ratings;
- Mitigation and management measures for each impact category;
- Recommendations from a socio-economic perspective; and
- Social Management Plan for implementation.

4.3 Method for SEIA

The SEIA Report complies with Appendix 6 of the NEMA 2014 EIA Regulations (GN R982 of 4 December 2014), as amended. Steps followed for the study are outlined below:

4.3.1 *Scope of the assessment*

Based on information received from the client, the scope of work was determined. Photographs, aerial maps and a survey of the area and surrounds orientated the consultant and assisted to determine sensitive receptors and the potential social impacts that could emerge.

4.3.2 *Desktop studies and literature review*

Various secondary data sources were used to collect information, determine and analyze the social and economic characteristics of the study area and to assist in the assessment of impacts, which include:

- Maps, census data and other sources that provided baseline statistics;
- Planning and policy documents (national, provincial and municipal);
- Overview of the REI4P (December 2021);
- Data and results of similar studies extrapolated from documents, articles, publications and case studies locally and internationally; and
- Interviews and questionnaires with stakeholders.

Section 14.1 (*References*) contains the list of sources consulted.

4.3.3 Site visit

A site visit was undertaken on 31 May 2022 and 1 June 2022 to familiarize the specialist with the social environment and to identify sensitive receptors within the Project's area of influence.

4.3.4 Definition of the Study Area

For purposes of the analyses the study area needs to be defined. The following three study areas are relevant for this SEIA:

- The **site specific study area** is the area that experiences direct impacts related to Project activities such as noise, dust, visual impacts, land use impacts and compensation. Due to the size of the turbines the site specific study area is, for purposes of the SEIA, defined as the relevant land portions and/or an approximate 2 000 m buffer around the wind farm facility.
- The **local study area** (direct area of influence) is the area that would experience direct positive and induced economic impacts, as well as the negative impacts related to sense of place, an influx of workers and the associated social risks. The geographical area includes the surrounding farms, towns and settlements located closest to the Project – usually within a few kilometres from the site and located within the affected and surrounding wards.
- The **regional study area** (indirect area of influence) is the area that would mostly experience impacts related to indirect and induced impacts, such as pressure on local service delivery and resources, induced impacts of economic contribution and the benefits of social investment. Certain of the direct impacts, including job creation, effects of an influx of jobseekers and so forth would also manifest here. The geographical area extends to the cities, towns and settlements within the local and district municipalities – a radius of approximately 50 km for this Project.

4.3.5 Identification of Stakeholders and Sensitive Receptors

Stakeholders and sensitive receptors within the three study areas have been identified.

Stakeholders in the site specific and local study areas

- Landowners, including their workers and dependents
- Road users (R34 and local access roads)
- Tourists
- Newcastle Local Municipality (NLM) - IDP Unit
- Ward Councillors
- Ward 1 Citizens

Stakeholders in the regional study area

- Amajuba District Municipality (DM)
- Dannhauser LM
- Emadlangeni LM

- Phumelela LM
- Dr Pixley Ka Isaka Seme LM
- Organized Agriculture
- Emergency services
- Protected Environments / Nature Reserves

4.3.6 Primary data

4.3.6.1 Public participation

In order to elaborate on the baseline social environment (social setting and characteristics of the study area, as well as the key economic activities) links are established with the public participation process (PPP) done for the EIA. Comments and issues that emerge during the PPP are included and assessed and this SEIA report updated accordingly.

4.3.6.2 Consultation and fieldwork

Consultation with key stakeholders took place from May 2022. Meetings, telephonic discussions and questionnaires formed the basis of the consultation up to date. The list of stakeholders consulted is included in Section 14.1.4 (*Consultation*).

4.3.6.3 Issues and concerns

Comments and inputs obtained through consultation pertain to:

- There will be a massive negative impact on surrounding farmers, environment and communities.
- Influx of people and no control over movement for duration of project.
- The project will contribute to stock theft and crime in general. At present there are minimal / low levels of crime.
- Concerned about gates that are left open (negligence of people that access properties). This will contribute to animals that go missing; animals that mix with other animals in different breeding groups/cycles; create more work for owner and labourers; and potentially introduce disease into herds (biological risks). Disease can cause massive losses.
- Access by different people without any screening or biosecurity measures in place can introduce numerous diseases to farm and surrounds.
- Impact on labour force. The job opportunities created by the development will be temporary, but will be financially lucrative for a short period. Farmers might lose staff members and will have to replace them with unfamiliar / unskilled workers, or will have to renegotiate salaries. Place pressure on the farmers' businesses models.
- Migrating Amur Falcon that roosts in the area in summer season.
- Impacts on wetlands and associated birdlife and wildlife.
- Overhead lines and access roads will also impact the previously isolated environment.
- Visual (skyline) and environmental impacts and impacts on the sense of place. At present the quality of life and environmental diversity is fantastic.

- How will locals benefit? What community upliftment / skills development is planned?
- The wind farm development is welcomed and will have a positive impact.

4.3.7 Secondary data

As part of the SEIA it is required to link with other sources and specialist studies done for this specific Project, since many of the issues of social relevance are interweaved with environmental concerns. Inputs from the Visual, Noise, Agricultural and Traffic Specialist Studies were obtained and where applicable the SEIA ratings aligned with these Specialists' findings.

4.3.8 Impact variables to be assessed

For purposes of this SEIA the following variables have been assessed:

- Economic and socio-economic impacts that relate to local procurement; induced / indirect local economic impacts; impacts on livelihoods and community development.
- Labour force impacts such as temporary / permanent / indirect employment; training and skills development; SMME development; and employment equity.
- Population impacts including the inflow or outflow of temporary workers.
- Impacts on the surrounding landowners such as intrusion impacts; land use impacts; devaluation of farmland values; sense of place and security risks.
- Individual and family level impacts, including disruption in daily living and movement patterns; tourism impacts.
- Potential health and safety risks.

4.3.9 Significance rating

Potential impacts associated with the proposed Project are assessed in terms of their overall significance on the socio-economic environments during the construction and operational phases. The criteria used are:

- Nature of the impact;
- Extent of the impact;
- Duration of the impact;
- Consequence of the impact;
- Probability of the impact occurring;
- Degree to which the impact can be mitigated.

The Significance Assessment Criteria as provided by the EAP is set out in the Addenda: Section 14.2.

4.3.10 Mitigation and management

For each of the impacts identified mitigation and management measures are proposed and it is indicated how these would change the overall significance if such measures were implemented. It is recommended

that mitigation and management measures be included in the Environmental Management Programme Report (EMPr) where required.

4.3.11 Cumulative impacts

As far as could be determined there are no existing large-scale RE projects located in the 30 km radius from the Project. The MNWP and Mulilo Newcastle Wind Power 2 (MNWP2) Projects are considered for the assessment of cumulative impacts. Refer Section 11 (*Cumulative impacts*).

4.3.12 Alternatives

No site or layout alternatives for the MNWP facility are assessed, as slight changes to the locality and number of turbines will not impact the SEIA ratings significantly. However, the WEF is assessed against the 'No-Go' alternative in Section 10 (*Alternatives*). The 'No-Go' alternative is the option of not constructing the Project and the status quo would prevail. Also refer to the *SEIA: Impact Assessment Significance Rating Table* (Addenda: Section 14.3) in this regard.

4.3.13 Conclusion and recommendations

From a socio-economic perspective, the results of the assessment are concluded; and recommendations made where required (Section 12).

4.3.14 Social Management Plan and Strategies

Management and monitoring measures for the Social Management Plan component of the Project are provided, which includes their timeframes for implementation, the responsible parties and outputs expected (Section 13).

4.4 Gaps, Assumptions and Limitations

- Baseline socio-economic data for this draft SEIA Report was obtained from various sources, which include Census 2011, Community Survey (CS) of 2016, municipal planning documents and specialist studies conducted as part of the Project. Even though there are some gaps in the data and some of the statistics contradict each other, data was nevertheless adequate to develop a community profile at a sufficient level of detail for this SEIA.
- Desktop study sources are not exhaustive and additional information can still come to the fore to influence the contents and findings of the SEIA.
- Consultation with stakeholders for the SEIA does not aim to replace the Public Participation Process required by NEMA.
- All attempts were made to consult with stakeholders and include relevant sources.⁶ Additional information that could contradict the findings in this report may however exist and for this reason consultation with stakeholders could still take place during the review period of the EIA report.

⁶ At the time of finalisation of the SEIA report the NLM IDP Unit has not responded on requests for information yet.

Inputs obtained from stakeholders in the EIA public participation process will be included and could affect the rating of social and socio-economic impacts.

- Technical and other information provided by the client is assumed to be correct.
- The purpose of the SEIA is to identify social and economic impacts and determine how these would impact on the social fabric of the receiving environment. An in-depth analyses of economic impacts and/or an Economic Cost Benefit Analyses fall outside the scope of the SEIA.
- The assessment of the impact on sense of place is mainly based on the specialist's opinion, as sense of place is a personal experience and not easily measured.

5 DESCRIPTION OF THE STUDY AREA

To obtain a better understanding of the social and socio-economic environment the Project will function in, the three study areas are expanded on in this section of the report.

5.1 Regional Study Area

5.1.1 Amajuba District Municipality

Amajuba, meaning “a place of doves” in isiZulu, is one of the eleven districts of the KZN province and borders on the Free State and Mpumalanga Provinces (to the west and north) and the Zululand, Umzinyathi and Uthukela Districts (to the east and south).

Amajuba District Municipality (DM) has a population of 531 328 (CS 2016) of which the majority speak Zulu (Census 2011). Main economic sectors are manufacturing (35%), followed by community services (22.2%), financial and business services (15.2%) and trade (8.6%). In terms of tourism, the district is marketed as a battlefields tourism destination due to the battles that took place between the Boers and British during the late 19th century (en.wikipedia.org).

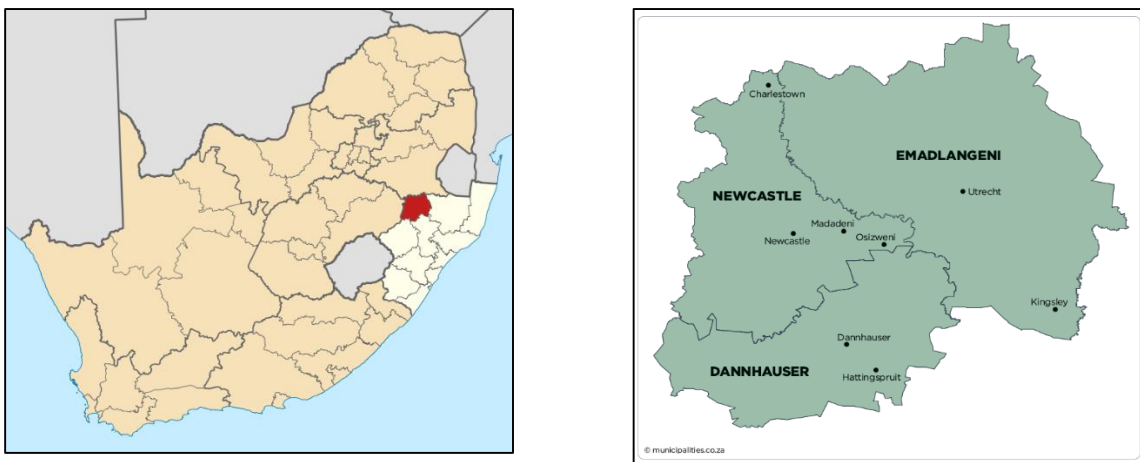


Figure 5. Amajuba District Municipality

5.1.2 Newcastle Local Municipality

The NLM, one of three local municipalities in the Amajuba DM, is located in the inland region on the north-west corner of KwaZulu-Natal on the foothills of the Drakensberg. The population of Newcastle is spread unevenly over 34 wards. The majority of the people (80%) within Newcastle reside within the Newcastle East area, which is predominantly township and semi-rural areas.

Newcastle is the third-largest urban centre in KZN and with a population of 389 116 (CS 2016) is categorized as a secondary city. The current annual population growth of 1.4%, translates to 5 176 people per year, and also includes a significant increase in the Youth proportion of the population. Should this trend continue, Newcastle has a vision of becoming a city by the year 2035. The projected population for the year 2038 will be 502 988 (NLM IDP, 2021-22).

Current population movement patterns indicate that the high urbanization rate is as a result of poor access to services and a lack in employment opportunities in the rural areas, with the perception that urban opportunities will offer a better life. The general decline in job opportunities in the agricultural sector is a main contributor to this trend. Newcastle's agricultural region has registered a net decline in both production and employment opportunities.

Rural Newcastle has a diverse land ownership composition with the majority of land being privately owned. The Rural Region is dominated by expansive commercial farmland, which is used mainly for livestock farming and crop production. Some of the farms are affected by land reform, particularly land restitution and labour tenant programs that may lead to the creation of new settlements. This occurrence negatively impacts exploitation of agriculturally valuable land. Established settlements on commercial farmlands already exists, such as the rural settlement known as Ingogo and settlements within the traditional leadership areas (NLM, IDP 2021-2022). The image below illustrates the land use patterns of the NLM.

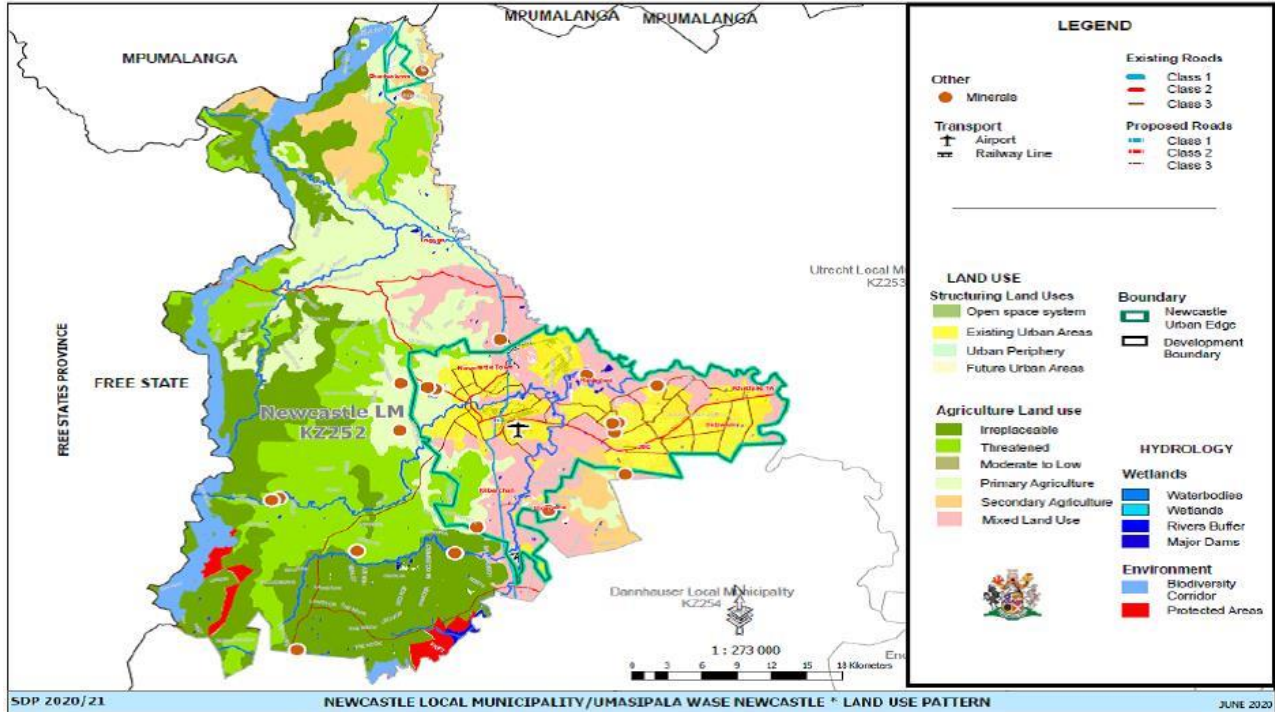


Figure 6. Newcastle local Municipality Land Use Pattern
(Source: NLM IDP, 2021-2022)

5.2 Local Study Area

Ward 1, where the MNWP Project is located, is the largest ward in NLM at 844 km², followed by Ward 21 at 792 km². Ward 1, with a population of 10 768 people, is sparsely populated with a density of 12.8 people per km². The small town of Charlestown has an estimated population of 4 392 people and is situated in Ward 1’s northern section, south of Volksrust (Census 2011). To the south Ward 1 borders the northern residential areas of Newcastle and stretches over the N11 to the east, to include Acelor Mittal.

Figure 7 below indicates the extent of Ward 1 and the approximate locality of the MNWP facility within the ward.

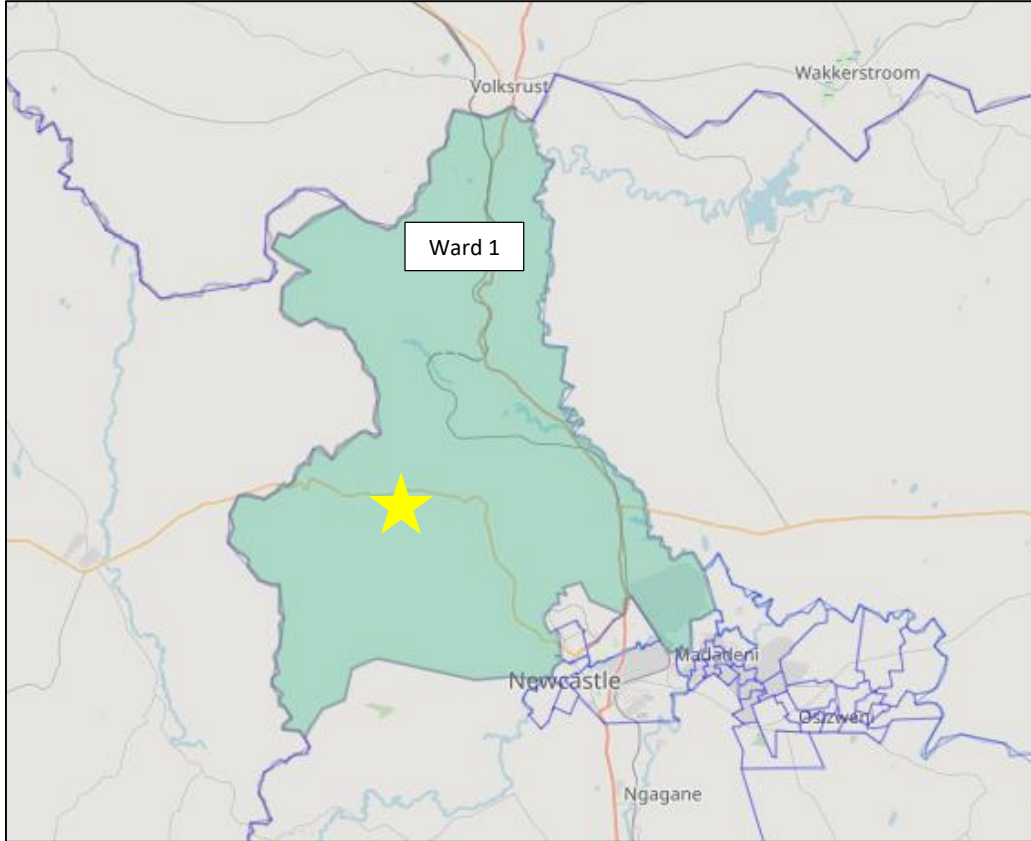


Figure 7. Ward 1: Newcastle Local Municipality (MNWP: ★)

(Source: wazimap.co.za)

The local study area sees mixed farming with the largest portion of land used as grazing. Crops and pastures are produced under both rainfed conditions and under irrigation. Many of the farms in the region fall within the Eskhaleni Conservancy Area (Figure 8).



Figure 8. Eskhaleni Conservancy



Figure 9. Grazing land

(Source: INDEX, 2022)

A few farmsteads with associated farming infrastructure and some traditional homesteads are scattered throughout the area. Some of the livestock and private game farms also offer holiday accommodation and function venues.



Figure 10. Draaiwater Lodge



Figure 11. Drakensbergkloof

(Source: drakensbergkloof.co.za)

5.3 Site-specific study area

The properties included in the MNWP Project are used for livestock production, as the uplands soils of the WEF are shallow and rocky and not arable. The deeper sandy loam soils in the ravines are arable with a high potential for cropping. The latter, however, does not occur on the footprints of the infrastructure (INDEX, 2022). Cropping mostly takes place to the west of the WEF with some fields located within the 2 km buffer. A few rural residences / homesteads occur within the 2 km buffer (refer Figure 13).

5.4 Sensitive receptors

Sensitive receptors include any existing infrastructure, facilities, land uses, residents and observers that could potentially be impacted as a result of construction activities (noise, dust, lighting, traffic, etc.) or during the operational phase, which is in the case of a wind farm, usually as result of visual and noise impacts. The figure below provides the visual proximity analysis, observer sensitivity and proximity of the proposed MNWP Project as obtained from the Visual Impact Assessment (VIA) (Nuleaf, 2022). Potential sensitive receptors include:

- Residents of rural residences / homesteads and along the outskirts of residential areas;
- Observers travelling along major roads; and
- Protected / Conservation areas.

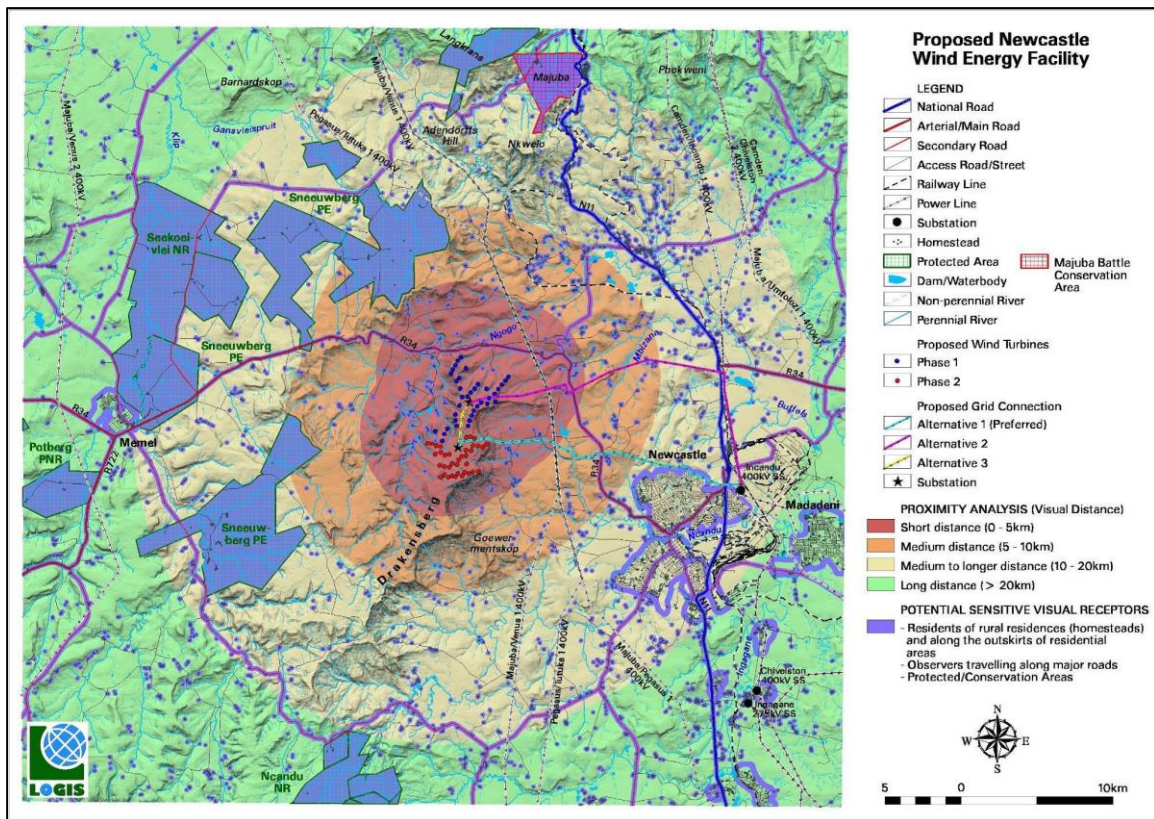


Figure 12. Visual proximity analysis, observer sensitivity and proximity of the proposed MNWP Project

(Source: Nuleaf, 2022)

Figure 13 indicates the sensitive receptors within the 2 km buffer.

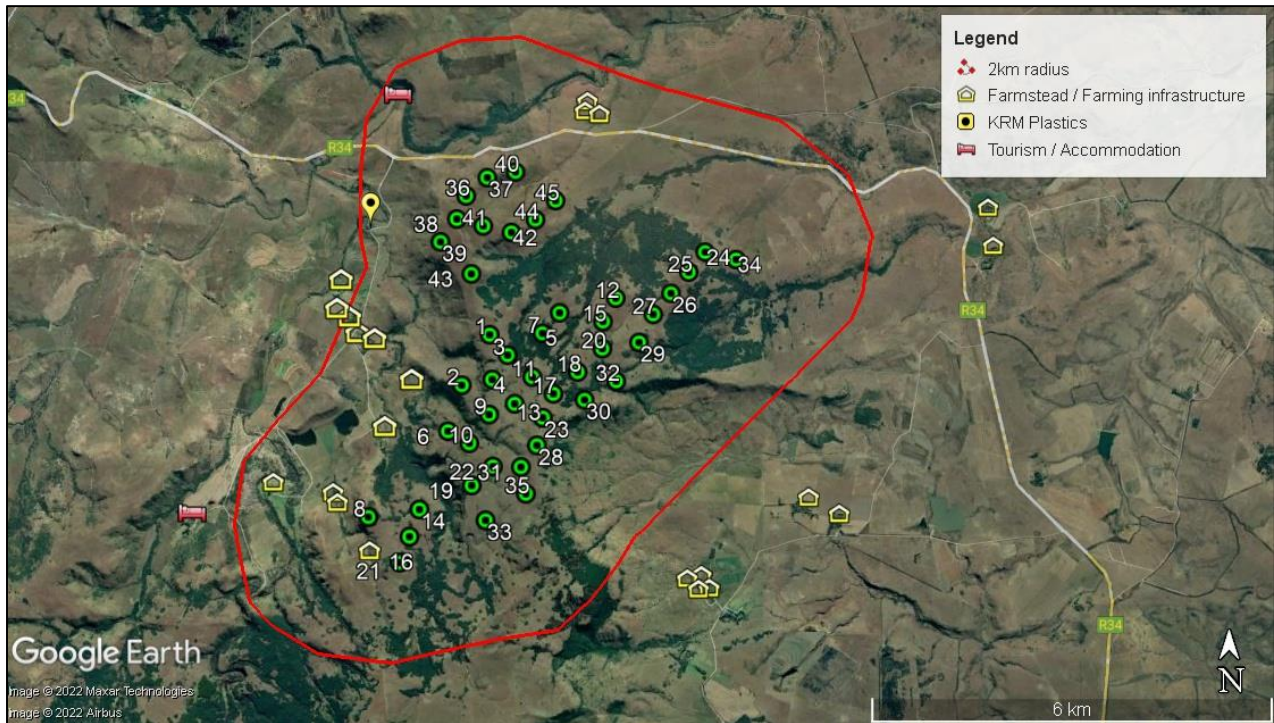


Figure 13. 2 km buffer with sensitive receptors⁷

In terms of Tourism / Accommodation establishments / Protected Environments (PE), the following take place:⁸

- **Draaiwater Lodge** (22-bed accommodation facility), located less than 2 km north-west of the nearest turbines, also has game on the farm.
- **Drakensberg Kloof**, located south-west of the facility and about 2.6 km from the nearest turbine, is an accommodation and wedding venue that offers accommodation in rooms, chalets and tents. Livestock and crop farming also take place.
- Portions of the **Sneeuberg PE** are located within the 5 – 10 km buffer (Refer Figure 12).

5.5 Existing Renewable Energy Projects

Currently there are no large Wind or Solar PV Projects located in the KZN Province or within a 30 km radius from the Project. However, simultaneous with this Project's EIA, application is made for the proposed Mulilo Newcastle Wind Power 2 (MNWP2) WEF and its associated OTL.

⁷ 2 km buffer not scientifically determined.

⁸ Engogo Lodge has recently been sold and is not used for commercial purposes any longer.

The MNWP2 project will consist of a maximum of 35 wind turbines with a generating capacity of up to 200MW. The MNWP and MNWP2 WEF's with their associated OTL's are collectively referred to as the "Mulilo Newcastle WEF Complex" and is illustrated in Figure 14.

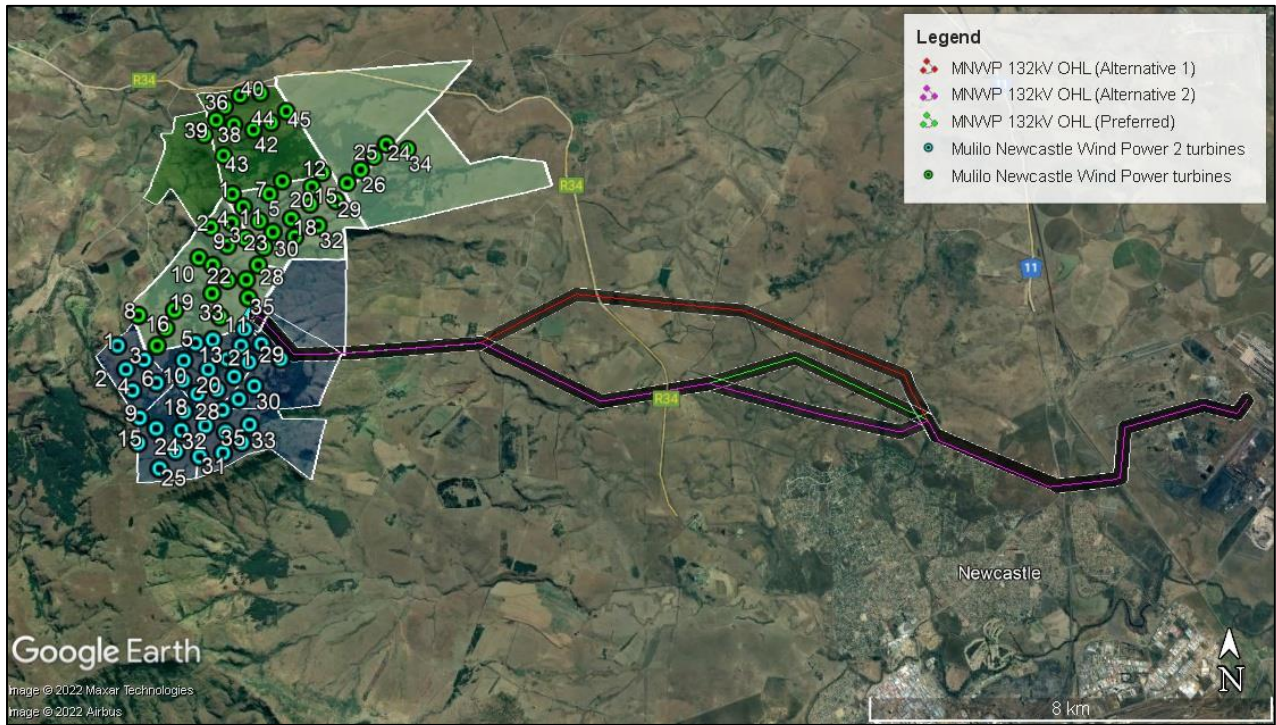


Figure 14. Mulilo Newcastle WEF Complex

6 BASELINE DATA OF THE STUDY AREA

6.1 Population Data

6.1.1 Population size

Demographic data, including migration patterns, determine and influence how fundamental services within a municipal area are delivered. In the context of this Project, these statistics provide, amongst others, a baseline against which some of the impacts of the Project, such as the possible influx of outsiders, over the medium and long-term can be measured.

Below is the most recent population data that could be obtained for the study area.

Table 6. Population data

Demographics	Amajuba DM	Newcastle LM	Ward 1
Population	531 328	389 116	10 768
Households	117 257	90 347	2 174
Average household size	4.5	4.3	5

People per km ²	76.3	209.3	12.8
Age structure (2016)			
- Under 15 years	35.4%	33.9%	-
- 15 to 64 years	60.9%	62.5%	-
- Over 65 years	3.7%	3.6%	-
Population growth per annum (2016)	1.35%	1.56%	-
Male : Female (2016)	48% : 52%	48% : 52%	48% : 51%
Female headed households (2011)	47.6%	47.5%	40%
Female headed households (2016)	48%	48.2%	-
Poverty levels (2012)	50.9%	44.4%	-
Dependency ratio per 100 (15 – 64 years) (2016)	64.3	60.1	-

Source: NLM IDP, 2021-2022; wazimap.co.za; Census 2011; CS 2016

In terms of the local and regional demography the following observations are made:

- The population growth rate observed in 2016 is higher than experienced between the period 2001 to 2011, but much lower than experienced between 1996 to 2001 (NLM IDP, 2021-2022).
- In 2016 Newcastle accommodated 77% of the households in the Amajuba DM, which has implications on spatial growth and urbanisation (NLM IDP, 2021-2022). Formal and informal settlements are developing closer to places of economic opportunity, i.e. urban areas.
- Newcastle's population is relatively young with 44.9% of the total population being younger than 19 years of age, and the age group between 20 and 34 years accounting for 28% of the total population. Collectively the Youth in Newcastle (0 – 34 years) makes up 72.9% of the total population, and this places immense pressure on the provision of educational facilities, social welfare, health services and the stimulation of the economy to provide job opportunities and economic development (NLM IDP, 2021-2022).
- There is a high rate of emigration of Youth from Newcastle to other centres and cities, mainly contributed to the unavailability of higher educational institutions. A definite need exists for recreational and educational facilities (i.e. shopping malls, colleges, Future Education and Training institutions (FET's), etc.) as well as employment opportunities that would encourage Youth to remain (NLM IDP, 2021-2022).
- The gender distribution (females outnumber males) conforms to the national norm. There is a need to formulate and implement programmes that address gender equality and promote women participation.
- There is an increasing level of circular migration due to emigration of males in search of better employment opportunities elsewhere. The consequential higher rate of female headed households has various social implications, as these households usually have limited / fewer access to credit, health care, agricultural services and productive assets (NLM IDP, 2021-2022).

- The projected population in Newcastle for the year 2038 will be 502 988 people (based on the assumption that everything remains constant) (NLM IDP, 2021-2022). For Newcastle’s vision of a city to realize by the year 2035, not only population numbers, but the availability of job opportunities, educational facilities, healthcare, infrastructure, intermodal options of transport and so forth is a pre-requirement.

6.1.2 Language and race

The population of the Amajuba District is 93% Black, 3% Indian / Asian and 3% White. This concurs with the NLM population, where 92% of the citizens are Black, 4% Indian / Asian and 3% White. The predominant language is IsiZulu (88%), followed by English (5%) and Afrikaans (3%) (CS 2016; wazimap.co.za).

6.2 Labour Force

Data that relates to unemployment, education and skill levels provide an insight into the existing labour force and to what extent the study area would be able to supply in the labour demand during the Project’s construction and operational phases.

Table 7. Labour force data

Labour force	Amajuba DM	Newcastle LM	Ward 1
Education			
- No schooling	6.1%	5.8%	16%
- Matric	36.6%	38.7%	26%
- Higher education	9%	10.2%	2%
Unemployment 2011 (official)	-	37.4%	35%
Unemployment 2017 (official)	-	31.8%	-
Youth unemployment 2011 (official) 15-34 yrs	-	49%	-

Source: NLM IDP, 2021-2022; wazimap.co.za; Census 2011; CS 2016

6.2.1 Education / Skills

- The number of illiterate people in NLM declined from 11.33% to 4.75% from 2001 to 2011 (NLM IDP, 2021-2022).⁹
- There is an illiteracy gap between males and females. Illiteracy levels have been increasing amongst the female population, whilst decreasing amongst the males. The CS 2016 recorded a slight improvement in bridging this gap between the genders.
- In NLM the number of people with Gr.12 as highest qualification increased from 33.1% to 38.7% from 2011 to 2016 (CS 2016, municipalities.co.za).

⁹ Census 2011 data (municipalities.co.za) reflects 2011 illiteracy levels at 7.1%.

- People with a tertiary education in NLM almost doubled between 2001 and 2011 (from 1.81% to 3.35%) (NLM IDP, 2021-2022).¹⁰ According to the CS 2016 data tertiary education levels now stand at 10.2% (municipalities.co.za).
- The low levels of education in the NLM has a direct negative impact on the employability of the labour force. This is especially pertinent in Ward 1 where illiteracy levels are very high (16%) and the number of people that completed Gr.12 are far below the municipal average (26 vs 38.7%).
- It is anticipated that the number of people with a tertiary qualification could increase if some tertiary institutions were to be introduced in the NLM (NLM IDP, 2021-2022).
- A high percentage of the NLM labour force is regarded as semi-skilled (35,6%) (refer Table 10).

Table 8. Labour force skill levels

Labour force	Skill level
Skilled	7,4%
Semi-skilled	35,6%

Source: (NLM IDP, 2021-2022)

6.2.2 Unemployment

- There has been a decrease in unemployment (official) from 60.48% to 37.44% (2001 to 2011) in the NLM.
- Unemployment (official) has increased from 29,5% to 31,8% (2013 to 2017) (Global Insight 2018, NLM IDP, 2021-2022).
- When discouraged work-seekers and the 'not economically active' portion of the population are also taken into consideration, then only 17% of the NLM economically active population (15 – 64 years old) is employed.
- The size of the economically active population in Newcastle has increased from 27,8% in 2013 to 30,1% in 2017 (NLM IDP, 2021-2022). This is usually a positive trend for a region as it will transpire into lower levels of dependence. The dependency ratio¹¹ in Newcastle has declined from 60.7% in 2001 down to 58% in 2011 (Census 2011), but increased again to 60.1% in 2016 (CS 2016).
- Ward 1 has an official unemployment rate of 35%.

6.2.3 Youth unemployment

Unemployment amongst South Africa's Youth continues to be a burden, irrespective of education levels. According to the Quarterly Labour Force Survey (QLFS) for the first quarter of 2022, the national unemployment rate was 63.9% for those aged 15 - 24 years and 42.1% for those aged 25 - 34 years, while

¹⁰ Census 2011 data (municipalities.co.za) reflects 2011 tertiary education levels at 11.2%.

¹¹ The dependency ratio indicates the number of young people (under 16 years) and older people (above 64 years) who depend on people of working age (16 – 64 years) for their livelihoods. It also entails people with special needs such as the disabled.

the current official national rate stands at 34.5% (StatsSA; www.statssa.gov.za). In 2011 the NLM's Youth unemployment rate stood at 37.4% (Census 2011). Even though more recent figures are not available yet, it could be expected that this rate remained constant or even increased over the last decade considering the economic climate and the negative impact the COVID-19 lockdown has had on economies. With about 75.1% of young people (15 – 24 years) in the labour force nationally being inactive, it is clear that the Youth has become considerably discouraged (lost hope of finding work that suits their skill or in the area they reside) and therefore remains vulnerable.

6.2.4 Incomes

In 2011 the total number of households in NLM earning less than R40 000 per annum was 68%, and it has since increased in 2018 to 70% (Global Insight 2018; NLM IDP, 2021-22). This is significantly below the national average of household income (R103 204 per annum) and has implications on the Indigent Support provided by the municipality to the community of Newcastle.

Half the households in Newcastle fall under the lowest income classification (R0 – R19 000 per annum) and three-quarters of households fall within or below the second lowest threshold (R19 001 – R86 000) (refer Figure 15).

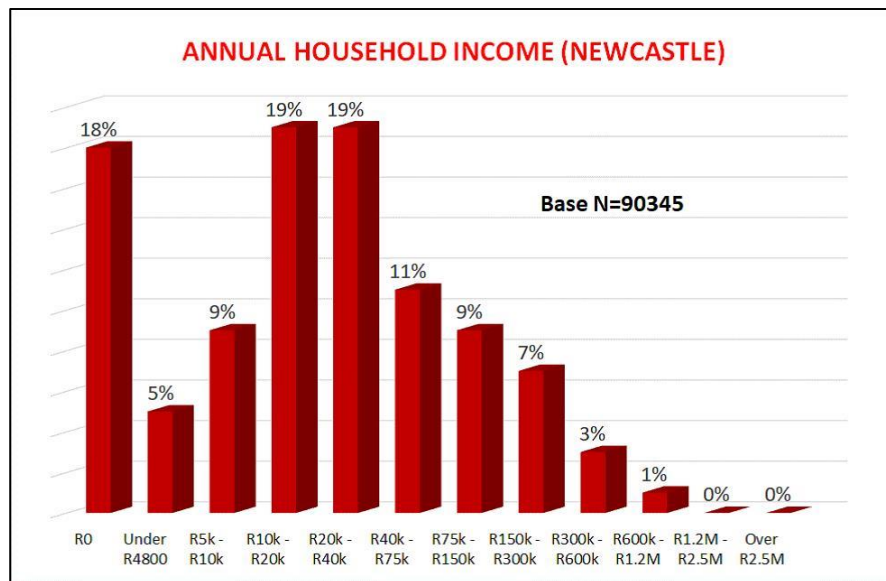


Figure 15. Annual household income (2018)

Source: Global Insight 2018; NLM IDP, 2021-2022

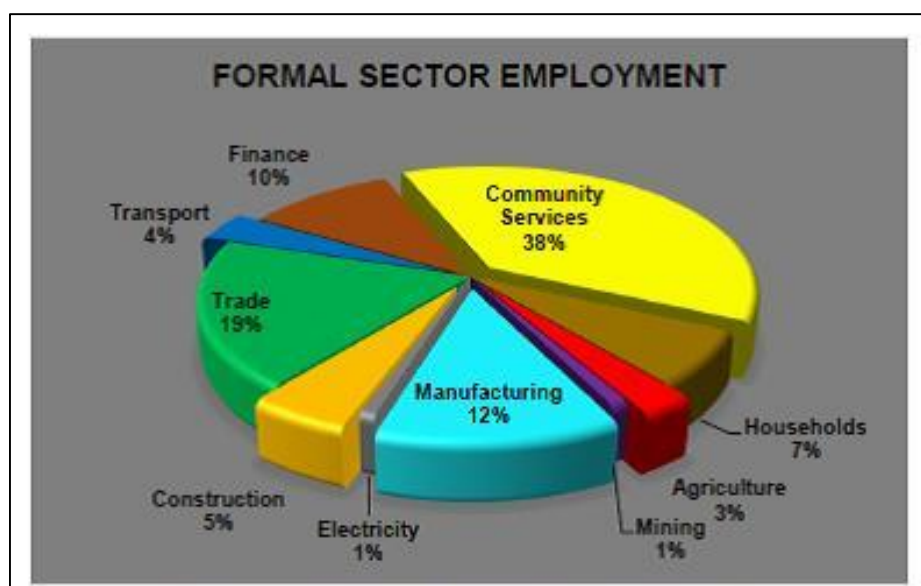
6.2.5 Employment per sector

In terms of formal employment, the table and figure below indicate the sectors that employ the majority of the population (NLM IDP, 2021-22):

Table 9. Employment by broad economic sectors

	KwaZulu-Natal	Amajuba DM	Newcastle
Formal Sector Employment			
Number of formally employed people in Broad Economic S			
1 Agriculture	91 759	3 016	1 542
2 Mining	10 394	751	512
3 Manufacturing	289 046	8 787	6 617
4 Electricity	10 411	611	439
5 Construction	132 778	4 141	2 814
6 Trade	329 222	13 292	10 215
7 Transport	118 180	3 004	2 048
8 Finance	299 270	7 665	5 631
9 Community services	492 107	26 858	20 424
Households	216 148	6 418	3 785
Total	1 989 315	74 543	54 028

(Source: KZN Treasury (Global Insight); NLM IDP, 2021-2022)

**Figure 16. Newcastle LM formal sector employment**

(Source: NLM IDP, 2021-2022)

- After Community Services (38%), the Trading sector, including Wholesale & Retail Trade, Catering & Accommodation, is amongst the largest formal employment sector with 18.9% of formal employment.
- Collectively the primary sectors of Newcastle's economy (Agriculture and Mining) both contribute 3.8% to total formal employment within Newcastle. Formal employment within the Agriculture sector is declining, amongst others due to a decrease in the levels of precipitation (climate change).

- The Manufacturing sector, the sector that once made a significant contribution towards formal employment within Newcastle, contributes 12.2% to total formal employment (6 617 people). The Manufacturing sector has also experienced negative growth trends largely attributed to the current global financial outlook.
- These trends are worrying as they highlight the decline in employment within the primary and secondary sectors, two of the sectors that form the foundation of the economy.

6.3 Main economic sectors

Newcastle accounts for the greatest share of the Gross Value Added (GVA) for the Amajuba District. The GVA breakdown is illustrated in Figure 17.

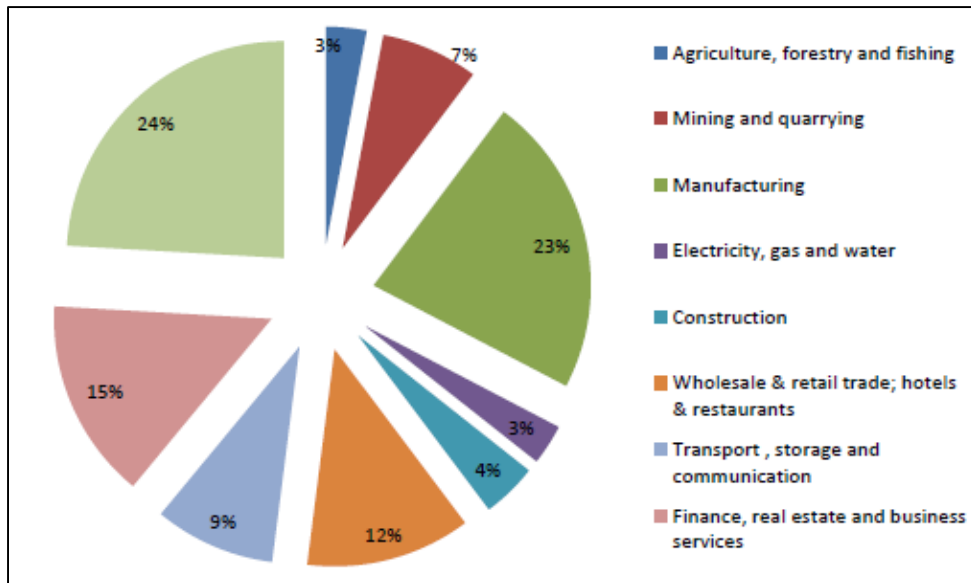


Figure 17. Economic sector contribution to GVA

(Source: NLM IDP, 2021-2022)

The economy of Newcastle is largely driven by the manufacturing sector. Finance and insurance and business services have been the fastest growing sub-sectors with 9% and 6.2% per annum respectively. Among the key factors contributing to an increase in unemployment within Newcastle is the decline experienced within the manufacturing and textile sector (NLM IDP, 2021-2022).

6.3.1 Agriculture

The agricultural sector accounts for approximately 2.2% of total GVA in the Amajuba District, while the contribution of this sector to total formal employment is 3%. The Agricultural sector has been identified as a key driving sector for the creation of employment and economic growth and development within the province. Over the short to medium-term the agricultural value chain can support labour-intensive activities generating large-scale employment and there is a great need to regenerate this sector within the local and district municipalities.

However, the sector currently faces severe constraints, which have resulted in a significant decline in production and the resultant job losses within the Province, such as inadequate access to funding for infrastructure, a lack of agri-industries, ineffective linking of graduates to commercial farms, increased competition due to subsidisation of international farming, slow finalisation of land reform processes and so forth (NLM IDP, 2021-2022).

6.3.2 Manufacturing

Manufacturing is the largest contributing sector within the district economy, contributing approximately 25% to total GVA. The manufacturing sector has however only experienced modest growth between 2000 and 2010, with an average real annual GVA growth rate of 0.6%, in comparison with the provincial average growth of 2.2%. Manufacturing activities in Amajuba include metal production, chemicals and plastics, pharmaceuticals, clothing and textiles, food and beverages, leather and footwear. Most large industry is located within Newcastle, which accounts for over 83% of total GVA in the Amajuba manufacturing industry, followed by Dannhauser with 12.7% and Emadlangeni with 3.8% of GVA.

Presently the Arcelor Mittal steelworks and the Karbochem synthetic rubber plant (which covers 500 000 m² of manufacturing space) dominate the Newcastle industrial portfolio. Historically the sector has also attracted a large number of foreign (mainly Chinese and Taiwanese) manufactures due to incentives offered. Numerous other manufacturing undertakings share in the economic growth of the region and the strong base of existing infrastructure geared towards manufacturing in Newcastle is considered as an advantage to develop this node further and to face challenges. Opportunities exist to diversify the manufacturing base to promote the growth of SMME's within the region.

The graph below displays the breakdown of the manufacturing sector in terms of contribution to total manufacturing GVA within Newcastle.

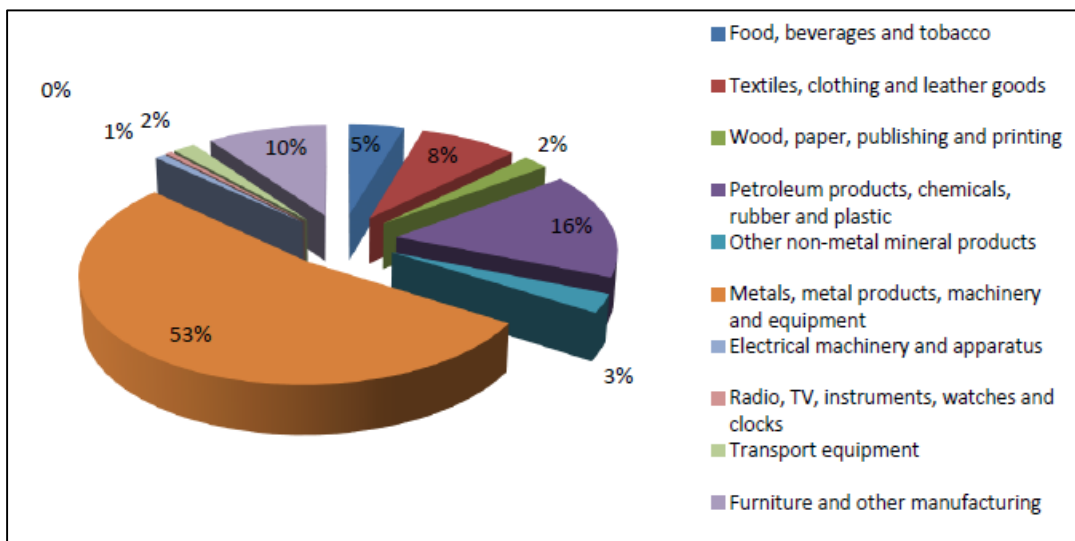


Figure 18. Distribution of Manufacturing GVA in Newcastle (2010)

(Source: Quantec Data (2012); NLM IDP, 2021-2022)

6.3.3 Tourism

Historically Newcastle is not perceived to be a major tourism destination within KZN due to its historical association with industries. However, in recent years the tourism sector in Newcastle has presented opportunities for local economic development and has grown. Although tourism’s contribution to total GVA is still small, the sector accounts for almost 80% output within the District and 82% of total employment within the District’s catering and accommodation sector.

The region offers a variety of accommodation facilities and activities such as eco-tourism (hiking, birding, etc.), natural, cultural and historical attractions (battlefields, nature reserves, etc.), arts and crafts, events and festivals, adventure sports, hunting and fishing. The majority of the attractions in the region are Battlefields. The Amajuba Battlefields Route (R2 on map below) falls within the study area where the Majuba Mountain has historical significance.

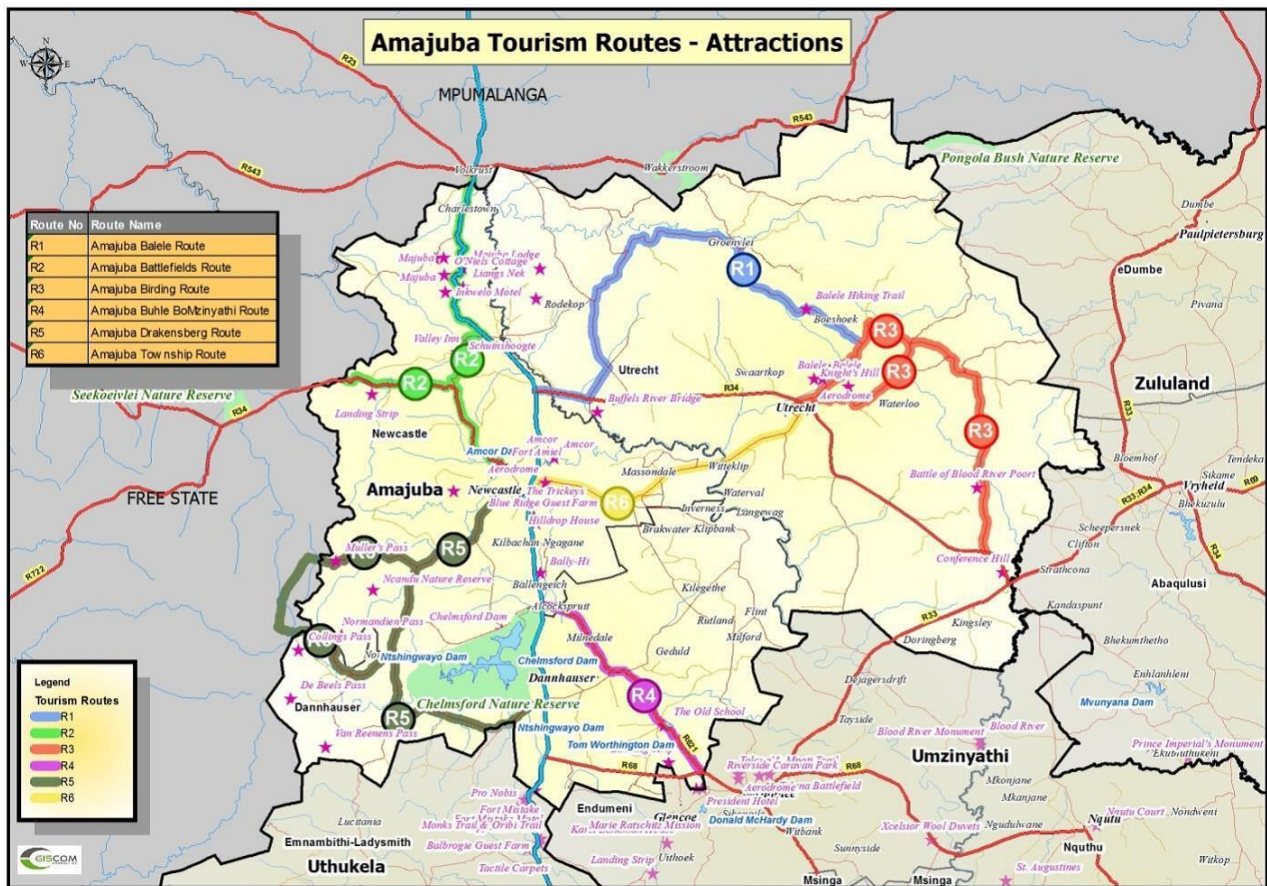


Figure 19. Amajuba Tourism Route

(Source: NLM IDP, 2021-2022)

A number of Nature Reserves / Protected Areas and tourist accommodation facilities are located within and around the study area, which includes:

- Drakensbergkloof

- Vulintaba Country Hotel and Spa
- Draaiwater Lodge
- Grey Goose Game Farm
- Newcastle Country Inn
- Sneeuwberg Protected Environment
- Seekoievlei Nature Reserve
- Potberg Private Nature Reserve
- Ncandu Nature Reserve

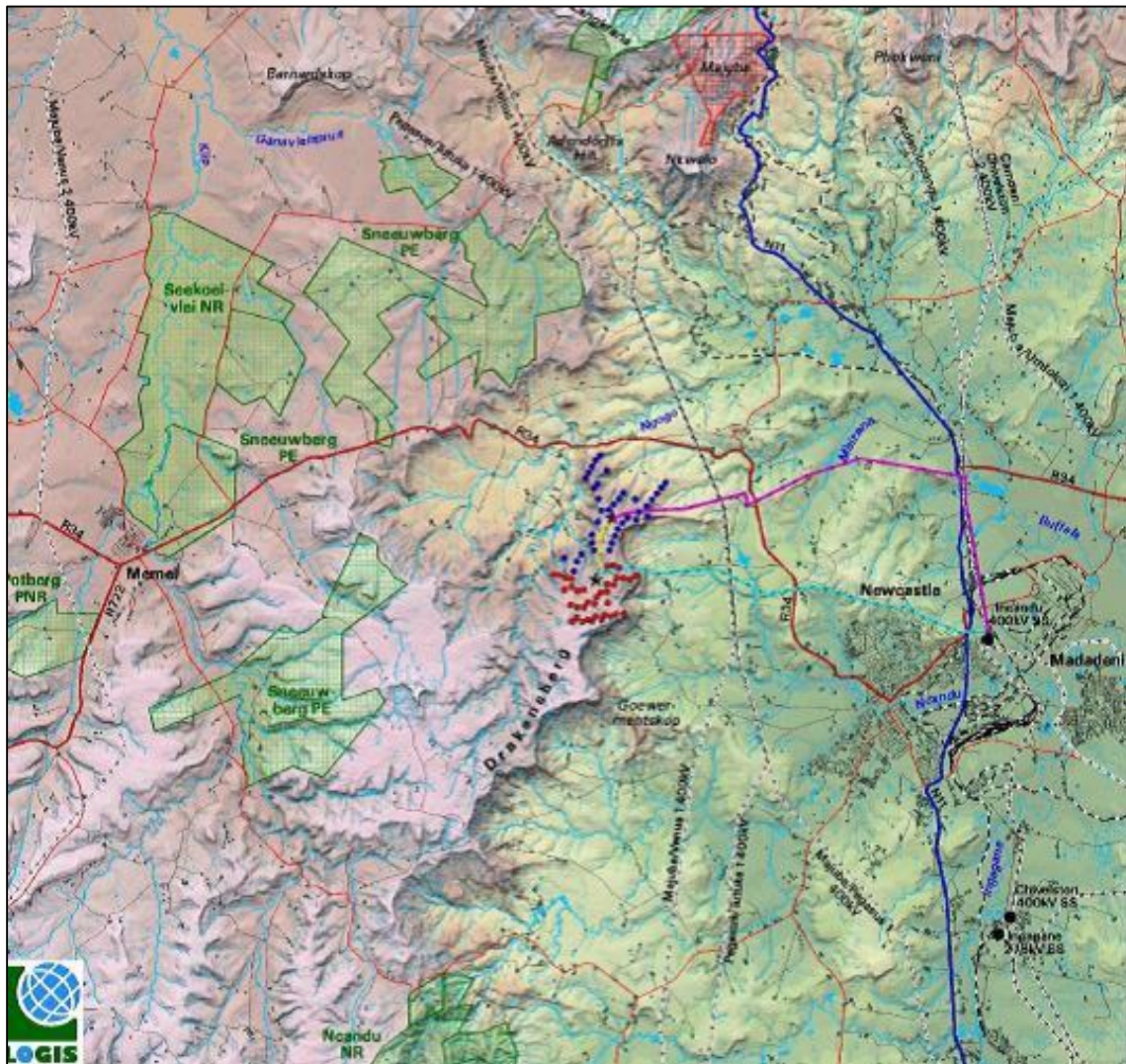


Figure 20. Protected Areas

(Source: Nuleaf, 2022)

6.3.4 Mining

At this stage Mining contributes about 7% to total GVA in the District. Mining activities in Newcastle include coal mining, brick clay, Iron Oxide, dimension stone, aggregate and sand and forms an important component of the local economy. This sector has also generated associated industries and through the contractually obliged Social and Labour Plans (SLP's) mines have invested in communities where they operate by providing training, internships, skills development and funding for infrastructure and community based projects.

6.4 Social indicators

6.4.1 Poverty and inequality

People living in poverty decreased from 69% in 2002 to 51% in 2006 and 44,4% in 2012. This is almost on par with the provincial average in 2012 (45.7%) (Global Insight, NLM IDP, 2021-2022).

Most of the poverty-stricken households of Newcastle are located in the east, as well as within the areas that fall under the Traditional Authority (NLM IDP, 2021-2022).

6.4.2 Human Development Index

The Human Development Index (HDI) is a statistic composite index of life expectancy, education, and per capita income indicators, which are used to rank human development into 3-tiers. A country will score a higher HDI when lifespan is higher, education levels are higher and the Gross National Income (GNI) is higher.

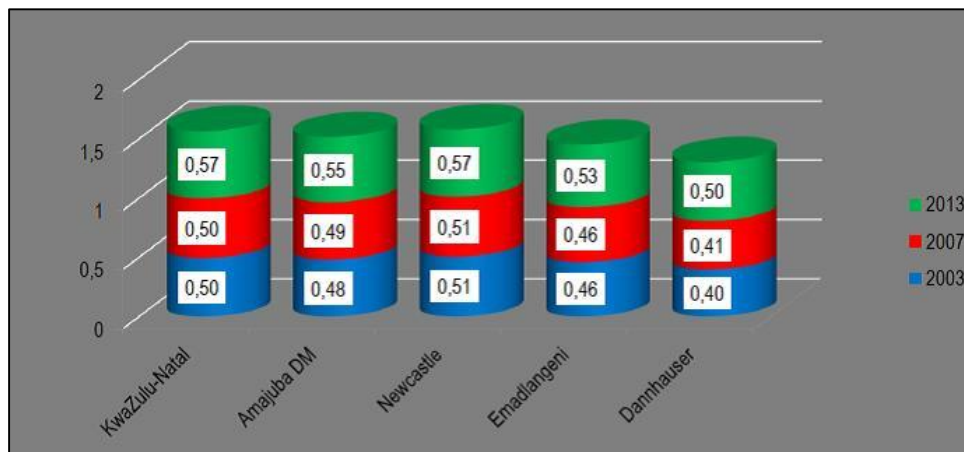


Figure 21. Human Development Index

(Source: NLM IDP, 2021-2022)

Even though the HDI for Newcastle has shown some improvements (in 2013 at 0.5), it is still lower than the national HDI, recorded as 0.705.

6.4.3 Crime

The Newcastle South African Police Service (SAPS) precinct's year-on-year statistics (2018 to 2022) indicate fluctuating numbers for reported total contact crimes (against the person). This includes murder, sexual offences, attempted murder, common assault, robberies and so forth. Between January 2018 and March 2019 there was a 19% increase in this crime category, which reduced with 20% and again with 3% in the following cycles. However, the period between January 2021 and March 2022 again saw a 16% increase in reported total contact crimes (against the person) (www.saps.gov.za).

Total property-related crimes have decreased with 29% between January 2018 and March 2022 and the reported stock theft numbers have declined with 30% during this same period (www.saps.org.za). This declining trend is consistent with perceptions of landowners, who reported that current crime levels are relatively under control when compared to previous years.

6.4.4 HIV/AIDS

Within Newcastle, the number of Human Immunodeficiency Virus (HIV) positive persons has increased at an average annual growth rate of 2.9% during the period 2000 to 2010, bringing the percentage of the population with HIV to almost 17% of the total population.

The number of Acquired Immune Deficiency Syndrome (AIDS) related deaths has increased at an average annual growth rate of 8.7% during the period 2000 to 2010, with AIDS deaths accounting for about 62% of total deaths in the municipality. This highlights the severity of the current situation and the need for interventions that target and attempt to address these HIV/AIDS challenges (NLM IDP, 2021-2022).

6.5 Institutional profile

6.5.1 Household services

Access to basic household services has only improved slightly since 2001, as depicted below.

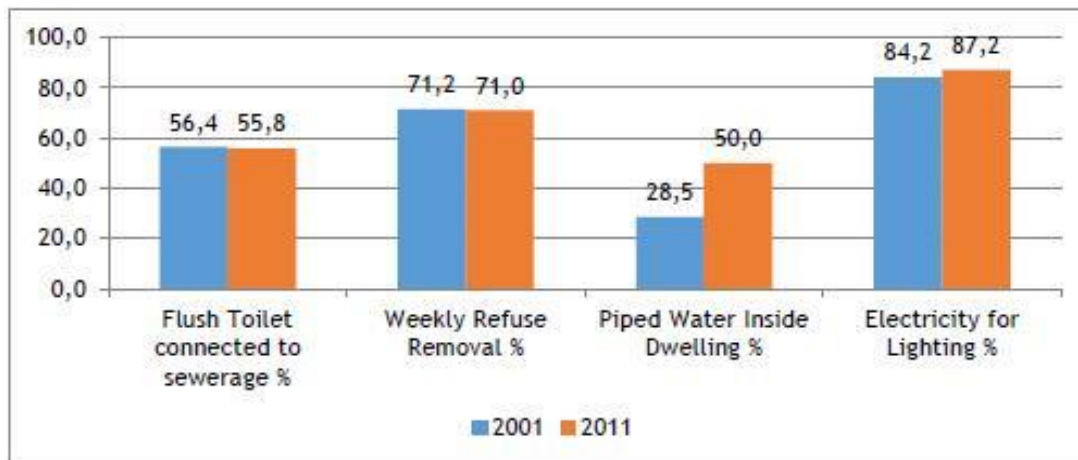


Figure 22. NLM Access to services

(Source: Census 2011; NLM IDP 2021-2022)

The municipality, with the assistance of Eskom, has made substantial progress with the provision of electricity throughout its area of jurisdiction. Approximately 73 449 households are using electricity for cooking and lighting respectively. The number of people using sources of energy such as paraffin, wood, gas, coal, etc. has declined substantially. However, there are few areas where lack of services have been reported, such as informal settlements and areas that were settled after the electrification of the settlement. According to Eskom, there is limited capacity in the Newcastle East to accommodate the planned housing and commercial development (NLM IDP, 2021-22).

Suppliers of energy include:

- Eskom supplies in the order of 125,000 KVA per month.
- International Power South Africa (IPSA) from gas turbines. The 18 MW combined heat and power plant is now supplying electricity to the national grid under a medium-term power purchase agreement with Eskom.

The majority of Ward 1's citizens obtain water from the Regional water scheme and 61% of the population still make use of pit toilets (NLM IDP, 2021-2022).

6.5.2 Housing backlog

The current housing backlog in the NLM, according to the Housing Sector Plan, is estimated at between 19 000 and 30 000 units and a housing waiting list of 35 000 people. According to the NLM IDP (2021-2022), the waiting list has not been updated recently to cater for the changing circumstances of those on the waiting list.

6.5.3 Informal settlements

The following areas have been classified as informal settlements within the municipality:

Table 10. Informal settlements

	INFORMAL SETTLEMENT	WARDS	HOUSEHOLD NO	CATEGORY
1	Amajuba Forest	1	83	C
2	Wykom	1	35	C
3	Soul City	31	1 080	A
4	JBC	16	6 360	A
5	Ingogo	1	85	A
6	Drycut	15	450	A
7	Bosworth	21	350	B2
8	Roy Point / Vezukuhle	21	270	B2
9	Normandien (Agrivillage programme)	21 and 1	30	B2
	TOTAL		8743	

(Source: NLM IDP, 2021-2022)

Newcastle Municipality has been included among the seventeen prioritized municipalities for the implementation of an Upgrading of Informal Settlements Programme. An informal settlement upgrading strategy for the Newcastle Municipality is being developed and will be incorporated into the Housing Sector Plan upon its completion (NLM IDP, 2021-2022).

6.5.4 Educational facilities

Access to education facilities seems to be generally good with about 118 schools, broken down as follows (NLM IDP 2021-2022):

- 10 combined schools;
- 12 junior primary schools;
- 7 senior primary schools;
- 55 primary schools;
- 34 secondary schools.

Tertiary education facilities include:

- Madadeni College of Education (which is now used as a FET College);
- Majuba FET (Newtech Campus);
- Majuba College FET; and
- Majuba FETC (MTC Campus).

As mentioned earlier in this report, there is a high rate of emigration of Youth from Newcastle to other centres and cities, mainly contributed to the absence of appropriate higher educational institutions. A definite need exists for educational facilities such as FET's, which would encourage Youth to remain.

6.5.5 Health care facilities

Health care facilities in NLM are indicated below (NLM IDP, 2021-2022):

Health care facility	Number
Clinics	10
Mobile clinics	12
District hospital: Madadeni Township	1
Provincial hospital: Newcastle	1
Private hospital: Newcastle	1
Emergency Rescue Services: Madadeni	1

The backlog is mainly in the Newcastle East where the majority of the population lives.

6.5.6 Security / SAPS

There are seven permanent police stations in NLM and one satellite station. Newcastle Municipality participates in crime policing forums through the Office of the Speaker. The NLM is in the process of installing closed-circuit video (CCV) cameras in the CBD, industrial areas and suburbs and in the townships of Madadeni and Osizweni in order to fight against crime. High mast lights have been installed in hot spot crime zones.

6.5.7 Fire and Rescue Services

NLM is part of the Amajuba District Fire Technical Task Team and has also established relations with non-governmental organizations (NGO's) and Government and Private Sector stakeholders comprising Farmers Associations, Arcelor Mittal, Karbo-Chem and so forth. Newcastle Fire and Rescue Services Stations include (NLM IDP, 2021-2022):

- Madadeni Fire Sub-station;
- Osizweni Fire Sub-station; and
- Emergency Control Centre.

6.6 Land Reform / Restitution / Land Tenure

According to the Amajuba District Municipality Area Based Plan, the Department of Rural Development and Land Reform is implementing the following projects within Newcastle Municipality:

- Land Redistribution: There are fifteen completed land redistribution projects where 5 097 ha of land has been transferred to 283 households (1456 individuals).
- Land Restitution: There are 130 claims on farms in the Newcastle area, totalling 53 000 ha. Of this, 34 claims have been settled, making up 12 700 ha.
- Tenure Security (Labour Tenants): There are tenure security claims on 99 farms, making up a total area of 973 ha.

The Amajuba District Municipality Area Based Plan further notes that 73 212 ha of land has been transferred under the land reform programme. An application of the 30% target suggests that 109 447 ha is required in order to bring the programme in Newcastle in line with the national targets (NLM IDP, 2021-2022).

The figure below indicates that the Project area includes land portions where successful redistribution projects have been concluded, as well as possible restitution and labour tenants claims.

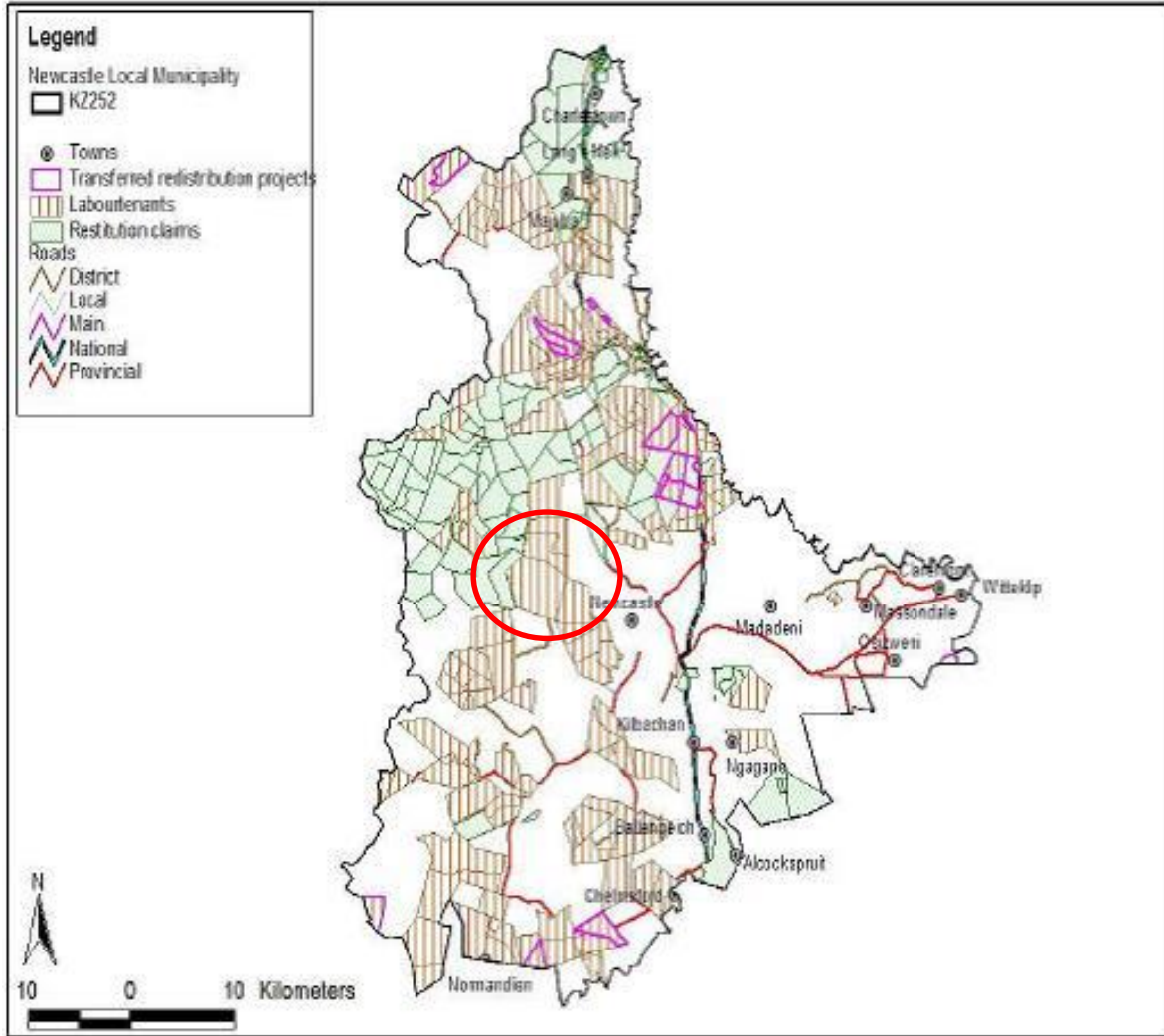


Figure 23. Newcastle LM Land Reform map (circle indicates Project Area)

6.7 Local Economic Development

6.7.1 LED Forum

The Newcastle Local Economic Development (LED) Forum has recently been revived. Its aim is to facilitate and stimulate the development of trade and industry across all sectors in accordance with the principles of sustainable development within the Newcastle Municipality. The establishment of the LED Forum is aimed at encouraging partnerships and aligning trade and industry institutions and sectors. The Forum has the following key stakeholders (NLM IDP, 2021-2022):

- Newcastle LM;
- Local Chambers of Business;
- Economic Development, Tourism and Environmental Affairs (EDTEA);
- Amajuba District Municipality;

- Organised groups within the various economic sectors such as manufacturing, trading, services, SMME's and Tourism Sectors operating within the jurisdictional area of the Newcastle Local Municipality;
- Trade & Investment KwaZulu-Natal (TIKZN); and
- Any other relevant key stakeholder which is deemed as being necessary to serve in the proposed structure.

6.7.2 Challenges and recommendations

The NLM LED challenges and recommendations are summarized in the table below.

Table 11. LED Challenges and Recommendations

DEVELOPMENT CHALLENGES	RECOMMENDATION
Over the last few decades, the economy of Newcastle Municipality experienced variable trends marked, in all, by shifts from one sector to the other and a general decline in both output and performance thereof.	<ul style="list-style-type: none"> - Implementation of the Business Retention and Expansion Strategy in order to improve performance and output thereof. - Review of the NLM LED Strategy. - Development of bulk services and economic zones.
There has been a general decline in coal mining activity with Newcastle and the same applies for agricultural activity. This has led to the shedding of jobs hence increasing the levels of unemployment within Newcastle.	<ul style="list-style-type: none"> - Promotion of coal mining activity through the NLMs Revenue Enhancement Strategy. - Conservation of agriculturally valuable land. - Provision of support to SMME development particularly towards agrarian reform.
General decline in the manufacturing sector due to structural changes coupled with the poor performance of global financial markets.	<ul style="list-style-type: none"> - Implementation of the Business Retention and Expansion Strategy in order to improve performance and output thereof. - Strategic support and assistance to industry.
Unemployment, poverty and inequality fuelled by the concentration of employment opportunities in and around the Newcastle CBD.	<ul style="list-style-type: none"> - Improved roll-out of the LED program. - Promotion of urban agriculture in the denser urban settlements. - Assistance and support to SMMEs particularly within the MBO area.
Vacancy of the Madadeni Industrial Centre due to its inability to attract investments.	<ul style="list-style-type: none"> - Implementation of the Business Retention and Expansion Strategy in order to improve performance and output thereof. - Strategic support and assistance to industry. - Skills training and development. - Development of relationships between industry and SETAs and other tertiary training institutions.
Concentration of private investments within the nodes of Newcastle-West (primary CBD node) and Newcastle-South (regional node), with minor investments to the nodes within the Newcastle-East area (Madadeni, Blaauwbosch, Osizweni). This has implications on the community's transportation economics through increased costs in order to access the related services within these few nodes.	<ul style="list-style-type: none"> - Fast-track JBC Urban Hub Precinct Plan to attract public investment, funding and private, community investment to unlock social and economic potential of the area - Revitalization of township economy - Continued rejuvenation and/or transformation of the Madadeni and Osizweni CBDs through urban renewal programs.

6.7.3 Economic regeneration strategy

Strategic thrusts have been identified for economic regeneration (NLM IDP, 2021-2022):

- Land release and development;

- Infrastructure development;
- Agricultural development;
- Industrial development and investment;
- Public works improvement and job creation;
- SMME and Green Sector development;
- Institutional enhancement; and
- Newcastle Airport Techno-hub – the concept is based on the dynamic and integrated trio of institution, enterprise and business, whose main aim is to generate innovation.

6.7.4 SMME Development

Some of the interventions that are being implemented to ensure increased participation of the Previously Disadvantaged Individuals (PDI's) in the mainstream economy are listed and briefly discussed below (NLM IDP, 2021-2022):

- **Preferential Procurement Policy for SMMEs** – To encourage procurement in the different sectors, a policy has been developed where specific percentages of capital and operational budgets have been set aside for SMME's that are registered on the database. This has been approved by Council.
- Development of the **contractor programme**.
- **Establishment of the construction incubator** - The Municipality has taken a resolution to partner with the Small Enterprise Development Agency (SEDA) Incubator for the establishment of the construction incubator which will assist small businesses with technical and business skills to manage their businesses effectively and deliver on their projects.
- **Skills development and training** - Training workshops are being held periodically in response to training needs of SMMEs. However the Municipality needs to establish a strategic partnership with the FET College and other accredited training institutions to uplift and formally develop the skills of all contractors and service provider doing business with the municipality. The LED Unit of Newcastle Municipality currently conducts regular SMME training of which 45 beneficiaries have been trained to ensure business continuity and economic recovery.
- **Database of SMME's and Co-operatives** – The NLM has started with a dual process to extract local SMME service providers and contractors from the National Treasury Data base.

6.8 IDP Priorities

Through public participation and consultation ward based priorities were formulated. Following are the challenges, priorities and needs for **Ward 1**, where the Project is located.

Services

- Poor access to electricity for lighting and cooking (including solar energy and the changing from meter to prepaid electricity).
- Poor access to water and sanitation (i.e. waterborne sewerage system and portable water).

- Poor environmental management services (i.e. provision of waste removal services).

Infrastructure and housing:

- Poor quality of roads (i.e. Improvement/ maintenance of the roads).
- Poor access to housing infrastructure (i.e. RDP housing).
- Fencing of the N11 from Charlestown to Wykom.
- Construction of a taxi rank.

Social amenities:

- Poor access to sports facilities (i.e. multipurpose sports ground).
- Poor access to social facilities (i.e. hall and library).

Economic:

- Poor access to land for grazing, farming and human settlement.
- Job creation (i.e. revival of the firms and the introduction of a shopping centre).

7 POTENTIAL SOCIO-ECONOMIC IMPACTS DURING THE CONSTRUCTION PHASE

This section of the SEIA discusses and provides the significance rating of potential social and socio-economic impacts anticipated during the 24-month construction period. Appropriate mitigation and management measures follow each impact discussion. Refer to the Significance Rating Method used, which is attached in the Addenda: Section 14.2. Section 14.3 provides the complete SEIA Impact Assessment Significance Rating Table.

7.1 Temporary employment

Cause and comment:

During the 24-month construction period 1 500 person-month¹² employment opportunities will become available, of which 60% will be allocated to unskilled, 25% to semi-skilled and 15% to skilled workers. Semi- and lower skilled workers are usually required to perform civil and electrical duties such as earth mobilisation, excavations for foundations, stormwater reticulation, trenching, access roads, cable installations, fencing and so forth. Higher skilled professional entail Project Managers, Engineers, Environmental Control Officers and so forth.

Labour force data (Section 6.2) indicates that 7.4% of the local labour force is skilled and 35.6% unskilled. In addition, only 10.2% of the population has obtained a tertiary education (CS 2016). Due to the specialised technologies to be implemented during construction, it is likely that the majority of the skilled professionals

¹² A person-month is calculated by multiplying the number of persons by the number of months they work.

will be sourced from the wider province or nationally, but that the municipality will be able to supply the lower and semi-skilled workers.

For the evaluation of RE project bids, 25% of the REIP4 Economic Development Scorecard is based on job creation, and another 25% on local content¹³. At this stage at least 20% of the South African workforce has to be residents of local communities. It would be in the interest of the Project to maximise its local labour force to ensure that the majority of the benefits associated with employment manifests for local beneficiary communities, which will also reduce negative impacts associated with an influx of jobseekers (refer Section 7.7: *Impacts associated with an influx of jobseekers / temporary construction workers*).

In addition to direct employment, the construction phase will have a positive spin-off effect on the economy (local, regional and national) through procurement of goods and services, with indirect and induced employment as result.

As a result of temporary employment during construction, impacts of **moderate positive** overall significance will definitely manifest locally, regionally and nationally.

Impact 1: Temporary employment	
Before mitigation	After mitigation
MODERATE POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Maximise local employment and local content (the Project’s direct sending area) through the Preferential Procurement Plan and Contractor Social Management Plan (CSMP) for all contractors that are used.
- Involve local government structures from the early processes (from financial close already if possible). Determine their existing process with regards to a labour desk and streamline employment processes between the various stakeholders.
- Appoint a Community Employer Relations Officer / Community Liaison Officer (CLO). Communicate with communities through this one channel to ensure transparency, limit unrealistic expectations and to avoid conflict.

7.2 Local procurement

Cause and comment:

As mentioned in the previous section, 25% of the DMRE’s Scorecard is based on local content (how much is manufactured in SA; amount of goods and services procured through South African companies that have a Broad-Based Black Economic Empowerment (BBBEE) Generic scorecard or who are Qualifying SMME's and Women Owned Vendors).

¹³ The REIP4 Scorecard is subject for revision for the current bid window.

It is anticipated that many of the high-technology components (turbine components) required will be imported. The turbine tower might be sourced locally (if a concrete tower is selected as the preferred solution), subject to supplier availability and pricing at the time of procurement. Since manufacturing is the largest contributing sector within the district economy and Newcastle is the home to several large industries, general construction material and goods, some of the infrastructure elements and most of the building material would in all likelihood be sourced from in and around the study area. Aggregate material will be obtained from licensed borrow pits as close to the site as possible.

Although the specific Procurement Strategy will be formulated closer to the time and will be in line with the applicable requirements for IPP tenders, it is at this stage estimated that approximately 30 to 40% of the total project value will be spent on local (South Africa) expenditure of material and goods.¹⁴

Even though the Preferential Procurement Policy will only be formulated closer to the time, positive impacts on local and national economies are 'definite' since 25% of the DMRE scorecard is based on local content. The overall significance holds **moderate benefits** nationally.

Impact 2: Local procurement	
Before mitigation	After mitigation
MODERATE POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Maximise local content of procurement by procuring from the local and regional study areas as far as possible.
- Do a value-chain analysis of services required (directly and indirectly related to construction such as transport, laundry, catering, etc.). Communicate this to the relevant Municipal LED Units at least 4 months prior to the tender process commencing in order for SMME's to prepare.
- Join the existing Newcastle LED Forum and establish links with the local trade and industry sectors and suppliers.
- Include minimum thresholds in the CSMP for local employment, BBBEE procurement, SMME targets, local services providers, etc.

7.3 Induced Local Economic Impacts

Cause and comment:

Expenditure during construction and the increase in household earnings (salaries / wages) result in various positive induced economic impacts for the local and national economies, such as:

- Business opportunities for the service and manufacturing industries, e.g. transport, Personal Protective Equipment, maintenance work, general consumables, civil works;

¹⁴ Information obtained from client.

- Wages that are spent locally and a general improvement of income levels with higher spending benefits and spin-offs for local businesses, retail, sales, leisure and hospitality, real estate, etc.;
- Local accommodation facilities that house the workers sourced from outside the direct Project sending area and subsequent spin-offs for the tourism industry.

Since at least 20% of the South African workforce has to be residents from local communities a large portion of these induced impacts will manifest locally. Definite positive impacts of **low significance** will manifest.

Impact 3: Induced local economic impacts	
Before mitigation	After mitigation
LOW POSITIVE	LOW POSITIVE

Mitigation measures:

- Maximise the Project's local content as much as possible.

7.4 Impacts on Livelihoods for Directly Affected Landowners

Cause and comment:

There is no arable or cultivated land on the subject properties. Based on grazing / carrying capacity, the Agricultural Assessment (INDEX, 2022) calculated a net income loss of R75 804 for the farmers during construction, provided that the land is optimally stocked.

Temporary income losses during construction are however being off-set by compensation paid to landowners through long-term lease agreements. Although the details with regards to the option-to-lease agreements are confidential, it can safely be assumed that the long-term rental amounts will exceed any financial losses that could be incurred.

Temporary income losses during the construction phase has a **low negative** significance and can easily be mitigated to become **low positive**.

Impact 4: Impacts on livelihoods for directly affected landowners	
Before mitigation	After mitigation
LOW NEGATIVE	LOW POSITIVE

Mitigation measures:

- Commence with the long-term lease agreements as soon as construction starts to ensure that temporary income losses are being off-set by compensation.

7.5 Training / Skills Development / Capacity Building

Cause and comment:

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. No large-scale renewable energy projects have yet been implemented in the region

and construction workers will thus gain knowledge and experience in this regard, enabling them to secure work at similar projects in future.

During the construction phase the following training initiatives would usually take place:

- On-site training so that workers can safely perform their duties; and
- Training by contractors to maintain their own BBEEE level, such as health and safety legislation training, first aid, fire-fighting, construction skills, basic electrical training, quality management, legal compliance or business skills.

These types of training are usually at the discretion of the individual contractor or sub-contractor.

Even though illiteracy levels have declined and education levels in NLM have increased since 2001, education levels remain low (refer Section 6.2). Latest figures indicate that 7.4% of the existing labour force is skilled and 35.6% semi-skilled. Skill constraints result in gaps between the developer's requirements and the local communities' / SMME's abilities to provide the required services, and a great need for training and capacity building to raise the levels of local skills is evident. Section 6.7.4 (*SMME Development*) of this report highlights some of the interventions that are being implemented to ensure increased participation of SMME's and PDI's in the region's mainstream economy.

An additional training / capacity building requirement has been identified, which relates to the capacity and knowledge constraints within local government during the implementation of renewable energy projects. Since the proposed MNWP Project would be the first of its kind in the NLM, the transfer of skills to enable local government to participate effectively requires attention. Municipalities are faced with challenges and responsibilities during the planning, construction and employment processes and do not always have the required skills, experience and/or capacities to fulfill these roles. Bureaucratic procedures and financial constraints could also hamper project progress. These "new" duties and responsibilities that would befall on Officials relate to:

- Collaboration with the IPP 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;¹⁵
- Monitoring of the construction site and processes to ensure compliance with municipal bylaws;
- Monitoring and managing the influx jobseekers from outside the Project's target area, and so forth.

There is therefore a need for the developer to involve local government structures effectively, thereby transferring skills so that SMME's and Officials become better equipped to assist and participate in the current and future projects.

¹⁵ Existing training and support programmes have been implemented in the NLM. Refer Section 6.7.

Pre-mitigation positive impacts of **low significance** will manifest regionally. Post-mitigation the significance could increase to **moderate positive**.

Impact 5: Training / skills development / capacity building	
Before mitigation	After mitigation
LOW POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Include the Newcastle, Dannhauser, Emadlangeni, Phumelela and the Dr Pixley Ka Isaka Seme LM's LED Units in all relevant processes from the onset of the Project.
- The developer is encouraged to take part / slot in with the various municipal initiatives and interventions to develop SMME's to enable them to take part in the Project's construction phase (refer Section 7.7.4).
- Where feasible the developer should:
 - Make the skill requirements clear to the municipalities in advance and do a skills analysis of the available labour force.
 - Do a Value-chain analysis of services required (directly and indirectly related to construction) and communicate this to local and district municipalities in advance so that they are prepared and equipped to take part in the tender process.
 - Require larger contractors to work with small SMMEs to train and transfer skills and include this in their respective CSMP's.
 - Implement on-the-job training for unskilled workers.
 - Capacitate the local government structures by involving them as early as possible in the Project; remain transparent throughout the processes.
 - Negotiate a Memorandum of Understanding (MoU) with the municipalities so that each role-player is clearly aware of its roles, responsibilities and timelines in the Project processes.
 - Establish an Environmental Management Committee (EMC) or similar Forum for the duration of construction to aid communication and transparency with local government. Members of the EMC / Forum to meet on a quarterly basis to discuss issues that may arise during the course of the construction period (if feasible).

7.6 Employment Equity

Cause and comment:

Statistics obtained from the IP4 overview (DMRE, December 2021) indicate that during the construction phases, Black South African citizens, Youths and rural local communities have primarily been the beneficiaries of renewable energy projects, as they respectively represent 81%, 44% and 48% of total job opportunities created by Independent Power Producers (IPP's) to date. However, woman and the disabled could still be significantly empowered as they represent a mere 10% and 0.4% of total jobs created. A minimum threshold of 30%, with a target of 50%, has been set for Black citizens in construction at the early stages of operations. An 18% minimum threshold and 30% target have been set for skilled Black citizens. In

both these categories the thresholds have significantly been exceeded with the real share of Black people and Black skilled people ranging between 71 and 85% for the construction and operational phases (DMRE, December 2021).

Although minimum thresholds are prescribed for Black people, no guidelines / thresholds currently exist to address employment equity for women, Youth and the disabled. However, the DMRE encourages the Project to procure with suppliers that have a BBBEE Generic scorecard or who are Qualified Small Enterprises, Exempt Micro Enterprises and Women Owned Vendors.

Pre-mitigation the positive impacts of Employment Equity will hold benefits of **low positive** significance if only the DMRE's minimum thresholds are implemented. With mitigation, the intensity of the impact will increase and the overall significance can be increased to hold **moderate benefits** for the region.

Impact 6: Employment Equity	
Before mitigation	After mitigation
LOW POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Obtain inputs from the respective local and district municipalities on the contents of the Procurement strategy and Employment Equity Plan to be implemented.
- Set targets for the employment of Youth, women and the disabled in the CSMPs.

7.7 Impacts associated with an Influx of Jobseekers / Temporary Construction Workers

Cause and comment:

The influx of jobseekers / temporary construction workers holds various challenges for municipalities and local communities that include:

- Conflict between locals and 'outsiders' if the outside labour force receives preference;
- Conflict due to cultural differences;
- Increase in the size and number of informal settlements and additional pressure on local government for housing and related services;
- Increase in the unemployment rate if jobseekers and/or workers do not return to their places of residence post construction;
- Unwanted pregnancies, an increase in HIV/AIDS and other sexually transmitted diseases (STDs) and additional pressure on health care services;
- An increase in single parent households and a subsequent reliance on social grants;
- An increase in drug and alcohol abuse and other social issues should unemployment levels increase.

The 50 km radius that "defines" the Project sending area and target communities results in the whole of the Newcastle LM being included, as well as portions of the Dannhauser and Emadlangeni LM's (KZN Province), the eastern section of the Phumelela LM (Free State Province) and the southern section Dr Pixley

Ka Isaka Seme LM (Mpumalanga Province) (refer Section 2.4.1: *Identification of the beneficiary communities*). Social conflict can materialize and would be more prominent if a workforce from outside the municipal area are mostly single males and if no housing facilities are available. It would therefore be necessary for the proponent to develop and implement an employment strategy that is acceptable for all affected municipalities and that would minimize residual negative impacts for the NLM as a result of the inflow of temporary workers and jobseekers.

In addition to the above, poor conduct of construction workers and inadequate management of the construction site could result in health and safety risks for landowners, such as:

- Unauthorized access / trespassing resulting in theft, poaching, safety and security issues as well as potential damage to the veld and natural grazing;
- Fire hazards and the possibility of fires spreading and damaging surrounding farmland and infrastructure;
- Pollution problems, flies, rodents and pests and possible contamination of water resources (insufficient sanitation facilities, littering and refuse) and so forth.

In terms of security, landowners and community members could easily consider this construction project as the catalyst should local crime levels and stock theft increase and affect their quality of life. SAPS statistics, as well as landowners that completed the questionnaires for SEIA purposes, reported that current crime levels have declined slightly from previous years and are relatively under control.

Pre-mitigation impacts associated with an influx of jobseekers / temporary construction workers are rated with a **moderate negative** significance. Although mitigation is extensive and difficult, it will be achievable, and rated with a **low negative** significance.

Impact 7: Impacts associated with an influx of jobseekers / temporary construction workers	
Before mitigation	After mitigation
MODERATE NEGATIVE	LOW NEGATIVE

Mitigation measures:

Employment / Temporary construction workers:

- Clearly identify the beneficiary communities / labour sending area and compile the employment strategy in collaboration with the affected municipalities' LED Units.
- Encourage the affected local municipalities to draw up a cooperation agreement that specifies the percentages of the workforce that will be sourced from each municipality.
- Ensure that the Community Employer Relations Officer / CLO has knowledge of the local communities, is educated with good public relation skills, committed to the cause and is accessible for community members.
- Contractually oblige contractors and sub-contractors to only source labour through the labour desk / job registration database and make this known to the target communities.
- Work through limited communication channels (e.g. Ward Councillors and the Employer Relations Officer / CLO).

- Be vigilant not to raise unrealistic expectations amongst the local communities and workers with regards to employment, skills requirements, local procurement and so forth. Ensure transparency through the Ward Councillors, CLO and the EMC / Forum.
- No recruitment of temporary workers at the access to the construction site.
- As part of their CSMP's, contractors to provide a transport and housing plan: (i) no workers are allowed to be housed on site or in informal housing / settlements; (ii) allow workers that do not live nearby time to return to their families at regular intervals or over weekends.
- No workers to remain on site after shifts.
- No informal traders to be allowed on or near the construction site/s.
- It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues.

Security, safety and environmental health:

- Do a security risk assessment (if required) and base the exact security measures on the detailed assessment of the risks at the site.
- 24-hour security, demarcate and fence the construction site (if possible), material stores to be secured, access control and no trespassing of workers outside designated construction areas.
- Join the local community policing forum and similar initiatives (e.g. Amajuba District Fire Technical Task Team) for the duration of construction.
- Keep the local SAPS, other emergency services, Ward Councillors, landowners and other relevant stakeholders informed about the construction progress and time-lines.
- Develop a Fire / Emergency Management Plan in conjunction with affected and neighbouring landowners.
- Dispose of the various types of waste generated in the appropriate manner at licensed waste landfill sites at regular intervals. Comply with the waste management plan compiled for the construction phase.
- Display “danger” warning signs and “no public access” signs at all potential accesses, paths and along the periphery of the construction areas in English and the local languages.
- If water for construction is obtained from a natural water resource, comply with the Water Use Licence conditions for the duration of the construction period.
- Ensure implementation of the provisions of the Occupational Health and Safety Act No. 85 of 1993 and adhere to the Emergency and Safety plan procedures for the duration of the construction phase.

Awareness / community engagement:

- Keep open communication channels with the landowners and address any potential issues as a matter of priority.
- Make contact details of the main contractor and procedures to lodge complaints available to landowners and the local communities through the Ward Councillors and EMC / Forum.

- Make a complaints register / log book available at the entrance to the construction site and act immediately should issues arise.
- Consult with surrounding landowners whose livestock, private residences and other infrastructure could be affected by dust, noise and other impacts that result from traffic movement and general construction activities.
- Where required, draw up a land use management plan with individual landowners to protect livestock and farmland, which addresses restricted access areas, procedures when farm gates are opened and closed and so forth.
- Rehabilitate the veld to its original state post construction.

7.8 Land use and Resource Impacts

Cause and comment:

Farms are used for residential and grazing purposes. There is no farmstead / homestead located closer than 500 m from any turbine. No direct impacts on residential land uses are therefore foreseen.

The land has a long-term grazing capacity of 3 ha per large stock unit (LSU) (INDEX, 2022). For the duration of the 24-month construction period no grazing is possible at the construction site (105 ha) and a temporary loss of approximately 35 LSU will occur.

Resources losses relate to soil due to erosion and water that could be used for farming purposes. The Agricultural Assessment (INDEX, 2022) determined that loss to erosion will be minimal, provided that the Stormwater Management Plan is implemented. The Department of Agriculture, Land Reform and Rural Development requires that water for the Project not be obtained from existing water rights allocated to the site or nearby farm portions as it will negatively impact on agricultural production. An alternative water source will thus be sourced and a water use licence obtained for purposes of the Project and no negative impact on existing water users will occur.

Land use and resource impacts are rated with a **low negative** significance, pre and post mitigation.

Impact 8: Land use and resource impacts	
Before mitigation	After mitigation
LOW NEGATIVE	LOW NEGATIVE

Mitigation measures:

- Rehabilitate the veld to its original state post construction.
- Implement the Stormwater Management Plan for the duration of construction.
- Implement all the mitigation and management measures as proposed in the Agricultural Study.

7.9 Impacts on Tourism / Accommodation Facilities / Protected Areas

Cause and comment:

Existing tourist facilities and Protected Areas, and their approximate distances to the MNWP WEF are indicated in the table below:

Table 12. Tourist facilities / Protected Areas and distances to MNWP Project

Establishment	Distance to MNWP
Draaiwater Lodge	2 km
Drakensbergkloof	4 km
Vulintaba Country Hotel and Spa	10 km
Grey Goose Game Farm	10 km
Newcastle Country Lodge	10 km
Various guest houses located in the Newcastle Northern Suburbs	> 15 km
Sneeuberg PE	5 – 10 km
Seekoeivlei Nature Reserve	10 – 20 km
Potberg Private Nature Reserve	> 20 km
Ncandu Nature Reserve	> 20 km

Negative impacts on existing tourist / accommodation establishments may occur during the construction phase as a result of construction vehicle movement, visual / aesthetic impacts, dust and a possible increase in crime due to an inflow jobless people. This would translate into financial losses if construction activities deter tourists to frequent the facilities. The intensity of the impact will likely be higher for those facilities located in closer proximity to the construction site and those along access roads.

It is however anticipated that professionals deployed from other parts of the province and country be housed in local accommodation facilities, with positive impacts on tourism revenue. Approximately 15% of the workforce will be skilled (225 person-months) and will in all likelihood be sourced nationally where the required skills for the construction of large-scale wind farms already exist.¹⁶ Tertiary education levels in the NLM are also very low (10%) and the required skills will most likely not be available locally.

It is thus the opinion of the SEIA Consultant that the positive off-set when workers are housed in local establishments will be greater when measured against potential tourism losses over the 24-month construction period.

It is possible for **negative** impacts to manifest for tourism establishments in the local study area, with **low overall significance**. However, post-mitigation the impact can be reversed to be of **low positive** significance.

Impact 9: Impacts on tourism / accommodation facilities / Protected Areas	
Before mitigation	After mitigation
LOW NEGATIVE	LOW POSITIVE

¹⁶ Whilst the manufacturing sector in NLM is strong, no large-scale renewable energy projects have yet been implemented and it is thus assumed that most of the higher skilled workers will not be locally available at this stage.

Mitigation measures:

- Implement all measures proposed in this report and the various Specialist Assessments to mitigate intrusion impacts (dust, noise, visual) during construction.
- Implement all mitigation measures related to awareness / community engagement as proposed in Section 7.7 (*Impacts associated with an influx of jobseekers / temporary construction workers*); keep open communication channels with affected tourism establishments and address potential issues proactively.
- Give preference to accommodation establishments in the local study area when workers are housed.

7.10 Intrusion Impacts**Cause and comment:**

Intrusion impacts during construction refer to temporary nuisance issues experienced with regard to an increase in traffic, noise, dust / fume emission and visual / aesthetic / light impacts as a result of movement of construction vehicles on site and along access roads, earthworks and general construction activities. Although short-term in nature, the severity of the impact would increase if sensitive receptors (homesteads / farmsteads, conservation and tourist areas and national, provincial and secondary roads) and agricultural land uses are prevalent in close proximity to the construction areas. Visual and noise impacts have been rated in a scientific manner by the respective Specialists and a Traffic Feasibility Study has been done for EIA purposes (Refer Section 14.1.1: *Documents*).

The increase in construction vehicles and general traffic could result in the degradation of road surfaces and speeding / negligent drivers could cause accidents and fatalities, subsequently placing pressure on local emergency, disaster management and health care services (fire, ambulance, police services, etc.). The Traffic Feasibility Study (Emonti, December 2022) established that less than fifty vehicles per hour are expected to be generated in any given peak period and that spare capacity will exist in future to accommodate the volume of additional vehicles. Internal gravel roadways and access to the site will be designed in accordance with the relevant guidelines and requirements of all types of vehicles expected to visit, exit and enter the site will be met. Various road improvements will be required.

Abnormal loads transporting large turbine / infrastructure components from port areas (Durban / Richards Bay) to the Project will in all likelihood require temporary road closures and the R68, N11 and/or N3 would be impacted. All relevant approvals and permits will be obtained from the relevant authorities such as the South African National Road Agency (SANRAL) and the Provincial Departments of Transport. The 'Route clearance report' will be compiled closer to the time (Emonti, December 2022).

In addition to direct negative impacts on sensitive receptors, intrusion impacts could indirectly impact agricultural land uses, thereby having a temporary negative effect on incomes of landowners, such as:

- An increase in livestock theft and illegal poaching;
- Negligent construction workers that do not close / lock farm gates resulting in animals that go missing and/or mix with animals in different breeding groups / cycles;

- Insufficient biosecurity measures / screening of construction workers (biological risks) potentially introducing diseases to livestock breeding farms;
- Dust that settle on crops and grazing land and have an impact on livestock carrying capacity;
- Livestock that is killed on access roads if drivers do not adhere to speed limits and traffic rules;
- Construction activities that hamper the farmers’ access to their own farms.

It is important that potential nuisance / intrusion factors be addressed proactively as it could result in negative attitude formation towards the developer and subsequent community mobilization, which will be to the detriment of the Project.

For purposes of the SEIA, the overall significance of intrusion impacts pre-mitigation is rated with a **moderate negative** significance, and post-mitigation as **low negative**.

Impact 10: Intrusion impacts	
Before mitigation	After mitigation
MODERATE NEGATIVE	LOW NEGATIVE

Mitigation measures:

- Comply with the EMPr requirements to address any noise and dust impacts, such as the implementation of appropriate dust alleviation methods and to restrict construction activities to daytime hours, where possible.
- Proper planning, management and rehabilitation of all construction sites to forego the visual impacts of the construction activities.
- Collaborate with the necessary road management authorities when road closures are required and advertise alternative routes in advance.
- 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 un-roadworthy 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/s.
- Maintain access roads during the length of the construction period and ensure damaged road surfaces have been repaired sufficiently post construction.

7.11 Health and Safety Risks

Cause and comment:

Health and safety risks for workers and the broader community are possible to manifest. Community health and safety risks are associated with the inflow of workers and the impact and relevant mitigation measures have thus been addressed in Section 7.7 (*Impacts associated with an influx of jobseekers / temporary construction workers*).

The Occupational Health and Safety Act (Act No. 85 of 1993) makes provision for the health and safety of workers at construction sites. These risks are broadly associated with:

- Construction related accidents due to structural safety of Project infrastructure, possibly resulting in fatalities;
- 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, etc.

The impact of workers’ health and safety is rated with a **moderate negative** overall significance. Post mitigation the significance of the impact can be reduced to **low negative**.

Impact 11: Health and safety risks	
Before mitigation	After mitigation
MODERATE NEGATIVE	LOW NEGATIVE

Mitigation measures:

- Ensure implementation of the provisions of the Occupational Health and Safety Act (Act No. 85 of 1993) and adhere to the Emergency and Safety plan procedures for the duration of the construction phase.
- Promote good conduct of employees through awareness campaigns. It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues.
- Contractors to provide a housing plan that makes provision for workers that do not live nearby to return to their families at regular intervals or over weekends.
- Suitable fire fighting equipment should be on-site and workers should be appropriately trained for fire fighting.
- Construction workers to wear protective clothing (e.g. masks that minimize dust inhalation, 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.
- Implement measures to suppress dust.

8 POTENTIAL SOCIO-ECONOMIC IMPACTS DURING THE OPERATIONAL PHASE

The MNWP WEF are likely to be operational for 20 – 25 years. Although less labour intensive than the construction phase, various social and socio-economic benefits will manifest locally and nationally. This section of the SEIA report analyses the potential negative and positive impacts associated with operations and provides mitigation and management measures where required. Refer to Section 14.3 for the detailed Operational phase Impact Assessment Significance Rating Table.

8.1 New Employment and Economic Impacts

Cause and comments:

Direct and indirect employment opportunities will manifest during the operational lifespan of the Project and result in an increase in household earnings and improved livelihoods for the affected households through salaries and wages. Direct and indirect employment relate to:

- Permanent direct employment estimated at eighteen positions, of which fourteen are skilled and four unskilled. Skilled positions usually relate to technicians, electricians, Information Technology (IT) specialists, engineers and mechanics and unskilled workers entail cleaners, site maintenance workers and so forth.
- Service providers will provide intermittent contract maintenance work to perform civil works, site maintenance (roads, crane pads, etc.), site clearing to minimize the potential for veld fires, painting, plumbing, etc.
- Job creation as a result of the funding spent on SED projects, such as construction / infrastructure projects, literacy / educational programmes, sport development etc.
- Indirect and induced employment created through procurement of components, equipment, goods and services to maintain the infrastructure and access roads.

Economic impacts will occur for the local and national economies through the manufacturing and services industries. Induced economic impacts will realize through employment and procurement and as a result more benefits for retail sales, leisure and hospitality, real estate, etc. will occur as more money flows in the local economy.

Furthermore, agricultural land will be rezoned for renewable energy purposes, thereby increasing farm values and resulting in higher payable taxes for the local municipality.

Even though indirect employment numbers and values for induced economic impacts cannot be determined with certainty, it is definite that **benefits** will manifest for the region and is rated with a **moderate significance**, pre and post-mitigation.

Impact 1: Employment and economic impacts	
Before mitigation	After mitigation
MODERATE POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Maximise local employment and procurement (from the local and district municipalities) wherever possible.
- Coordinate the effort to obtain temporary employment, service providers, SMME's etc. required for maintenance work with the municipal LED Unit.
- 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. If feasible, make ED funding available to assist the existing municipal training initiatives with skills training and capacity building of SMME's.
- Make employment creation one of the SED program's targets, aims and objectives. Local businesses that apply for SED funding have to demonstrate their commitment to employment creation (criteria for evaluation by the Implementing and Monitoring Agent).

8.2 Impacts on Livelihoods for Directly Benefitting Landowners**Cause and comment:**

During the operational period the IPP will sign a long-term lease agreement with the affected landowners where turbines (up to 45) and associate infrastructure are located, thereby compensating them through an annual fee. Details of the option-to-lease agreements are confidential. However, the compensation will increase the landowners' incomes and revenue and can be used to further invest in their properties, increase productivity and employment, or improve financial security.

It is however also worth noting that the rezoning of agricultural land for renewable energy infrastructure purposes usually results in higher payable property taxes, which, if not considered during the negotiation process, could result in a negative trade-off for landowners.¹⁷

Although definite, a limited number of landowners will benefit (slight consequence) and it is rated as a **low positive** significance.

Impact 2: Impacts on livelihoods of directly benefitting landowners	
Before mitigation	After mitigation
LOW POSITIVE	LOW POSITIVE

Mitigation measures:

- Consider the potential increase in rates and taxes during the negotiation process with landowners.

¹⁷ Mr. S. van der Westhuyzen (Venter & Vennote Attorneys), October 2022.

8.3 Socio-economic Contribution / Community Development

Cause and comment:

A needs assessment is usually done with the affected parties (municipalities, beneficiary communities, etc.) to identify suitable projects for SED and ED. Once the identified beneficiaries have been evaluated according to stringent evaluation criteria a contract is entered with them for the specified duration of the projects. Monitoring is done to ensure that the projects deliver as per their proposals.

The IPP 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 communities through funding of existing projects and enterprises.

Consultation with various municipalities in provinces where RE projects have already been implemented identified the need for:¹⁸

- More transparency during the annual monitoring processes so that it is clear for municipalities whether the budget allocated towards SED and ED has been used adequately;
- A greater commitment to link with the LED initiatives already identified in the IDP;
- Coordination between SED and ED initiatives of the various RE projects in the region through a central Forum or similar structure so that initiatives are not duplicated. This will also enable the implementation of larger projects that will have a greater impact for the region.¹⁹

Even though the amount allocated towards SED and ED is unknown, the pre-mitigation impact is definite to manifest, and will hold **slight benefits** for the region. Post-mitigation, the severity of the impact will increase, with an overall **moderate positive** significance.

Impact 3: Socio-economic contribution / community development	
Before mitigation	After mitigation
LOW POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Involve the local and district municipalities' LED Units in all processes when SED and ED projects and suitable candidates for projects and/or training programmes are identified.
- Join the existing Newcastle LED Forum and align projects with the goals and objectives identified for the region's trade and industry sectors (refer Section 6.7.1: *LED Forum*).
- Make gender and Youth issues a specific outcome of the needs analysis to ensure that these groups are targeted.

¹⁸ SEIA Specialist's experience in previous RE projects.

¹⁹ At this stage not applicable to the NMWP project, as no wind or solar developments in close proximity yet exists.

- Ensure further transparency and effective information sharing through industry associated websites, emailed newsletters, municipal noticeboards, information events and meetings and existing community channels used by the various wards.
- Become involved in local initiatives that address existing backlogs to ensure that real community based needs are met.

8.4 Training / Skills Development / Capacity Building

Cause and comment:

Training, skills development and capacity building during the operational phase will likely take place as follow:

- Formal and on-the-job training for permanent and temporary employees to allow them to perform their tasks safely and adequately;
- Training / education programmes through ED contributions;
- Offering of bursaries and internships;
- Negotiation processes and stakeholder relations that enables municipal Officials to develop skills.

The implementation and operation of RE projects require local government involvement to assist with managing stakeholder and community relations. Emphasis is therefore again placed on the involvement of local government throughout operations to enable the Officials to gain experience and develop skills that will be to the advantage of the Project as well as for the municipality.

Even though training / capacity building during the operational phase is not deemed to be significant (**low positive**), the implementation of mitigation measures will increase the impact to have a **moderate positive** significance.

Impact 4: Training / skills development / capacity building	
Before mitigation	After mitigation
LOW POSITIVE	MODERATE POSITIVE

Mitigation measures:

- Link with existing NGO's to assist in skills transfer to new projects, community groups, Officials and project processes.
- Link with existing training workshops and programmes for SMME development that are done by municipal LED Units.²⁰
- Link with bigger institutions such as Universities and FET institutes to increase the impact of training and skills development in the region. This type of strategic partnership was also listed in the NLM IDP as one of the SMME Development interventions required to uplift and formally develop the

²⁰ At this stage training workshops are being held periodically in response to training needs of SMMEs.

skills of all contractors and service provider doing business with the municipality (Refer Section 6.7.4: *SMME Development*).

8.5 Land Use and Resource Impacts

Cause and comment:

Once operational the total footprint of the turbines, substation and other ancillary infrastructure totals 85 ha. No high potential agricultural soil will be lost, although the loss in grazing land amounts to approximately 28 LSU (based on 3 ha/LSU), which is negligible.

Water required for the development will be obtained from an authorized source and no water required for farming purposes will be used for the wind farm.

Land use and resource impacts are rated with a **low negative** significance, pre and post mitigation.

Impact 5: Land use and resource impacts	
Before mitigation	After mitigation
LOW NEGATIVE	LOW NEGATIVE

Mitigation measures:

- Implement all mitigation and management measures as proposed in the Specialist Agricultural Study and EMPr.

8.6 Impacts on Tourism / Accommodation Facilities / Protected Areas

Cause and comment:

The table below provides the Visual Impact Index of tourism establishments based on their distances to the MNWP facility and was obtained from the VIA done for this Project's EIA (Nuleaf, 2022):

Table 13. Visual Impact Index of tourism establishments based on distance

Establishment	Approximate distance to MNWP	Visual Impact
Drakensbergkloof	4 km	Very High
Draaiwater Lodge	2 km	Very High
Vulintaba Country Hotel and Spa	10 km	Not visible / Negligible
Grey Goose Game Farm	10 km	High
Newcastle Country Lodge	10 km	High
Various guest houses located in the Newcastle Northern Suburbs	> 15 km	Moderate / Low
Sneeuwberg PE	5 – 10 km	High / Moderate
Seekoeivlei Nature Reserve	10 – 20 km	Moderate / Low
Potberg Private Nature Reserve	> 20 km	Very Low
Ncandu Nature Reserve	> 20 km	Very Low

Source: VIA (Nuleaf, 2022)

Based on the above Visual Impact Index, Draaiwater Lodge, Drakensbergkloof, Grey Goose Game Farm, Newcastle Country Lodge and Sneeuwberg PE would be particularly vulnerable to potential negative visual impacts.

However, the impact on tourism as a result of wind farm developments is not easily measured, as the intensity of the impact would depend on a variety of factors, such as the visual exposure of infrastructure, their proximity and visual impact on landscape value, as well as the tourists' perceptions towards the development within the context of their sense of place.

As such, Drakensbergkloof and Draaiwater Lodge do not perceive that the proposed Wind Farm will have a negative impact on their revenues and indicated that a positive affect might even be possible.²¹ The limited visual screening of the Grey Goose Game Farm²² and Newcastle Country Lodge (accommodation and wedding function venues) could however make them particularly susceptible for negative impacts, since the function venues overlook the mountain range towards the west and north-west where turbines will be located (Figures 24 and 25).²³



Figure 24. Grey Goose Game Lodge function venue, view towards the west

²¹ Consultation done for SEIA purposes. June 2022.

²² Grey Goose Game Farm has 5 wedding venues that overlook the mountain range towards the west and north-west.

²³ No comments were received from these establishments.



Figure 25. Newcastle Country Lodge

(Source: www.newcastlecountrylodge.co.za)

Whilst very limited local research about the impact of wind farms on tourism exists, international literature is inconclusive and no consensus about the real impact on tourists and tourist destinations could be obtained. A summary of various international articles and publications are provided below (Terblanche, 2021):²⁴

- Whilst 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. However, 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. However, some studies determined that people further away from the wind farms were not necessarily more likely to support the wind farms.
- 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.

²⁴ Data obtained from various international articles and publications (including various studies, research and surveys) listed in Section 14.1.2.

- 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.
- Positive attitudes by tourists to WEFs can be attributed to their positive feeling towards renewable energy, however, the views of tourists are more divergent when specific locations are evaluated.

The greatest criticism with regards to these studies, are that the tourism and scenic landscape of most of the international destinations differ greatly from the South African experience. A 2022 study of Africa Tourism Partners (ATP) / I and M Futureener Advisors makes reference to the Icelandic experience. Since the landscape and scenic value of Iceland is better comparable with that which South Africa offers, it is worth referring to the results of studies done for two existing and a future WEF's in the Southern Highlands of Iceland, which were cited in ATP's report (2022).

- A 2018 study found that about half of the tourists to the area were positive towards the WEF's and 16% were negative. When asked about the proposed new WEF, approximately 40% were negative, 25% neutral and 36% of visitors were positive.²⁵
- A 2017 study conducted amongst a group of 'expert tourists' interested in renewable energy developments, found that 48% of these 'expert tourists' approved the proposed WEF, which 36% rejected it. The study found that the perception towards the proposed WEF were connected with the perceived compatibility with the landscape of the area.²⁶
- The respondents that perceived the proposed wind farm as not compatible with the landscape but still approved it, did so due to their support for renewable energy in general. The respondents that perceived it as compatible but still rejected it, chose to do so because they perceived this project as redundant in the Icelandic context.

On a more local level, the following results of studies were obtained:

- Lombard (2015) conducted a tourism assessment in South Africa. His findings indicate that 9% of residents believe that WEFs might deter tourists from visiting certain areas, while 32% of tourists agree with the same statement; and 9% of residents agreed that WEFs are perceived as ugly and so detract from the scenic value and integrity of natural landscapes, while 26% of tourists agreed with the same statement.
- The 2022 ATP/ I and M Futureener Advisors study done for Kwandwe Private Game Reserve (Kwandwe), Eastern Cape Province, shows that the proposed WEF will negatively impact on the pristine wildlife experience offered to Kwandwe to top-end, international tourists, resulting in loss in revenue and livelihoods.

It is however cautioned that the tourism landscape of Kwandwe, a 22 000 hectare, Big Five game reserve that offers a high-end wildlife eco-tourism product in an African bush setting, differs from the MNWP study area and the tourism products offered.

²⁵ Sæþórsdóttir, A. D., Ólafsdóttir, R., & Smith, D. (2018).

²⁶ Frantál, B., & Urbánková, R. (2017).

It is thus likely that wind farms' actual impact on tourism would rather be subject to local conditions and markets and that location, technologies, size of the wind farms and the receiving environment (communities, tourist activities, landscape) would also play an important role.

For purposes of this report the impact on the limited number of tourism / accommodation facilities / Protected Areas is rated with a **low negative** overall significance, pre and post mitigation. Mitigation is difficult.

Impact 6: Impacts on tourism / accommodation facilities / Protected Areas	
Before mitigation	After mitigation
LOW NEGATIVE	LOW NEGATIVE

Mitigation measures:

- Based on the Specialist VIA findings, consult with individual tourism establishments that would experience a high or very high visual impact and/or who are concerned that revenues will be affected. Consider eliminating specific turbines from the development if feasible.

8.7 Impacts on Land Values

Cause and comment:

A search of property prices in the study area indicate asking prices of approximately R10 000 to R18 000 per hectare for the larger farms in rural Newcastle (www.sahometraders.co.za, obtained September 2022). Even though revenues generated through long-term lease agreements and the positive impact that the development will have for the local economy could result in an increase in property values for directly affected farmland portions for the duration of the wind farm operations, impacts on farmland values remain an inconclusive topic, since emotional factors and negative perceptions associated with the wind farm facility (aesthetics, visual impacts, noise, sense of place and so forth) could be to the detriment of land values. Other variables such as the impact on land uses, location, proximity of wind turbines and lease agreement terms can have a further impact on the marketability of rural land holdings, especially in the form of buyer interest and extended sales periods being required (Peardon, 2013).

In 2018, a study to determine the impact on farmland values was conducted in Illinois where 27 wind projects produce 4 026 MW annually.²⁷ After tracking fifteen years since the first wind project launched, significant data indicated added value to farmland with turbines; an increase in the selling price per hectare compared with similar farmland sales without lease payments; and a much higher income capitalization rate (investor's expected rate of return) than similar farms in the broader Illinois. However, the location of turbines and contract terms also influenced values. In contrast to this, certain areas of Illinois valued the additional income differently and wind leases generated little to no additional premium (www.farmprogress.com).

²⁷ Illinois' wind energy production is the sixth highest in the USA.

In terms of the locality and proximity to turbines, Reardon (2013) states that the impact on adjoining and/or nearby land holders has not been measured accurately in the past, but that proponents of wind farms are beginning to acknowledge this impact. In certain regions in Australia compensation deals have been offered to adjoining and nearby land holders who have a residence within 2 km of wind turbines, since a detriment in market value for these properties have been observed.

Discussions with estate agents regarding existing wind farm developments in South Africa suggest that a negative impact on agricultural property values do not usually occur, although the potential impact on commercial land values (game farms, tourism establishments, etc.) are more complex to determine.²⁸ Consultation with estate agents in the Eastern Cape Province revealed no evidence of a decrease in farmland values on affected or adjacent farmland.²⁹ In De Aar, Northern Cape Province, an established local estate agent that has been involved with transactions between landowners and RE companies since inception of RE projects about a decade ago, states that a definite increase in farmland values for affected land has manifested, but that no impact, whether positive or negative, has been observed for adjacent farmland values.³⁰

Impacts of wind farms on land values is an indecisive matter. However, based on the evidence and research stated in this section of the report, it is the professional opinion of the SEIA Specialist that negative impacts on land values during the operational phase of the MNWP facility are unlikely, and that property prices might even increase for the duration of operations. It is however possible that individual negative perceptions towards the infrastructure may affect property sales negatively in terms of possible prolonged sale periods and fewer buyers' interests and for this reason the impact on land values are rated as **low negative**. No mitigation is proposed.

Impact 7: Impacts on land values	
Before mitigation	After mitigation
LOW NEGATIVE	LOW NEGATIVE

8.8 Intrusion Impacts

Cause and comment:

Intrusion impacts during operations refer to nuisance issues experienced with regard to an increase in traffic and movement of maintenance personnel, noise and visual / aesthetic / light impacts due to the presence of turbines and night-time shadow flicker. Visual and noise impacts have been rated in a scientific manner by the respective Specialists and a Traffic Feasibility Study was done for EIA purposes (Refer Section 14.1.1).

The visual significance (Nuleaf, 2022) of the MNWP facility on sensitive receptors within 5km (residents of farms and homesteads, as well as observers travelling along the R34) is likely to be of **very high** significance,

²⁸ SEIA Consultant's research during previous SEIA's for wind farm developments.

²⁹ For purposes of previous wind farm projects, the SEIA Specialist interviewed estate agents, with experience in this field, in Jeffrey's Bay, Cookhouse, Uitenhage and Kirkwood.

³⁰ Mr. S. van der Westhuyzen (Venter & Vennote Attorneys, October 2022).

and for those on the periphery of the 5 km offset and within the region beyond it is likely to be of **high** significance. The anticipated visual impact of operational lighting at night on sensitive visual receptors within the study area and that of shadow flicker on sensitive receptors in close proximity is likely to be of **high** significance.

In terms of noise impacts, the Noise Specialist (de Jager, 2022) determined that noises from wind turbines of **medium** significance will manifest when considering the worst-case scenario, with mitigation available to reduce the significance of the noise impact to **low**.

Traffic on local access roads will not increase significantly as maintenance and repairs to infrastructure will be done intermittently. However, indirect impacts on agricultural land uses could occur, such as:

- Gates that are left open or not locked resulting in animals that go missing and/or mix with animals in different breeding groups / cycles;
- Livestock that is killed on access roads if wind farm vehicles speed and disobey traffic rules;
- A potential increase in stock theft and illegal poaching;
- Potential veld fires that damage farmland and farm infrastructure; and
- Insufficient biosecurity measures / screening of workers (biological risks), potentially introducing diseases to livestock breeding farms.

From a social and socio-economic perspective, potential nuisance / intrusion impacts is rated with a **moderate negative** significance and can be mitigated to **low**.

Impact 8: Intrusion impacts	
Before mitigation	After mitigation
MODERATE NEGATIVE	LOW NEGATIVE

Mitigation measures:

- Implement an effective Land Use Management programme (procedures when gates are opened and closed, road maintenance, implementation of methods to address potential veld fires, no-go areas, etc.) in collaboration with the landowners.
- Implement all mitigation and management measures as proposed by the VIA and NIA Specialists.

8.9 Impacts on the Sense of Place

Cause and comment:

Sense of place is the community / landowners’ perception of their living environment and how they make meaning of their experiences in that environment. Sense of place may vary amongst people and may change over the course of time and is a very personal experience.

SAPS local crime statistics (Section 6.4.3: *Crime*) indicate a declining crime tendency and landowners report moderate to minimal crime levels, which has been improving over the last number of years (Section 14.1.5: *Questionnaire responses*). One landowner further described his quality of life and environmental

diversification as “fantastic”. In general the local study area has a feeling of serenity and portrays a thriving farming community.

The social impact associated with the long-term impact on the sense of place would thus relate to a change in the landscape character, intrusion impacts and potential changes to the safety and security and social surroundings that landowners and community members currently experience.

From a social perspective the impact on sense of place is rated as **high negative** and can be reduced to **moderate**. The degree of confidence is ‘undecided’ as sense of place remains a personal experience.

Impact 9: Impacts on sense of place	
Before mitigation	After mitigation
HIGH NEGATIVE	MODERATE NEGATIVE

Mitigation measures

- Implement all relevant measures to reduce intrusion impacts (Section 8.8: *Intrusion impacts*) and as proposed in the Specialist NIA and VIA reports.
- As far as possible, avoid turbines to be located in direct view of residences and / tourist and holiday accommodation establishments.
- Implement measures to increase communication and transparency between the land owners and IPP, as proposed in the previous sections of this report.

8.10 Contribution to National Power Supply

Cause and comment:

The proposed MNWP facility will generate up to 200MW electricity and enhance the reliability and stability of supply that would contribute to economic development in the country as a whole.

Positive direct and induced impacts of **moderate** significance will manifest for electricity supply and the national economy.

Impact 10: Impacts national power supply	
Before mitigation	After mitigation
MODERATE POSITIVE	MODERATE POSITIVE

9 DECOMMISSIONING PHASE

Once the project lifespan has been reached, the MNWP plant’s decommissioning process involves dismantling and removing the equipment and waste from the site in compliance with applicable national and local rules governing the safe transport, disposing and/or recycling of parts in the appropriate ways.

Where possible materials will be recycled, all electrical cabling, above and below ground, is to be salvaged and sold. Trenches will be backfilled with on-site earthen material. The profile, soil condition and landform will be rehabilitated as close as possible to its pre-project state.

Negative social and socio-economic impacts associated with decommissioning are expected to be similar to those experienced during the construction phase and can usually be mitigated successfully. Impacts include:

- Impacts on road infrastructure and on living and movement patterns;
- Impacts associated with an influx of temporary workers, including health and safety risks for landowners and communities;
- Land use impacts; and
- Intrusion impacts and general impacts on the sense of place.

Short-term positive impacts would occur for the local and regional economies as a result of temporary employment, procurement, SMME opportunities, and an increase in household incomes, economic spin-offs and induced economic impacts related thereto.

Once the facility has been dismantled and the area rehabilitated, negative social and socio-economic impacts that remain could include:

- Decline in the sustainability of the local economy as a result of the loss of employment, household income and capital investments;
- Reduced economic activities within the area with subsequent negative impacts on smaller businesses;
- A decline in the local economy would also have a direct impact on the financial status of the NLM and a negative impact on its revenue base;
- Possible decrease in the quality of life of beneficiary communities due to the discontinuation of SED and ED programs; and so forth.

It is not possible to accurately rate and assess decommissioning impacts at this early stage of the process due to a changing social environment and it is therefore recommended that a detailed SEIA be undertaken at the time of decommissioning to determine the actual impacts. No rating is thus be provided for impacts associated with decommissioning.

10 ALTERNATIVES

No site or layout alternatives for the MNWP facility are assessed, as slight changes to the locality and number of the turbines will not impact the SEIA ratings significantly.

However, the MNWP facility is assessed against the 'No-Go' alternative. The 'No-Go' alternative is the option of not constructing the Project and the status quo would prevail. The benefits of the Project would thus not manifest and no positive contribution of renewable energy towards the national energy crisis would be made. Recipients of the negative impacts associated with the Project (such as sense of place, traffic, visual impacts, intrusion impacts etc.) would most likely view the 'No-Go' Option as positive.

However, from a social and socio-economic point of view job creation, local procurement, indirect spin-offs for local businesses and any induced impacts associated with manufacturing and service delivery and the

subsequent improvement of the quality of lives of benefitting households, directly and indirectly, would not materialize. Potential negative and positive impacts associated with the Project would not be incurred and the ratings would be neutral.

Refer to Section 14.3 for the detailed SEIA Significance Rating Assessment Table.

11 CUMULATIVE IMPACTS

The projects considered for the assessment of cumulative impacts are the MNWP and MNWP2 facilities, as no other renewable energy projects exist within a 30 km radius of the Project. The complete SEIA Impact Assessment Significance Rating Table is included in Section 14.3.

11.1 Employment, Economic Contribution and Induced Impacts

Cause and comment:

As a result of construction, maintenance and repairs, as well as skills development and capacity building, the construction and operational phases of the two projects will result in positive cumulative economic impacts nationally and locally in terms of:

- Permanent, temporary and indirect employment creation;
- Creation of new business opportunities locally and nationally, as well as further downstream opportunities through indirect and induced impacts especially with regards to the manufacturing and service industries; and
- Improvement of livelihoods of benefitting households that result in increasing spending power, with spin-off effects on local and regional businesses such as retail, leisure, real estate and so forth.

A **definite positive** impact with **high** significance will manifest nationally.

Impact 1: Employment, economic contribution and induced impacts	
Before mitigation	After mitigation
HIGH POSITIVE	HIGH POSITIVE

11.2 Impacts on the Livelihoods of Directly Benefitting Landowners

Cause and comment:

The number of households benefitting during the operational phase as a result of incomes earned through lease agreements, will increase to eight (based on 74 turbine localities). A positive cumulative impact on livelihoods of the landowners is definite. However, the impact remains of a **low positive** significance as the number of landowners are not significant.

Impact 2: Impacts on livelihoods of directly benefitting landowners	
Before mitigation	After mitigation
LOW POSITIVE	LOW POSITIVE

11.3 Impacts for the Local and District Municipalities

Cause and comment:

In addition to positive economic impacts, the local and district municipalities would experience positive cumulative impacts associated with:

- Skills development, training and capacity building for citizens and SMME's directly and indirectly involved in employment (construction and operational phases) that result in a population that is better skilled, increased employability of the local labour force and a general increase in employment levels; and
- Capacity building of municipal staff when they are exposed to and involved in the employment, permitting, communication/liaison/negotiations, training, support programmes and monitoring processes of the two WEF projects.

It is probable that positive impacts with **moderate benefits** will manifest for the local and district municipalities.

Impact 3: Impacts for the local and district Municipalities	
Before mitigation	After mitigation
MODERATE POSITIVE	MODERATE POSITIVE

Mitigation and management:

- Link with existing NGO's to assist in skills transfer to new projects, community groups, Officials and project processes.
- Link with existing training workshops and programmes for SMME development that are done by municipal LED Units.
- Link with bigger institutions such as Universities and FET institutes to increase the impact of training and skills development in the region. This type of strategic partnership was also listed in the NLM IDP as one of the SMME Development interventions required to uplift and formally develop the skills of all contractors and service provider doing business with the municipality.

11.4 Impacts associated with an Influx of Jobseekers / Temporary Construction Workers

Cause and comment:

Long-term negative social impacts that remain once a workforce leave an area are evident in provinces such as the Northern and Western Cape, where large-scale RE projects are already operational.³¹ Long-term issues - which usually become the local municipalities' responsibilities - include unusual population growth rates coupled with an increase in the unemployed, social issues (increase in HIV/AIDS, unwanted

³¹ SEIA Consultant's experience and research at previously executed RE projects.

pregnancies and absent fathers) culminating in pressure on local government services (health care, infrastructure services and housing provision).

Impacts associated with an influx of jobseekers / temporary construction workers of **moderate negative** significance have the potential to manifest, but can be mitigated.

Impact 4: Impacts associated with an influx of jobseekers / temporary construction workers	
Before mitigation	After mitigation
MODERATE NEGATIVE	LOW NEGATIVE

Mitigation and management:

- Maximise local employment.
- Implement all the mitigation measures as proposed in Section 7.7 of the SEIA.

11.5 Impacts on Tourism / Accommodation Facilities / Protected Areas

Cause and comment:

This assessment rated the negative impact of the MNWP facility on tourism as 'low negative' due to the limited number of establishments and the inconclusive results of research on the topic (refer Section 8.6). Even though it is possible that visual exposure and impacts on the landscape character could increase for some of the tourism establishments and Protected Areas, the consequence of the cumulative impact on tourism would not increase to such a degree that the overall significance would change.

The cumulative impact on tourism / accommodation facilities / Protected Areas is therefore rated with a **low negative**.

Impact 5: Impacts on tourism / accommodation establishments / Protected Areas	
Before mitigation	After mitigation
LOW NEGATIVE	LOW NEGATIVE

11.6 Impacts on Land Values

Cause and comment:

Challenges with regards to the assessment of land values as a result of a wind farm have been discussed in Section 8.7. Based on the evidence and research, it was the professional opinion of the SEIA Specialist that negative impacts on land values during the operational phase of the MNWP facility would be unlikely, but was rated as 'low negative', since individual negative perceptions could have an adverse effect on property sales.

Even though the land portions for the MNWP and MNWP2 facilities do not overlap, cumulative negative impacts on land values are possible for individual farm portions if prospective buyers have negative attitudes towards the turbines and infrastructure. However, the local economic boost created as a result of the two facilities, as well as the lease agreements with land owners could increase farmland values for the duration of the two projects.

Since the assessment of the cumulative impact on farmland values are inconclusive (too many variables that could affect the impact, whether positive or negative) no rating is provided.

Impact 6: Impacts on land values	
Before mitigation	After mitigation
N/A	N/A

11.7 Intrusion Impacts

Cause and comment:

Since impacts associated with traffic, noise, air / dust pollution and shadow flicker are usually mitigated satisfactorily for wind farm projects, the assumption is drawn that mitigation will also be done sufficiently for the Mulilo Newcastle WEF Complex. Visual impacts can, however, not be mitigated easily and it is thus probable that that negative cumulative visual impacts will be high. Visual impacts are however assessed in a scientific manner by the Visual Specialist.

For purposes of the SEIA, intrusion impacts are rated with a **moderate negative** significance.

Impact 7: Impacts associated with an influx of jobseekers / temporary construction workers	
Before mitigation	After mitigation
MODERATE NEGATIVE	MODERATE NEGATIVE

Mitigation and management:

- Implement an effective Land Use Management programme (procedures when gates are opened and closed, road maintenance, implementation of methods to address potential veld fires, no-go areas, etc.) in collaboration with the landowners.
- Implement all mitigation and management measures as proposed by the VIA and NIA Specialists.

11.8 Impacts on Sense of Place

Cause and comment:

The cumulative impact on sense of place would be associated with changes in the landscape character as a result of visual impacts of the Mulilo Newcastle WEF Complex, as well as negative intrusion impacts that changes the community's perception of their living environment. Landowners could also easily attribute an increase in stock theft and crime levels to these collective developments due to the inflow of people and poor land use management practices, which could further result in negative effects on the current sense of place they experience.

Cumulative negative impacts on sense of place is rated with a **high negative** significance.

Impact 8: Impacts on sense of place	
Before mitigation	After mitigation
HIGH NEGATIVE	HIGH NEGATIVE

Mitigation and management:

- Implement all relevant measures to reduce intrusion impacts and as proposed in the Specialist NIA and VIA reports.
- As far as possible, avoid turbines to be located in direct view of residences and / or tourist and holiday accommodation establishments.
- Implement measures to increase communication and transparency between the land owners and IPP, as proposed in the previous sections of this report.

11.9 Contribution to National Power Supply**Cause and comment:**

Positive cumulative impacts will manifest for national power supply as well as economic development, as the energy output of the two facilities combined will increase to up to 400 MW.

The impact is rated as **high positive**.

Impact 9: Impacts on national power supply	
Before mitigation	After mitigation
HIGH POSITIVE	HIGH POSITIVE

12 CONCLUSION AND IMPACT STATEMENT**12.1 Summary of findings**

Mulilo Renewable Project Developments (Pty) Ltd (Mulilo) is planning to develop a 200 MW Wind Energy Facility (WEF) in close proximity to Newcastle in the KwaZulu-Natal (KZN) Province, referred to as the Mulilo Newcastle Wind Power (MNWP) WEF (The Project). The Project will consist of a maximum of 45 turbines with unspecified individual turbine output capacity, with locations currently based on technical considerations.

A Socio-economic Impact Assessment (SEIA) is one of the Specialist studies required for the Environmental Impact Assessment (EIA) application and INDEX *Social Consulting Services* was appointed for this purpose. The SEIA aims to identify and focus on issues and impacts related to the social and socio-economic environment and reflects empirical socio-economic data of the regional and local area that can be used in future studies and for monitoring purposes.

The proposed MNWP WEF is located approximately 15 km north-west of the Newcastle Central Business District (CBD) in Ward 1 of the Newcastle Local Municipality (NLM) and in the Amajuba District Municipality (DM), KZN Province. There are no existing renewable energy facilities present within a 30 km radius nor in the wider KZN Province.

Newcastle is the third-largest urban centre in KZN and with a population of 389 116 is categorized as a secondary city. The current annual population growth of 1.4%, translates to 5 176 people per year, and also

includes a significant increase in the Youth proportion of the population. At present the 0 – 34 year old category makes up 72.9% of the total population, which places immense pressure on the provision of educational and recreational facilities, social welfare, health services and the stimulation of the economy to provide job opportunities and economic development. The shortage of higher educational facilities has been identified as a major contributor to the high rate of emigration of Youth from Newcastle to other centres and cities. Should the current population growth trend continue, Newcastle has a vision of becoming a city by the year 2035. The projected population for the year 2038 will be 502 988.

Latest education data indicates the number of people with Gr. 12 as highest qualification at 38.7% and tertiary education levels at 10.2%. The low levels of education in the NLM has a direct negative impact on the employability of the labour force. This is especially pertinent in Ward 1 where illiteracy levels are very high (16%) and the number of people that completed Gr.12 are far below the municipal average (26 vs 38.7%). Unemployment (official) has increased from 29.5% to 31.8% (2013 to 2017). When discouraged work-seekers and the 'not economically active' portion of the population are also taken into consideration, then only 17% of the NLM economically active population (15 – 64 years old) is employed. Half the households in Newcastle fall under the lowest income classification (R0 – R19 000 per annum) and three-quarters of households fall within or below the second lowest threshold (R19 001 – R86 000).

The Manufacturing sector, the sector that once made a significant contribution towards formal employment within Newcastle, contributes 12.2% to total formal employment. The Manufacturing sector has also experienced negative growth trends largely attributed to the current global financial outlook. The municipality, with the assistance of ESKOM, has made substantial progress with the provision of electricity throughout its area of jurisdiction. However, there is limited capacity in Newcastle East – where the majority of the urbanized population lives – to accommodate the planned housing and commercial developments. This is also the area where the majority health and other social services backlogs exist.

Various initiatives have been implemented by the NLM to stimulate economic growth, which include:

- Newcastle Local Economic Development (LED) Forum, consisting of a variety of local and national stakeholders, which has recently been revived;
- Strategic thrusts have been identified for economic regeneration, such as Industrial Development and Investment; Green Sector Development; and so forth; and
- SMME Development that includes a Preferential Procurement Policy for Small Medium and Micro Enterprises (SMME's); establishment of the Construction Incubator; Skills Development and Training for SMME's; etc.

Should the WEF be constructed, it is recommended that the Independent Power Producer (IPP) slot in with these initiatives and join the Newcastle LED Forum to align procurement and community projects with the goals and objectives identified for the region's trade and industry sector.

Farm portions in the local and site specific study area are mostly used for grazing of livestock. Cropping takes place to the west of the MNWP facility with some fields located within the 2 km buffer. A few rural residences / homesteads occur within the 2 km buffer. Two tourist accommodation establishments are located just outside the 2 km buffer and portions of the Sneeu Berg Protected Environment occur within the 5 – 10 km buffer. According to the latest local SAPS crime statistics there is a declining trend in some of the

crime categories, which is consistent with perceptions of landowners, who reported that current crime levels are relatively under control when compared with previous years.

The construction and operational phases of Renewable Energy projects need to conform to the Renewable Energy Independent Power Producers Procurement Programme's (REI4P's) minimum thresholds, thereby ensuring that social and socio-economic benefits of the Project will be realized in the relevant communities. During the 24-month construction period various positive and negative social and socio-economic impacts are likely to manifest. A summary of construction related impacts and their significance ratings, pre and post-mitigation, are provided in the table below.

Construction Phase Impact	Before mitigation	After mitigation
Temporary employment	MODERATE +	MODERATE +
Local procurement	MODERATE +	MODERATE +
Induced local economic impacts	LOW +	LOW +
Impacts on livelihoods for directly benefitting landowners	LOW -	LOW +
Training / skills development / capacity building	LOW +	MODERATE +
Employment equity	LOW +	MODERATE +
Impacts associated with an influx of jobseekers / temporary construction workers	MODERATE -	LOW -
Land use and resource impacts	LOW -	LOW -
Impacts on tourism / accommodation facilities / Protected Areas	LOW -	LOW +
Intrusion impacts	MODERATE -	LOW -
Health and safety risks	MODERATE -	LOW -

Positive impacts ranges from low to moderate and pertain to short-term employment (approximately 1 500 person-month job opportunities), local procurement, employment equity, skills development and subsequent induced local economic impacts that will realize locally and nationally.

Perceived negative impacts (low to moderate negative) are those typically associated with construction activities and can generally be mitigated successfully, such as an influx of jobseekers, intrusion impacts and health and safety risks. Landowners may incur net income losses during construction (low negative), but this will be off-set by compensation earned through the long-term lease agreements, thereby becoming beneficial after mitigation (low positive). It is likely that a large portion of the skilled workforce will be sourced nationally and accommodated in local accommodation establishments, with positive impacts on tourism revenue for the duration of construction (low positive). The positive off-set when workers are housed in local establishments will thus be greater when measured against potential tourism losses as a result of nuisance / intrusion impacts (dust, noise, visual, traffic, etc.) caused by construction activities.

The lifespan of the MNWP WEF is 20 – 25 years. Although the employment component of the facility is not significant, the IPP has to ensure community ownership and social responsibility thereby enhancing the

social and socio-economic benefits of the Project. Following is a summary of the positive and negative impacts associated with the operational phase of the MNWP WEF.

Operational Phase Impact	Before mitigation	After mitigation
New employment and economic impacts	MODERATE +	MODERATE +
Impacts on livelihoods for directly benefitting landowners	LOW +	LOW +
Socio-economic contribution / community development	LOW +	MODERATE +
Training / skills development / capacity building	LOW +	MODERATE +
Land use and resource impacts	LOW -	LOW -
Impacts on tourism / accommodation facilities / Protected Areas	LOW -	LOW -
Impacts on land values	LOW -	LOW -
Intrusion impacts	MODERATE -	LOW -
Impacts on sense of place	HIGH -	MODERATE -
Contribution to national power supply	MODERATE +	MODERATE +

Positive impacts during operations (low to moderate significance) are associated with employment and local economic impacts and the benefits that will be attained through Socio-economic Development (SED) and Economic Development (ED) contributions (approximately 2.1% of revenue) towards activities that facilitate sustainable access to the economy for beneficiaries in the areas of rural development, the environment, infrastructure, enterprises, reconstruction of undeveloped areas, development programmes for women or Youth, education, health care, arts and culture and so forth. By establishing the MNWP WEF in the KZN province, the first of its kind, economic investments and positive socio-economic impacts will be able to reach a new range of beneficiary recipients. In addition, the WEF will generate up to 200MW electricity and enhance the reliability and stability of supply that would contribute to economic development in the country as a whole (moderate positive).

Negative impacts on current land use activities and resources are negligible (low negative), as no residential and agricultural land uses will be affected directly. Impacts on tourism was also rated as low negative, primarily due to the limited number of facilities that would be affected. It is however possible that Grey Goose Game Farm and Newcastle Country Lodge perceive the close proximity and visual impact of specific turbine localities as problematic for their function venues. It is therefore recommended that negotiations take place with these establishments, should complaints be raised. Impacts of wind farms on land values is an indecisive matter. However, based on local and international research and the SEIA Specialist's consultation with estate agents and other experts in the field, the impact on farmland values due to the MNWP WEF is rated with a low negative significance. Intrusion impacts (visual, noise, dust, traffic, indirect impacts on agricultural land uses, etc.) can be mitigated from moderate to low negative. From a social perspective the impact on sense of place is rated as high negative and can be reduced to moderate. The degree of confidence is however 'undecided' as sense of place remains a personal experience.

Negative social and socio-economic impacts associated with decommissioning are expected to be similar to those experienced during the construction phase and can usually be mitigated successfully. It is not

possible to accurately rate and assess decommissioning impacts at this early stage of the process due to a changing social environment and it is therefore recommended that a detailed SEIA be undertaken at the time of decommissioning to determine the actual impacts. No rating is thus be provided for impacts associated with decommissioning.

12.2 Conclusion and Impact Statement

From a social and socio-economic perspective negative impacts that could manifest for this Project are either of low or moderate significance, or can be mitigated to acceptable levels. Sense of place is the only impact with high negative significance, but can be mitigated to a certain degree. Based on the findings of this SEIA it is the opinion of the Specialist that the construction and operation of the MNWP WEF may proceed, provided that the mitigation, management measures and requirements as set out in this report be incorporated in the EMPr and implemented wherever applicable.

13 SOCIAL MANAGEMENT PLAN

Following are the management and monitoring measures for the Social Management Plan component of the Project.

13.1 Employment, Training / Capacity Building, Local Procurement

Objectives are:

- Maximise local employment and the use of SMMEs / local small businesses that are empowered through skills development and training initiatives.
- Maximise local Procurement.
- Employment equity.
- Avoidance of conflict between communities as well as disruptions of the construction process.
- Minimize influx of an outside workforce.

Table 14. SMP: Employment, training / capacity building, local procurement

Activities	Timeframe	Responsible / Parties Involved	Output
<ul style="list-style-type: none"> • Identify the beneficiary communities. • Define the direct project sending area. • Consult with the local and district municipalities. Determine their employment procedures and the way forward to establish a labour desk. • Draw up a MoU with the municipal structures that set out roles, responsibilities and timelines. • Appoint a CLO / Community Employer Relations Officer. • Do a skills analysis of the local workforce to identify available skills and gaps. • Select individuals through the established means (random selection software, produce a 	<ul style="list-style-type: none"> • Financial close • Pre-construction 	<ul style="list-style-type: none"> • Developer • Main contractor • Municipal LED Units (local and district) • Ward Councillors • Community Employer Relations Officer / CLO 	<ul style="list-style-type: none"> • Defined beneficiary groups / communities. • Workable employment strategy. • Identification of skill requirements that have to be sourced outside the local workforce. • Recruitment, SMME, training targets, employment equity, transport and housing plan and KPA's included in CSMP. Penalties where contracts are breached. • Implementation of an Employment Equity Plan. • Local Preferential Procurement Strategy. • Informed beneficiary communities. • Low / no levels of social conflict. • No large-scale influx of jobseekers from outside the Project area. • Municipal Officials that are empowered.

<p>shortlist of candidates, medical examinations, and so forth).</p> <ul style="list-style-type: none"> • Do value-chain analysis of services required and inform the local municipal structures 4 months prior to tender process commencing. • Obtain the available databases of SMME's and identify gaps (training, etc.). • Implement SMME skills development programme (training on how to tender, understanding contracts, basic business skills). • Compile strategies to address employment equity of HDSA's (women, youth, disabled). • Provide feedback when tenders are awarded to promote transparency. 			
<ul style="list-style-type: none"> • Establish Forum / EMC that meets on a quarterly basis for monitoring purposes. • Join the Newcastle LED Forum. • On-site training of locals where required. • Specific training / capacity building to groups of individuals / SMMEs related to their field (e.g. fire-fighting, basic electrical training, health and safety etc.) where required. • Encourage sub-contractors to implement training wherever possible and include it in the CSMP's. • Issuance of certificates / references to workers once their contracts expire. • Compile and implement social awareness programme for the duration of construction that focuses on sexual health, unwanted pregnancies and related issues. 	<ul style="list-style-type: none"> • Construction phase 	<p><u>Forum /EMC members:</u></p> <ul style="list-style-type: none"> • Municipal LED Units (local and district) • Ward Councillors • Community Employer Relations Officer / CLO • Main Contractor <p><u>Training:</u></p> <ul style="list-style-type: none"> • Contractors and sub-contractors • Municipal Officials • Construction workers 	<ul style="list-style-type: none"> • Local labour force, SMMEs and groups of individuals that are trained, equipped and enable to work on the Project and on similar construction projects in the future. • Municipal Officials that are empowered. • No additional pressure on local health care services and social grants post construction as a result of a rise in HIV/AIDS prevalence, unwanted pregnancies and so forth.

13.2 Awareness / Community engagement

Objectives are:

- Promotion of transparency and community engagement for the duration of the Project;
- No levels of social conflict; and
- Good land use management practices.

Table 15. SMP: Awareness / community engagement plan

Activities	Timeframe	Responsible / Parties Involved	Output
<ul style="list-style-type: none"> • Establishment of an EMC / similar Forum that meets quarterly. • Appointment of a CLO. • Compile protocol for stakeholders / landowners / communities / other role players to raise complaints and make the procedures publicly available. • Compile Land Use Management procedures in conjunction with the affected landowners. 	<ul style="list-style-type: none"> • Construction phase 	<ul style="list-style-type: none"> • Developer • Main contractor • EMC / Forum • Municipal structures (LED Unit) • Ward Councillors • Landowners 	<ul style="list-style-type: none"> • Informed landowners, communities and stakeholders. • Low / no levels of social conflict. Issues that arise are addressed speedily. • Appropriate security and land use management measures are in place for the duration of the Project. • No environmental degradation.
<ul style="list-style-type: none"> • Compile Land Use Management procedures in conjunction with the affected landowners. 	<ul style="list-style-type: none"> • Operational phase 	<ul style="list-style-type: none"> • IPP • Landowners 	<ul style="list-style-type: none"> • No environmental degradation. • No trespassing on private land. • Crime levels do not increase. • Safety of livestock are ensured.

14 ADDENDA

14.1 References

14.1.1 Documents

1. AFRICA TOURISM PARTNERS (ATP) / I AND M FUTURENEER ADVISORS (PTY) LTD. (April 2022) Report on Tourism and related Socio-Economic Impacts associated with Windfarm Energy Facilities on Kwandwe Game Reserve.
2. COASTAL AND ENVIRONMENTAL SERVICES (PTY) LTD. (November 2022) Final Scoping Report: Mulilo Newcastle Wind Power (Pty) Ltd Wind Energy Facility near Newcastle, Kwazulu-Natal Province.
3. DE JAGER, M. Enviro-Acoustic Research cc. (2022) Environmental Noise Impact Assessment for the proposed Newcastle Wind Energy Facility and Associated Infrastructure near Newcastle, KwaZulu-Natal.
4. EMONTI CONSULTING ENGINEERS cc. (December 2022) Traffic feasibility study for proposed development for the Mulilo Newcastle Wind Power, Newcastle, within Newcastle Local Municipality.
5. INDEX (PTY) LTD. (December 2022) Agricultural Study: Mulilo Newcastle Wind Power (Pty) Ltd (North WEF), KZN Province.
6. NULEAF PLANNING AND ENVIRONMENTAL (PTY) LTD. (July 2022) Visual Impact Assessment for the proposed Newcastle Wind Energy Facility Complex, KZN, Natal.
7. Independent Power Producers Procurement (IPPP) – An Overview as at December 2021. Obtained from www.ipp-projects.co.za.
8. Newcastle Local Municipality 4th Generation Integrated Development Plan. Final IDP Review (2021/2022).
9. TERBLANCHE, M. (October 2021) Socio-economic impact assessment Report for the proposed construction of the Albany Wind Energy Facility, Makana Local Municipality.

14.1.2 Publications / Articles

1. Aitchison, C. (April 2012) Tourism impacts of wind farms. (Submitted to Renewables Inquiry Scottish Government). University of Edinburgh.
2. Bohumil Frantal and Josef Kunc. Wind turbines in tourism landscapes: Czech Experience. *Annals of Tourism Research*. Volume 38, Issue 2, April 2011.
3. Failte Ireland national Tourism Development Authority. (31 January 2012) Visitor attitudes on the environment – Wind Farms. Downloaded from www.failteireland.ie.
4. Frantál, B., & Urbánková, R. (2017). Energy tourism: An emerging field of study. *Current Issues in Tourism*, 20(13), 1395-1412. doi:10.1080/13683500.2014.987734

5. Jones, C. R., & Eiser, R. J. (2010). Understanding 'local' opposition to wind development in the UK: How big is a backyard? *Energy Policy*, 38(6), 3106-3117. doi:10.1016/j.enpol.2010.01.051
6. Lombard A. (2015). Participatory GIS for wind energy landscape assessments. University of South Africa, <https://www.researchgate.net/publication/281270086>
7. Luis Silva and Ana Delicado. (2017) Wind farms in rural tourism: A Portuguese case study of residents' and visitors' perceptions and attitudes. Obtained from Moravia Geographical Reports, journal homepage: <http://www.geonika.cs/mgr.html>.
8. Meredith Blaydes Lilley, Jeremy Firestone and Willett Kempton. (2010) The effect of wind power installations on coastal tourism.
9. Nelsen L. Center for Rural Affairs. July 2018. Are Property values affected by wind farms? Obtained from www.cfra.org/blog/are-property-values-affected-wind-farms.
10. J. Navratil, K. Picha, M. Buchecker, S. Martinat, R. Svec, M. Brezinova and J. Knotek. (August 2019) Visitors' preferences of renewable energy options in "green" hotels. *Renewable Energy*. Volume 138, August 2019.
11. Sæþórsdóttir, A. D., Ólafsdóttir, R., & Smith, D. (2018). Turbulent times: tourists' attitudes towards wind turbines in the Southern Highlands in Iceland. *International Journal of Sustainable Energy*, 37(9), 886-901. doi:10.1080/14786451.2017.1388236
12. Peardon P (Real Estate Consultant and Registered Valuer). September 2013. Preliminary Report: The Impact of Wind Turbine Developments on Surrounding Rural Land Values in the Southern Tablelands, N.S.W. Obtained from docs.wind-watch.org/Reardon_Impact-of-Wind-Farm-Development-on-Land-Values.
13. Vanja Westerberg, Jette Bredahl Jacobsen and Robert Lifran. The case for offshore wind farms, artificial reefs and sustainable tourism in the French Mediterranean. *Tourism management*. Volume 34, February 2013.
14. Charles R. Warren, Carolyn Lumsden, Simone O'Dowd and Richard V. Birnie. 'Green on Green': Public perceptions of wind power in Scotland and Ireland. *Journal of Environmental Planning and Management*. Volume 48, Issue 6, 2005.
15. Wolsink, M. (2006). Invalid theory impedes our understanding: A critique on the persistence of the language of NIMBY. *Transactions of the Institute of British Geographers*, 31(1), 85-91. doi:10.1111/j.1475-5661.2006.00191.x
16. Wolsink, M. (2007a). Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation. *Energy Policy*, 35(5), 2692-2704. doi:10.1016/j.enpol.2006.12.002
17. Wolsink, M. (2007b). Wind power implementation: The Nature of public attitudes: Equity and fairness instead of 'backyard motives'. *Renewable and Sustainable Energy Reviews*, 11(6), 1188-1207. doi:10.1016/j.rser.2005.10.005
18. Change in public attitudes towards a Cornish wind farm: Implications for planning. *Energy Policy*. Volume 36, Issue 1, January 2008.

19. Farmprogress.com. How wind energy projects impact farmland values. February 2018. Obtained from www.farmprogress.com/land-management/how-wind-energy-projects-impact-farmland-values.

14.1.3 Websites

- amajuba.gov.za
- drakensbergkloof.co.za
- emfgrid.com
- www.farmprogress.com
- www.ipp-projects.co.za
- wazimap.co.za
- municipalities.co.za
- en.wikipedia.org
- www.property24.com
- www.forensic-appraisal.com/power-lines
- www.orgoneenergy.org
- www.sahometraders.co.za

14.1.4 Consultation

- Drakensberg Kloof (Owner: Mr. and Mrs. G Conradie)
- Draaiwater Lodge (Owner: Mr. E Smit)
- Grey Goose Game Lodge (Marketing Manager: Talecia)
- Mr. S. van der Westhuyzen (Venter & Vennote Attorneys)

14.1.5 Questionnaire responses

- Lentevlei Landgoed (Pty) Ltd
- JF and CJC Brink
- ME Brink
- IP Kotze
- ME Brink
- Markop (Pty) Ltd
- Zama Retailers
- Draaiwater Lodge
- Buffalo River Shooting Club

14.2 Significance rating methodology

The following standard rating scales have been defined for assessing and quantifying the identified impacts. This is necessary since impacts have a number of parameters that need to be assessed. The identified impacts have been assessed against the following criteria:

- Relationship of the impact to **temporal scales** - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.
- Relationship of the impact to **spatial scales** - the spatial scale defines the physical extent of the impact.
- The **likelihood of the impact occurring** - the likelihood of impacts taking place as a result of project actions differs between potential impacts. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.
- The **severity of the impact** - the severity/beneficial scale is used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on a particular affected party.
- The severity of impacts should be evaluated with and without mitigation to demonstrate how serious the impact is when nothing is done about it. The word 'mitigation' means not just 'compensation', but also the ideas of containment and remedy. However, mitigation must be practical, technically feasible and economically viable.

Table 1: Criteria used to rate the significance of an impact

Temporal scale (the duration of the impact)		
Short term	1	Less than 5 years (Many construction phase impacts are of a short duration).
Medium term	2	Between 5 and 20 years.
Long term	3	Between 20 and 40 years (From a human perspective almost permanent).
Permanent	4	Over 40 years or resulting in a permanent and lasting change that will always be there.
Spatial scale (the area in which any impact will have an effect)		
Localized	1	Impacts affect a small area of a few hectares in extent. Often only a portion of the project area.
Study Area	2	The proposed site and its immediate surroundings.

Municipal	3	Impacts affect the Municipality, or any towns within the municipality.
Regional	3	Impacts affect the wider area or the Western Cape Province as a whole.
National	3	Impacts affect the entire country.
International	4	Impacts affect other countries or have a global influence
Likelihood (<i>the confidence with which one has predicted the significance of an impact</i>)		
Definite	4	More than 90% sure of a particular fact. Should have substantial supportive data.
Probable	3	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	2	Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
Unlikely	1	Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

Table 2: Impact severity rating

Impact severity (<i>The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or affected party</i>)			
Very severe	8	Very beneficial	8
An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land.		A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality.	
Severe	4	Beneficial	4
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.		A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy.	
Moderately severe	2	Moderately beneficial	2
Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example		A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or	



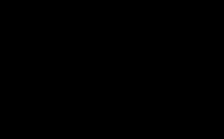
constructing a sewage treatment facility where there was vegetation with a low conservation value.		some combination of these), as achieving them in this way. For example a 'slight' improvement in sewage effluent quality.	
Slight	1	Slightly beneficial	1
Medium or short term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example a temporary fluctuation in the water table due to water abstraction.		A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.	
No effect		Don't know/Can't know	
The system(s) or party(ies) is not affected by the proposed development.		In certain cases it may not be possible to determine the severity of an impact.	

Table 3: Matrix used to determine the overall significance of the impact based on the likelihood and effect of the impact

		Effect													
		3	4	5	6	7	8	9	10	11	12	13	14	15	16
Likelihood	1	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	2	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	3	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	4	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Table 4: The significance rating scale

Significance	Description
Low	These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.
Moderate	These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly

Significance	Description
	important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.
High 	These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.
	These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

14.3 SEIA: Impact Assessment Significance Rating Table

Table 16. SEIA: Impact Assessment Significance Rating Table

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
SEIA - CONSTRUCTION PHASE														
Temporary employment	Preferred	<p>During the 24-month construction period 1 500 person-month employment opportunities will become available, of which 60% will be allocated to unskilled, 25% to semi-skilled and 15% to skilled workers.</p> <p>In addition to direct employment, the construction phase will have a positive spin-off effect on the economy (local, regional and national) through procurement of goods and services, with indirect and induced employment as result.</p>	Positive	Direct, indirect	Moderate	National	Short-term	Definite	Reversible	Resource will not be lost	Difficult	MODERATE +	<p>Enhance benefit:</p> <ul style="list-style-type: none"> Maximise local employment and local content (the Project's direct sending area) through the Preferential Procurement Plan and Contractor Social Management Plan (CSMP) for all contractors that are used. Involve local government structures from the early processes (from financial close already if possible). Determine their existing process with regards to a labour desk and streamline employment processes between the various stakeholders. Appoint a Community Employer Relations Officer / Community Liaison Officer (CLO). Communicate with communities through this one channel to ensure transparency, limit unrealistic expectations and to avoid conflict. 	MODERATE +
	No-go	<p>Temporary employment and skills development / capacity building will not occur for the local and national economies.</p>	Negative	Direct, indirect	Slight	National	Short-term	Definite	N/A	N/A	N/A	MODERATE -		N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Local procurement	Preferred	<p>It is anticipated that many of the high-technology components (turbine components) required will be imported. The turbine tower might be sourced locally (if a concrete tower is selected as the preferred solution), subject to supplier availability and pricing at the time of procurement. Since manufacturing is the largest contributing sector within the district economy and Newcastle is the home to several large industries, general construction material and goods, some of the infrastructure elements and most of the building material would in all likelihood be sourced from in and around the study area. Aggregate material will be obtained from licensed borrow pits as close to the site as possible.</p> <p>It is at this stage estimated that approximately 30 to 40% of the total project value will be spent on local (South Africa) expenditure of material and goods.</p>	Positive	Direct	Moderate	National	Short-term	Definite	Reversible	Resource will not be lost	Achievable	MODERATE +	<p>Enhance benefits:</p> <ul style="list-style-type: none"> Maximise local content of procurement by procuring from the local and regional study areas as far as possible. Do a value-chain analysis of services required (directly and indirectly related to construction such as transport, laundry, catering, etc.). Communicate this to the relevant Municipal LED Units at least 4 months prior to the tender process commencing in order for SMME's to prepare. Join the existing Newcastle LED Forum to establish links with the local trade and industry sectors and suppliers. Include minimum thresholds in the CSMP for local employment, BBEEE procurement, SMME targets, local services providers, etc. 	MODERATE +

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	No positive economic impacts for the local and national economies due to procurement.	Negative	Direct, indirect	Moderate	National	Short-term	Definite	N/A	N/A	N/A	MODERATE -		N/A
Induced local economic impacts	Preferred	Expenditure during construction and the increase in household earnings (salaries/wages) result in various induced economic impacts for the local and national economies.	Positive	Indirect	Slight	National	Short-term	Definite	Reversible	Resource will not be lost	Very difficult	LOW +	Enhance benefits: <ul style="list-style-type: none"> Maximise the Project's local content as much as possible. 	LOW +
	No-go	No induced positive economic impacts for the local and national economies.	Negative	Indirect	Slight	National	Short-term	Definite	N/A	N/A	N/A	LOW -		N/A
Impacts on livelihoods of directly affected landowners	Preferred	Based on grazing / carrying capacity, the Agricultural Assessment (INDEX, 2022) calculated a net income loss of R75 804 for the farmers during construction, provided that the land is optimally stocked. Temporary income losses during construction are however being off-set by compensation paid to landowners through long-term lease agreements.	Negative	Direct	Slight	Localised	Short-term	Definite	Reversible	Resource will partly be lost	Easily achievable	LOW -	Avoid/prevent impact: <ul style="list-style-type: none"> Commence with the long-term lease agreements as soon as construction starts to ensure that temporary income losses are being off-set by compensation. 	LOW +

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	No impact on livelihoods of landowners during construction.	Neutral	N/A	N/A	Localised	Short-term	N/A	N/A	N/A	N/A	N/A		N/A

<p>Training / skills development / capacity building</p>	<p>Preferred</p>	<p>During the construction phase the following training initiatives would usually take place:</p> <ul style="list-style-type: none"> • On-site training; and • Training by contractors to maintain their own BBEEE level, such as health and safety legislation training, first aid, fire-fighting, etc. <p>An additional training / capacity building requirement has been identified, which relates to the capacity and knowledge constraints within local government during the implementation of RE projects. Municipalities are faced with challenges and responsibilities during the planning, construction and employment processes and do not always have the required skills, experience and/or capacities to fulfill these roles. These “new” duties and responsibilities that would befall on Officials relate to:</p> <ul style="list-style-type: none"> • Collaboration with the IPP for permits for the submission of a compliant bid; • Management of stakeholder and community relations; • Involvement in the employment 	<p>Positive</p>	<p>Direct, indirect</p>	<p>Slight</p>	<p>Regional</p>	<p>Short-term</p>	<p>Probable</p>	<p>Reversible</p>	<p>Resource will not be lost</p>	<p>Achievable</p>	<p>LOW +</p>	<p>Enhance benefits:</p> <ul style="list-style-type: none"> • Include the Newcastle, Dannhauser, Emadlangeni, Phumelela and the Dr Pixley Ka Isaka Seme LM’s LED Units in all relevant processes from the onset of the Project. • The developer is encouraged to take part / slot in with the various municipal initiatives and interventions to develop SMME’s to enable them to take part in the Project’s construction phase. • Where feasible the developer should: <ul style="list-style-type: none"> o Make the skill requirements clear to the municipalities in advance and do a skills analysis of the available labour force. o Do a Value-chain analysis of services required (directly and indirectly related to construction) and communicate this to local and district municipalities in advance so that they are prepared and equipped to take part in the tender process. o Require larger contractors to work with small SMMEs to train and transfer skills and include this in their respective CSMP’s. o Implement on-the-job training for unskilled workers. o Capacitate the local government structures by involving them as 	<p>MODERATE +</p>
--	------------------	--	-----------------	-------------------------	---------------	-----------------	-------------------	-----------------	-------------------	----------------------------------	-------------------	---------------------	--	--------------------------

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
		process by assisting the Community Employer Relations Officer with the job seeker registration database; <ul style="list-style-type: none"> • Participation in SMME training and SMME support programmes; • Monitoring of the construction site and processes to ensure compliance with municipal bylaws; • Monitoring and managing the influx jobseekers from outside the Project's target area, and so forth. 											early as possible in the Project; remain transparent throughout the processes. <ul style="list-style-type: none"> o Negotiate a MoU with the municipalities so that each role-player is clearly aware of its roles, responsibilities and timelines in the Project processes. o Establish an EMC or similar Forum for the duration of construction to aid communication and transparency with local government. Members of the EMC / Forum to meet on a quarterly basis to discuss issues that may arise during the course of the construction period (if feasible). 	
	No-go	No training / skills development of a local labour force that would result in a better employable population and contribute to economic development.	Negative	Direct, indirect	Slight	Regional	Short-term	Probable	N/A	N/A	N/A	LOW -		N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Employment Equity	Preferred	A minimum threshold of 30%, with a target of 50%, has been set for Black citizens in construction at the early stages of operations. An 18% minimum threshold and 30% target have been set for skilled Black citizens. Although minimum thresholds are prescribed for Black people in the construction process, no guidelines / thresholds currently exist to address employment equity for women, Youth and the disabled. However, the DMRE encourages the Project to procure with suppliers that have a BBBEE Generic scorecard or who are Qualified Small Enterprises, Exempt Micro Enterprises and Women Owned Vendors.	Positive	Direct	Slight	Regional	Short-term	Definite	Reversible	Resource will not be lost	Achievable	LOW +	Enhance benefits: <ul style="list-style-type: none"> Obtain inputs from the respective local and district municipalities on the contents of the Procurement strategy and Employment Equity Plan to be implemented. Set targets for the employment of Youth, women and the disabled in the CSMPs. 	MODERATE +
	No-go	No employment and skills development for PDI's will occur.	Negative	Direct	Slight	Regional	Short-term	Definite	N/A	N/A	N/A	LOW -		N/A

<p>Impacts associated with an influx of jobseekers / temporary construction workers</p>	<p>Preferred</p>	<p>The influx of jobseekers / temporary construction workers holds various challenges for municipalities and local communities that include:</p> <ul style="list-style-type: none"> • Conflict between locals and 'outsiders' if the outside labour force receives preference; • Conflict due to cultural differences; • Increase in the size and number of informal settlements and additional pressure on local government for housing and related services; • Increase in the unemployment rate if jobseekers and/or workers do not return to their places of residence post construction; • Unwanted pregnancies, an increase in HIV/AIDS and other sexually transmitted diseases (STDs) and additional pressure on health care services; • An increase in 	<p>Negative</p>	<p>Direct, indirect</p>	<p>Moderate</p>	<p>Regional</p>	<p>Short-term</p>	<p>Possible</p>	<p>Reversible</p>	<p>Resource will be partly lost</p>	<p>Difficult</p>	<p>MODERATE -</p>	<p>Minimize/reduce impact:</p> <p><u>Employment / Temporary construction workers:</u></p> <ul style="list-style-type: none"> • Clearly identify the beneficiary communities / labour sending area and compile the employment strategy in collaboration with the affected municipalities' LED Units. • Encourage the affected local municipalities to draw up a cooperation agreement that specifies the percentages of the workforce that will be sourced from each municipality. • Ensure that the Community Employer Relations Officer /CLO has knowledge of the local communities, is educated with good public relation skills, committed to the cause and is accessible for community members. • Contractually oblige contractors and sub-contractors to only source labour through the labour desk / job registration database and make this known to the target communities. • Work through limited communication channels (e.g. Ward Councillors and the Employer Relations Officer / CLO). • Be vigilant not to raise 	<p>LOW -</p>
---	------------------	--	-----------------	-------------------------	-----------------	-----------------	-------------------	-----------------	-------------------	-------------------------------------	------------------	--------------------------	--	---------------------

		<p>single parent households and a subsequent reliance on social grants;</p> <ul style="list-style-type: none"> An increase in drug and alcohol abuse and other social issues should unemployment levels increase. <p>In addition, poor conduct of construction workers and inadequate management of the construction site could result in health and safety risks for landowners, such as:</p> <ul style="list-style-type: none"> Unauthorized access / trespassing resulting in theft, poaching, safety and security issues as well as potential damage to the veld and natural grazing; Fire hazards and the possibility of fires spreading and damaging surrounding farmland and infrastructure; Pollution problems, flies, rodents and pests and possible contamination of water resources (insufficient sanitation facilities, littering and refuse) 											<p>unrealistic expectations amongst the local communities and workers with regards to employment, skills requirements, local procurement and so forth. Ensure transparency through the Ward Councillors, CLO and the EMC / Forum.</p> <ul style="list-style-type: none"> No recruitment of temporary workers at the access to the construction site. As part of their CSMP's, contractors to provide a transport and housing plan: (i) no workers are allowed to be housed on site or in informal housing / settlements; (ii) allow workers that do not live nearby time to return to their families at regular intervals or over weekends. No workers to remain on site after shifts. No informal traders to be allowed on or near the construction site/s. It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues. <p><u>Security, safety and environmental health:</u></p> <ul style="list-style-type: none"> Do a security risk assessment (if required) and base the exact security measures on the detailed assessment of the risks at the site. 	
--	--	---	--	--	--	--	--	--	--	--	--	--	--	--

SEIA REPORT FOR THE PROPOSED MNWP WEF, KZN PROVINCE

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
		and so forth.												
	No-go	Negative impacts associated with an influx of a temporary workforce will not manifest for landowners nor the NLM.	Neutral	N/A	N/A	Regional	Short-term	N/A	N/A	N/A	N/A	N/A	<ul style="list-style-type: none"> 24-hour security, demarcate and fence the construction site (if possible), material stores to be secured, access control and no trespassing of workers outside designated construction areas. Join the local community policing forum and similar initiatives (e.g. Amajuba District Fire Technical Task Team) for the duration of construction. Keep the local SAPS, other emergency services, Ward Councillors, landowners and other relevant stakeholders informed about the construction progress and time-lines. 	N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
													<p>complaints available to landowners and the local communities through the Ward Councillors and EMC / Forum.</p> <ul style="list-style-type: none"> • Make a complaints register / log book available at the entrance to the construction site and act immediately should issues arise. • Consult with surrounding landowners whose livestock, private residences and other infrastructure could be affected by dust, noise and other impacts that result from traffic movement and general construction activities. • Where required, draw up a land use management plan with individual landowners to protect livestock and farmland, which addresses restricted access areas, procedures when farm gates are opened and closed and so forth. <p>Remediate/rehabilitate impact:</p> <ul style="list-style-type: none"> • Rehabilitate the veld to its original state post construction. 	

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Land use and resource impacts	Preferred	No impacts on residential land uses will occur. Based on 3 ha/LSU, grazing for about 35 LSU will be lost during construction (105 ha). Soil erosion will be minimal, provided that the Stormwater Management Plan is implement. Water will be sourced from an alternative source and WUL obtained. Water for the Project may not be obtained from an existing source as it might impact negatively on agricultural production.	Negative	Direct	Slight	Localised	Short term	Possible	Reversible	Resource may be partly lost	Achievable	LOW -	Minimise/reduce impact: <ul style="list-style-type: none"> Implement all the mitigation and management measures as proposed in the Agricultural Study. Implement the Stormwater Management Plan for the duration of construction. Remediate/rehabilitate impact: <ul style="list-style-type: none"> Rehabilitate the veld to its original state post construction. 	LOW -
	No-go	No impact on current land use and resources.	Neutral	N/A	N/A	Localised	Short-term	N/A	N/A	N/A	N/A	N/A		N/A

<p>Impacts on tourism / accommodation facilities / Protected Areas</p>	<p>Preferred</p>	<p>Negative impacts on existing tourist / accommodation establishments may occur during the construction phase as a result of construction vehicle movement, visual / aesthetic impacts, dust and a possible increase in crime due to an inflow jobless people. This would translate into financial losses if construction activities deter tourists to frequent the facilities. It is however anticipated that professionals deployed from other parts of the province and country be housed in local accommodation facilities, with positive impacts on tourism revenue. Approximately 15% of the workforce will be skilled (225 person-months) and will in all likelihood be sourced nationally where the required skills for the construction of large-scale wind farms already exist. Tertiary education levels in the NLM are also very low (10%) and the required skills will most likely not be available locally. It is thus the opinion of the SEIA Consultant that the positive off-set when workers are housed in local establishments will be greater when measured against potential tourism losses over the 24-month</p>	<p>Negative</p>	<p>Indirect</p>	<p>Slight</p>	<p>Study area</p>	<p>Short-term</p>	<p>Possible</p>	<p>Reversible</p>	<p>Resource may be partly lost</p>	<p>Achievable</p>	<p>LOW -</p>	<p>Minimize/reduce impact:</p> <ul style="list-style-type: none"> • Implement all measures proposed in the SEIA and other Specialist Assessments to mitigate intrusion impacts (dust, noise, visual) during construction. • Implement all mitigation measures related to awareness/community engagement as proposed in the section dealing with 'Impacts associated with an influx of jobseekers / temporary construction workers'; keep open communication channels with affected tourism establishments and address potential issues proactively. • Give preference to accommodation establishments in the local study area when workers are housed. 	<p>LOW +</p>
--	------------------	---	-----------------	-----------------	---------------	-------------------	-------------------	-----------------	-------------------	------------------------------------	-------------------	---------------------	---	---------------------

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
		construction period.												
	No-go	No economic impact (positive or negative) for tourism establishments as a result of construction.	Neutral	Direct, indirect	N/A	Study area	Short-term	N/A	N/A	N/A	N/A	N/A		N/A

Intrusion impacts	Preferred	<p>Intrusion impacts during construction refer to temporary nuisance issues experienced with regard to an increase in traffic, noise, dust / fume emission and visual / aesthetic / light impacts as a result of movement of construction vehicles on site and along access roads, earthworks and general construction activities.</p> <p>In addition to direct negative impacts on sensitive receptors, intrusion impacts could indirectly impact agricultural land uses, thereby having a temporary negative effect on incomes of landowners, such as:</p> <ul style="list-style-type: none"> • An increase in livestock theft and illegal poaching; • Negligent construction workers that do not close / lock farm gates resulting in animals that go missing and/or mix with animals in different breeding groups / cycles; • Insufficient biosecurity measures / screening of construction workers (biological risks) potentially introducing 	Negative	Direct	Moderate	Municipal	Short-term	Definite	Reversible	Resource will not be lost	Achievable	MODERATE -	<p>Minimize/reduce impact:</p> <ul style="list-style-type: none"> • Comply with the EMPr requirements to address any noise and dust impacts, such as the implementation of appropriate dust alleviation methods and to restrict construction activities to daytime hours, where possible. • Collaborate with the necessary road management authorities when road closures are required and advertise alternative routes in advance. • 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 un-roadworthy 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/s. • Maintain access roads during the length of the construction period and ensure damaged road surfaces have been repaired sufficiently post construction. <p>Remediate/rehabilitate impact:</p> <ul style="list-style-type: none"> • Proper planning, management and rehabilitation of all 	LOW -
-------------------	-----------	---	----------	--------	----------	-----------	------------	----------	------------	---------------------------	------------	-------------------	---	--------------

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
		diseases to livestock breeding farms; • Dust that settle on crops and grazing land and have an impact on livestock carrying capacity; • Livestock that is killed on access roads if drivers do not adhere to speed limits and traffic rules; • Construction activities that hamper the farmers' access to their own farms.											construction sites to forego the visual impacts of the construction activities.	
	No-go	Intrusion impacts will not manifest.	Neutral	Direct, indirect	N/A	Municipal	Short-term	N/A	N/A	N/A	N/A	N/A		N/A

<p>Health and safety risks for workers</p>	<p>Preferred</p>	<p>The Occupational Health and Safety Act (Act No. 85 of 1993) makes provision for the health and safety of workers at construction sites. These risks are broadly associated with:</p> <ul style="list-style-type: none"> • Construction related accidents due to structural safety of Project infrastructure, possibly resulting in fatalities; • 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 	<p>Negative</p>	<p>Direct</p>	<p>Severe</p>	<p>Localised</p>	<p>Short-term</p>	<p>Possible</p>	<p>Irreversible</p>	<p>Resource will be lost</p>	<p>Achievable</p>	<p>MODERATE -</p>	<p>Minimise/reduce impact:</p> <ul style="list-style-type: none"> • Ensure implementation of the provisions of the Occupational Health and Safety Act (Act No. 85 of 1993) and adhere to the Emergency and Safety plan procedures for the duration of the construction phase. • Promote good conduct of employees through awareness campaigns. It is also recommended that the Developer embarks on a Social Awareness Campaign for the workforce that focuses on sexual health, unwanted pregnancies and related social issues. • Contractors to provide a housing plan that makes provision for workers that do not live nearby to return to their families at regular intervals or over weekends. • Suitable fire fighting equipment should be on-site and workers should be appropriately trained for fire fighting. • Construction workers to wear protective clothing (e.g. masks that minimize dust inhalation, 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 	<p>LOW -</p>
--	------------------	--	-----------------	---------------	---------------	------------------	-------------------	-----------------	---------------------	------------------------------	-------------------	--------------------------	--	---------------------

SEIA REPORT FOR THE PROPOSED MNWP WEF, KZN PROVINCE

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
		activities and temporary sexual relationships with local women, unwanted pregnancies that place further pressure on Basic Health Care Services, etc.											workers hydrated. <ul style="list-style-type: none"> 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. 	
	No-go	Health and safety impacts for workers will not manifest.	Neutral	Direct	N/A	Localised	Short-term	N/A	N/A	N/A	N/A	N/A	<ul style="list-style-type: none"> Implement measures to suppress dust. 	N/A
SEIA - OPERATIONAL PHASE														

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
New employment and economic impacts	Preferred	<p>Direct and indirect employment opportunities will manifest during the operational lifespan of the Project and result in an increase in household earnings and improved livelihoods through salaries and wages.</p> <p>Economic impacts will occur for the local and national economies through the manufacturing and services industries. Induced economic impacts will realize through employment and procurement and as a result more benefits for retail sales, leisure and hospitality, real estate, etc. will occur as more money flows in the local economy.</p> <p>Furthermore, agricultural land will be rezoned for renewable energy purposes, thereby increasing farm values and resulting in higher payable taxes for the local municipality.</p>	Positive	Direct, indirect	Moderate	Regional	Long-term	Definite	Reversible	Resource will not be lost	Difficult	MODERATE +	<p>Enhance benefits:</p> <ul style="list-style-type: none"> Maximise local employment and procurement (from the local and district municipalities) wherever possible. Coordinate the effort to obtain temporary employment, service providers, SMME's etc. required for maintenance work, with the municipal LED Unit. 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. If feasible, make ED funding available to assist the existing municipal initiatives with skills training and capacity building of SMME's. Make employment creation one of the SED program's targets, aims and objectives. Local businesses that apply for SED funding have to demonstrate their commitment to employment 	MODERATE +

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	New employment, direct and induced economic impacts will not manifest local nor nationally.	Negative	Direct, indirect	Moderate	National	Long-term	Definite	N/A	N/A	N/A	MODERATE -	creation (criteria for evaluation by the Implementing and Monitoring Agent).	N/A
Impacts on livelihoods of directly benefitting landowners	Preferred	During the operational period the IPP will sign a long-term lease agreement with the affected landowners where turbines and associate infrastructure are located, thereby compensating them through an annual fee. Details of the option-to-lease agreements are confidential. However, the compensation will increase the landowners' incomes and revenue and can be used to further invest in their properties, increase productivity and employment, or improve financial security.	Positive	Direct	Slight	Localised	Long-term	Definite	Reversible	Resource will not be lost	Very difficult	LOW +	Minimize/reduce impact: <ul style="list-style-type: none"> Consider the potential increase in rates and taxes during the negotiation processes with landowners. 	LOW +

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	No incomes and subsequent improvement of livelihoods for landowners through lease agreements.	Negative	Direct	Slight	Localised	Long-term	Definite	N/A	N/A	N/A	LOW -		N/A
Socio-economic contribution / Community development	Preferred	Approximately 2.1% of revenue is allocated towards the implementation of SED and ED projects. Spending of funds are monitored through the Independent Power Producer Office (IPPO).	Positive	Direct	Slight	Regional	Long-term	Definite	Reversible	Resource will not be lost	Achievable	LOW +	Enhance benefits: <ul style="list-style-type: none"> Involve the local and district municipalities' LED Units in all processes when SED and ED projects and suitable candidates for projects and/or training programmes are identified. 	MODERATE +

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	No community and infrastructure projects that would contribute to job creation and community development.	Negative	Direct	Slight	Regional	Long-term	Definite	N/A	N/A	N/A	LOW -	<ul style="list-style-type: none"> Join the existing Newcastle LED Forum and align projects with the goals and objectives identified for the region's trade and industry sectors. Make gender and Youth issues a specific outcome of the needs analysis to ensure that these groups are targeted. Ensure further transparency and effective information sharing through industry associated websites, emailed newsletters, municipal noticeboards, information events and meetings and existing community channels used by the various wards. Become involved in local initiatives that address existing backlogs to ensure that real community based needs are met. 	N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Training / skills development / capacity building	Preferred	<p>Training, skills development and capacity building during the operational phase will likely take place as follow:</p> <ul style="list-style-type: none"> • Formal and on-the-job training for permanent and temporary employees to allow them to perform their tasks safely and adequately; • Training / education programmes through ED contributions; • Offering of bursaries and internships; • Negotiation processes and stakeholder relations that enables municipal Officials to develop skills. 	Positive	Direct, indirect	Slight	Regional	Long-term	Probable	Reversible	Resource will not be lost	Achievable	LOW +	<p>Enhance benefits:</p> <ul style="list-style-type: none"> • Link with existing NGO's to assist in skills transfer to new projects, community groups, Officials and project processes. • Link with existing training workshops and programmes for SMME development that are done by municipal LED Units. • Link with bigger institutions such as Universities and FET institutes to increase the impact of training and skills development in the region. 	MODERATE +
	No-go	No training and capacity building that would improve education and skill levels locally and regionally will manifest.	Negative	Direct, indirect	Slight	Regional	Long-term	Probable	N/A	N/A	N/A	LOW -		N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Land use and resource impacts	Preferred	The loss in grazing land during operations amounts to 85 ha, which equates to about 28 LSU (based on 3 ha/LSU), which is negligible. Water required for the development will be obtained from an authorized source and no water required for farming purposes will be used for the wind farm.	Negative	Direct	Slight	Localised	Long-term	Possible	Reversible	Resource may be partly lost	Difficult	LOW -	Remediate/rehabilitate impact: <ul style="list-style-type: none"> Implement all mitigation measures as proposed in the Agricultural Study and EMP. 	LOW -
	No-go	No land use and resource impacts as a result of the project.	Neutral	Direct, indirect	N/A	Localised	Long-term	N/A	N/A	N/A	N/A	N/A		N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Impacts on tourism / accommodation facilities / Protected Areas	Preferred	Draaiwater Lodge, Drakensbergkloof, Grey Goose Game Farm, Newcastle Country Lodge and Sneeuwberg PE would be particularly vulnerable to potential negative visual impacts. However other factors than visual exposure would also impact tourism, such as local conditions, markets, location, technologies, size of the facility and the receiving environment (communities, tourist activities, landscape, etc.). The impact on tourism as a result of wind farm developments is not easily measured and international and local research are inconclusive about the topic.	Negative	Indirect	Slight	Municipal	Long-term	Possible	Reversible	Resource may be partly lost	Difficult	LOW -	Avoid/prevent impact: <ul style="list-style-type: none"> Based on the Specialist VIA findings, consult with individual tourism establishments that would experience a high or very high visual impact and/or who are concerned that revenues will be affected. Consider eliminating specific turbines from the development if feasible. 	LOW -
	No-go	Existing tourism market and tourism status quo would continue.	Neutral	N/A	N/A	Municipal	Long-term	N/A	N/A	N/A	N/A	N/A		N/A

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Impacts on land values	Preferred	Impacts of wind farms on land values is an indecisive matter. However, based on local and international research and the SEIA Specialist's consultation with estate agents and other experts, it is the professional opinion of the SEIA Consultant that negative impacts on land values during the operational phase of the MNWP facility are unlikely, and property prices might even increase for the duration of operations. It is however possible that individual negative perceptions towards the infrastructure may affect property sales negatively in terms of possible prolonged sale periods and fewer buyers' interests.	Negative	Indirect	Slight	Study area	Long-term	Unsure	Reversible	Resource will not be lost	Very difficult	LOW -	No mitigation is proposed.	LOW -
	No-go	No impacts on land values and the status quo continues.	Neutral	N/A	N/A	Study area	Long-term	N/A	N/A	N/A	N/A	N/A		N/A

Intrusion impacts	Preferred	<p>Intrusion impacts during operations refer to nuisance issues experienced with regard to an increase in traffic (limited) and movement of maintenance personnel, noise and visual / aesthetic / light impacts due to the presence of turbines and night-time shadow flicker.</p> <p>Indirect impacts on agricultural land uses are possible, including:</p> <ul style="list-style-type: none"> • Gates that are left open or not locked resulting in animals that go missing and/or mix with animals in different breeding groups / cycles; • Livestock that is killed on access roads if wind farm vehicles speed and disobey traffic rules; • A potential increase in stock theft and illegal poaching; • Potential veld fires that damage farmland and farm infrastructure; and • Insufficient biosecurity measures / screening of workers (biological risks), potentially introducing diseases to livestock breeding farms. 	Negative	Direct, indirect	Moderate	Study area	Long-term	Probable	Reversible	Resource may be partly lost	Achievable	MODERATE -	<p>Minimize/reduce impact:</p> <ul style="list-style-type: none"> • Implement an effective Land Use Management programme (procedures when gates are opened and closed, road maintenance, implementation of methods to address potential veld fires, no-go areas, etc.) in collaboration with the landowners. • Implement all mitigation and management measures as proposed by the VIA and NIA Specialists. 	LOW -
-------------------	-----------	--	----------	------------------	----------	------------	-----------	----------	------------	-----------------------------	------------	-------------------	---	--------------

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	No negative intrusion impacts will manifest for landowners.	N/A	N/A	N/A	Study area	Long-term	N/A	N/A	N/A	N/A	N/A		N/A
Impacts on sense of place	Preferred	The social impact associated with the long-term impact on the sense of place relate to a change in the landscape character, intrusion impacts and potential changes to the safety and security and social surroundings that landowners and community members currently experience.	Negative	Direct, indirect	Severe	Study area	Long-term	Probable	Reversible	Resource will not be lost	Difficult	HIGH -	Minimize/reduce impact: <ul style="list-style-type: none"> Implement all relevant mitigation measures as proposed to reduce intrusion impacts. Implement all measures as proposed in the VIA and NIA Reports. As far as possible, avoid turbines to be located in direct view of residences and / tourist and holiday accommodation establishments. Implement measures to increase communication and transparency between the land owners and Project as proposed in the previous sections of this report. 	MODERATE -
	No-go	Status quo remains. No impact on sense of place occurs for community members and landowners.	N/A	N/A	N/A	Study area	Long-term	N/A	N/A	N/A	N/A	N/A		N/A
Contribution to national power supply	Preferred	The proposed MNWP facility will generate up to 200MW electricity and enhance the reliability and stability of supply that would contribute to economic development in the country as a whole.	Positive	Direct, indirect	Moderate	National	Long-term	Definite	Reversible	Resource will not be lost	N/A	MODERATE +	No mitigation required.	MODERATE +

SEIA REPORT FOR THE PROPOSED MNWP WEF, KZN PROVINCE

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
	No-go	No contribution to national power supply and economic benefits related thereto do not occur.	Negative	Direct, indirect	Moderate	National	Long-term	Definite	N/A	N/A	N/A	MODERATE -		N/A
SEIA - CUMULATIVE IMPACTS														

<p>Employment, economic contribution and induced impacts</p>	<p>Cumulative</p>	<p>As a result of construction, maintenance and repairs, as well as skills development and capacity building, the construction and operational phases will result in positive cumulative economic impacts nationally and locally in terms of:</p> <ul style="list-style-type: none"> • Permanent, temporary and indirect employment creation; • Creation of new business opportunities locally and nationally, as well as further downstream opportunities through indirect and induced impacts especially with regards to the manufacturing and service industries; and • Improvement of livelihoods of benefitting households that result in increasing spending power, with spin-off effects on local and regional businesses such as retail, leisure, real estate and so forth. 	<p>Positive</p>	<p>Direct, indirect</p>	<p>Severe</p>	<p>National</p>	<p>Long-term</p>	<p>Definite</p>	<p>Reversible</p>	<p>Resource will not be lost</p>	<p>Difficult</p>	<p>HIGH +</p>	<p>No mitigation is required.</p>	<p>HIGH +</p>
--	-------------------	--	-----------------	-------------------------	---------------	-----------------	------------------	-----------------	-------------------	----------------------------------	------------------	---------------	-----------------------------------	---------------

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Impacts on the livelihoods of directly benefitting landowners	Cumulative	The number of households benefitting during the operational phase as a result of incomes earned through lease agreements, will increase to approximately 8 (based on 74 turbine localities).	Positive	Direct	Slight	Localised	Long-term	Definite	Reversible	Resource will not be lost	Difficult	LOW +	No mitigation is required.	LOW +

Impacts for the local and district municipalities	Cumulative	<p>In addition to positive economic impacts, the local and district municipalities would experience positive cumulative impacts associated with:</p> <ul style="list-style-type: none"> • Skills development, training and capacity building for citizens and SMME's directly and indirectly involved in employment (construction and operational phases) that result in a population that is better skilled, increased employability of the local labour force and a general increase in employment levels; and • Capacity building of municipal staff when they are exposed to and involved in the employment, permitting, communication / liaison / negotiations, training, support programmes and monitoring processes of the two WEF projects. 	Positive	Direct, indirect	Moderate	Regional	Long-term	Probable	Reversible	Resource will not be lost	Achievable	MODERATE +	<p>Enhance the benefit:</p> <ul style="list-style-type: none"> • Link with existing NGO's to assist in skills transfer to new projects, community groups, Officials and project processes. • Link with existing training workshops and programmes for SMME development that are done by municipal LED Units. • Link with bigger institutions such as Universities and FET institutes to increase the impact of training and skills development in the region. This type of strategic partnership was also listed in the NLM IDP as one of the SMME Development interventions required to uplift and formally develop the skills of all contractors and service provider doing business with the municipality. 	MODERATE +
---	------------	---	----------	------------------	----------	----------	-----------	----------	------------	---------------------------	------------	------------	--	------------

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Impacts associated with an influx of jobseekers / temporary construction workers	Cumulative	Long-term negative social impacts that remain once a workforce leave an area are evident in provinces such as the Northern and Western Cape, where large-scale RE projects are already operational. Long-term issues - which usually become the local municipalities' responsibility - include unusual population growth rates coupled with an increase in the unemployed, social issues (increase in HIV/AIDS, unwanted pregnancies and absent fathers) culminating in pressure on local government services (health care, infrastructure services and housing provision).	Negative	Direct, indirect	Moderate	Regional	Long-term	Possible	Reversible	Resource may be partly lost	Achievable	MODERATE -	Minimize/reduce impact: <ul style="list-style-type: none"> Maximise local employment. Implement all the mitigation measures as proposed in Section 7.7 of the SEIA. 	LOW -
Impacts on tourism / accommodation facilities / Protected Areas	Cumulative	Even though it is possible that visual exposure and impacts on the landscape character could increase for some of the tourism establishments and Protected Areas, the consequence of the cumulative impact on tourism would not increase to such a degree that the overall significance would change.	Negative	Indirect	Slight	Municipal	Long-term	Possible	Reversible	Resource will not be lost	Difficult	LOW -	No mitigation is proposed.	LOW -

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Impacts on land values	Cumulative	It is possible that negative cumulative impacts on land values could manifest for individual properties. However, the assessment of the cumulative impact on farmland values are inconclusive as there are too many variables that could affect the impact, whether positive or negative, and no rating is provided.	Negative / Positive	Indirect	N/A	Study area	Long-term	Possible	Reversible	Resource will not be lost	N/A	N/A		N/A
Intrusion impacts	Cumulative	Since impacts associated with traffic, noise, air / dust pollution and shadow flicker are usually mitigated satisfactorily for wind farm projects, the assumption is drawn that mitigation will also be done sufficiently for the Mulilo Newcastle WEF Complex. Visual impacts can, however, not be mitigated easily and it is thus probable that that negative cumulative visual impacts will be high.	Negative	Direct	Moderate	Study area	Long-term	Probable	Reversible	Resource will not be lost	Difficult	MODERATE -	Minimize/reduce impact: <ul style="list-style-type: none"> Implement an effective Land Use Management programme (procedures when gates are opened and closed, road maintenance, implementation of methods to address potential veld fires, no-go areas, etc.) in collaboration with the landowners. Implement all mitigation and management measures as proposed by the VIA and NIA Specialists. 	MODERATE -

POTENTIAL ISSUE	ALT	DESCRIPTION / SOURCE OF IMPACT	NATURE	TYPE	CONSEQUENCE	EXTENT	DURATION	PROBABILITY	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE WITH MITIGATION
Impacts on sense of place	Cumulative	The cumulative impact on sense of place would be associated with changes in the landscape character as a result of visual impacts of the Mulilo Newcastle WEF Complex, as well as negative intrusion impacts that changes the community's perception of their living environment. Landowners could also easily attribute an increase in stock theft and crime levels to these collective developments due to the inflow of people and poor land use management practices, which could further result in negative effects on the current sense of place they experience.	Negative	Direct, indirect	Severe	Study area	Long-term	Probable	Reversible	Resource will not be lost	Difficult	HIGH -	Minimize/reduce impact: <ul style="list-style-type: none"> Implement all relevant measures to reduce intrusion impacts and as proposed in the Specialist NIA and VIA reports. As far as possible, avoid turbines to be located in direct view of residences and / or tourist and holiday accommodation establishments. Implement measures to increase communication and transparency between the land owners and IPP, as proposed in the previous sections of this report. 	HIGH -
Contribution to national power supply	Cumulative	Positive cumulative impacts will manifest for national power supply as well as economic development, as the energy output of the two facilities combined will increase to up to 400MW.	Positive	Direct, indirect	Beneficial	National	Long-term	Definite	Reversible	Resource will not be lost	Very difficult	HIGH +	No mitigation is required.	HIGH +

14.4 Experience of the SEIA Consultant

Marchelle Terblanche, a Social and Socio-economic Development Consultant, manages the INDEX *Social Consulting Services* division of the company Integrated Rural and Urban Development Expertise (Pty) Ltd t/a INDEX. She has 27 years' experience in her field that include consulting services for a large number of engineering and environmental organizations, Renewable Energy companies, Town Planners, developers and private landowners.

Marchelle completed her studies in BA (Development Studies) at UJ (previously RAU) in 1993 and did a Project Management course in 1998 with X-Pert Managing by Project Academy. After two years of fulltime employment as a Development Consultant and Social Facilitator, which commenced in 1994, she travelled and worked in Europe for a year. Upon her return to South Africa in 1997 she joined INDEX as an Associate managing the Community and Social Development division working on various projects in all nine provinces.

Her specific fields of interest are Socio-economic Impact Assessments, socio-economic surveys, feasibility studies and public participation processes. She has furthered her skills base in the last 11 years to include the lodging of more than 60 subdivision, rezoning, land use change and long-term lease applications in terms of the Subdivision of Agricultural Land Act (Act No. 70 of 1970) (SALA) with the Department of Agriculture, Land Reform & Rural Development; as well as numerous Water Use Licence Applications (WULA's) in accordance with the National Water Act (Act No. 36 of 1998) with the Department of Water Affairs.

Relevant SEIA projects that have been successfully executed include:

- SEIA for the proposed Impofu Electrical Grid Extension for the proposed Impofu Wind Farms, Nelson Mandela Bay Municipality, Eastern Cape Province. Red Cap Energy (Pty) Ltd / CEN IEM Unit.
- SEIA for the proposed Impofu Battery Storage Facilities, Kouga and Kou-Kamma Local Municipality, Eastern Cape Province. Red Cap Energy (Pty) Ltd / CEN IEM Unit.
- SEIA for the proposed Albany Wind Energy Facility in Makana Local Municipality, Eastern Cape Province. EDF Renewables (Pty) Ltd / CES Environmental.
- SIA for the proposed Dassiesridge Wind Energy Facility near Uitenhage, Eastern Cape Province. Innowind (Pty) Ltd / EOH Coastal and Environmental Services (Pty) Ltd.
- SIA for the proposed Aggeneys PV Solar Energy Facility near Pofadder, Northern Cape. Solar Capital (Pty) Ltd.
- SEIA for the proposed Bayview Wind Farm, Nelson Mandela Bay Metropolitan Municipality, Eastern Cape Province. Bayview Wind Power (Pty) Ltd / EOH Coastal and Environmental Services.
- SIA for the proposed Kameelboom Concentrated Solar Power Plant near Marydale, Northern Cape Province. AE-AMD Renewable Energy (Pty) Ltd / Rock Environmental Consulting (Pty) Ltd.
- SIA for the proposed Umsobomvu Wind Energy Facility near Noupoot, Northern Cape Province. Innowind (Pty) Ltd / EOH Coastal and Environmental Services.
- SIA and public participation for the proposed Vaalkop and Witkop PV Solar Facilities on various sites near Orkney, Northwest Province. Savannah Environmental (Pty) Ltd.

- SIA and public participation for the proposed Kgalatsane Solar PV 1 and 2 facilities near Brits, Northwest Province. Savannah Environmental (Pty) Ltd.

14.5 Specialist Declaration



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	14/12/16/3/3/2/2212
Date Received:	DEAEW

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

MULO NEWCASTLE WIND POWER (PTY) LTD, WIND ENERGY FACILITY NEAR NEWCASTLE, KWAZUZU-NATAL PROVINCE

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Office Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1.

Details of Specialist, Declaration and Undertaking Under Oath

Page 1 of 3

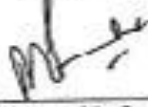
SPECIALIST INFORMATION

Specialist Company Name: B-BBEE	Contribution level (indicate 1 to 5 or non-compliant)			4	Percentage Procurement recognition	
Specialist name:	Marchelle Terblanche					
Specialist Qualifications:	BA Development Sciences					
Professional affiliation/registration:						
Physical address:	850 Speek Street, Wapadrand Security Village, Pretoria					
Postal address:	Same					
Postal code:	0081			Cell:	082 804 2945	
Telephone:				Fax:		
E-mail:	marchelle@indexsa.net					

2. DECLARATION BY THE SPECIALIST

I, Marchelle Terblanche, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 45 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

INDEX (Pty) Ltd

Name of Company:

2022/10/28

Date

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Marchelle Terblanche, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

INDEX (Pty) Ltd

Name of Company

2022 / 10 / 28

Date



Signature of the Commissioner of Oaths

28/10/2022

Date

COMMISSIONER OF OATHS (R.SA)
De Wet Cronje BAP (SA)
Er Offis - Business Accountant in Practice
Member No. - SAIBA 10558
The Willows Office Park (Pty) Ltd
610 Farm & Simon Verrucan Road, Pretoria, 0081