

Scoping and Environmental Impact Assessment  
for the Proposed Development of the 240 MW  
Kaladokhwe Wind Energy Facility 3 near Nxuba  
(Cradock) in the Eastern Cape

**DRAFT SCOPING REPORT**  
**EXECUTIVE SUMMARY**

October 2022



Prepared for:  
Kaladokhwe Wind 3 (Pty) Ltd

Prepared by:  
Council for Scientific and  
Industrial Research (CSIR)

# SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT

for the

## Proposed Development of the 240 MW Kaladokhwe Wind Energy Facility 3 and associated infrastructure near Nxuba (previously Cradock) in the Eastern Cape

# DRAFT SCOPING REPORT

October 2022

***Prepared for:***

Kaladokhwe Wind 3 (Pty) Ltd

***Prepared by:***

Council for Scientific and Industrial Research (CSIR)

PO Box 320, Stellenbosch 7599

Tel: +27 21 888 2400

Fax: +27 21 888 2693

***Lead Authors:***

Paul Lochner, Lizande Kellerman, Suvasha Ramcharan and Rohaida Abed (CSIR)

***Specialists:***

Tony Barbour; Gerhard Botha; Morné de Jager; Lourens du Plessis; Amber Jackson; Johann Lanz; Werner Marais; Tarryn Martin; Jon Smallie; Jaco van der Walt and Iris Wink

***Mapping:***

Dhiveshni Moodley (CSIR)

***Formatting and Desktop Publishing:***

Magdel van der Merwe (DTP Solutions)

© CSIR 2022. All rights to the intellectual property and/or contents of this document remain vested in the CSIR. This document is issued for the sole purpose for which it is supplied. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by means electronic, mechanical, photocopying, recording or otherwise without the express written permission of the CSIR. It may also not be lent, resold, hired out or otherwise disposed of by way of trade in any form of binding or cover than that in which it is published.

# Report details

<b>Title:</b>	Scoping and Environmental Impact Assessment (EIA) for the proposed development of the 240 MW Kaladokhwe Wind Energy Facility 3 with associated infrastructure near Nxuba (previously Cradock) in the Eastern Cape: DRAFT SCOPING REPORT
<b>Purpose of this report:</b>	<p>The purpose of this Draft Scoping Report is to:</p> <ul style="list-style-type: none"> <li>• Present the details of and the need for the proposed project;</li> <li>• Describe the affected environment at a sufficient level of detail based on scoping level specialist input to facilitate informed decision-making;</li> <li>• Provide an overview of the Scoping and EIA Process being followed, including public consultation;</li> <li>• Provide an overview of the potential positive and negative impacts of the proposed project on the environment;</li> <li>• Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the project; and</li> <li>• Provide the Plan of Study for the EIA Phase for the proposed project.</li> </ul> <p>The Draft Scoping Report is now available to all Interested and/or Affected Parties (I&amp;APs), Organs of State and relevant stakeholders for a 30-day review period extending from <b>21 October 2022 to 21 November 2022</b>, excluding public holidays. All comments submitted during the 30-day review will be incorporated in a detailed Comments and Responses Report, and addressed, as applicable and where relevant, and be included in the Final Scoping Report. The Final Scoping Report will be submitted to the National Department of Forestry, Fisheries and the Environment (DFFE) for decision-making.</p>
<b>Prepared for:</b>	Kaladokhwe Wind 3 (Pty) Ltd
<b>Prepared by:</b>	<p>CSIR PO Box 320, Stellenbosch, 7599, South Africa Tel: +27 21 888 2400 / +27 83 799 0949 Fax: +27 21 888 2693</p>
<b>Authors:</b>	Paul Lochner, Lizande Kellerman, Suvasha Ramcharan and Rohaida Abed
<b>Formatting and Desktop Publishing:</b>	Magdel van der Merwe, DTP Solutions
<b>Date:</b>	October 2022
<b>DFFE Reference No:</b>	To be issued
<b>To be cited as:</b>	CSIR, 2022. Scoping and Environmental Impact Assessment for the proposed development of the 240 MW Kaladokhwe Wind Energy Facility 3 (i.e. Kaladokhwe WEF 3) and associated infrastructure near Nxuba (previously Cradock) in the Eastern Cape. Scoping Report. CSIR Report Number: CSIR/SPLA/SECO/ER/2022/0046/B

# Contents

## PART A: MAIN REPORT

### Executive Summary

<b>Chapter 1</b>	Introduction
<b>Chapter 2</b>	Project Description
<b>Chapter 3</b>	Description of the Affected Environment
<b>Chapter 4</b>	Approach to EIA Process and Public Participation
<b>Chapter 5</b>	Project Alternatives
<b>Chapter 6</b>	Issues and Potential Impacts
<b>Chapter 7</b>	Plan of Study for EIA

## PART B: APPENDICES

<b>Appendix A</b>	Curriculum Vitae of the Environmental Assessment Practitioners
<b>Appendix B</b>	Declaration of Interest and Independence of the Environmental Assessment Practitioners
<b>Appendix C</b>	Database of Interested and/or Affected Parties
<b>Appendix D</b>	Public Participation
<b>Appendix E</b>	Pre-Consultation with the Competent Authority
<b>Appendix F</b>	Scoping inputs from Specialists
<b>Appendix G</b>	Additional Information

## **PROJECT OVERVIEW**

Kaladokhwe Wind 3 (Pty) Ltd (hereinafter referred to as “the Project Applicant”) is proposing the development of a commercial Wind Energy Facility (WEF) and associated infrastructure approximately 20 km northeast of the town of Nxuba (previously Cradock) in the Eastern Cape Province in the Chris Hani District Municipality.

Two additional WEF’s are concurrently being considered on the surrounding properties and are assessed by way of separate impact assessment processes. These projects are known as Kaladokhwe WEF 1 and Kaladokhwe WEF 2. It is proposed that each WEF will have a contracted generation capacity of up to 240 MW.

The proposed Kaladokhwe WEF 3 will have a permanent development footprint of about 61 hectares, approximately 1.2% of the total assessed study area. This excludes access roads leading to the site. The proposed project will make use of wind technology to generate electricity from wind energy. Once a Power Purchase Agreement (PPA) is awarded, the proposed WEF will generate electricity for a minimum period of 20 years. The construction phase for the proposed project is expected to extend approximately 24-30 months.

The project details are provided in Table A below. **It must be noted that this report only covers the proposed 240 MW Kaladokhwe Wind Energy Facility 3 (‘Kaladokhwe WEF 3’), as detailed below. Separate reports are provided for the remaining WEF projects.**

**Table A. Project Name, Applicant and the main Affected Farm Portions**

WEF Project Name	Project Applicant	Affected Farm Portions
Kaladokhwe WEF 3	Kaladokhwe Wind 3 (Pty) Ltd	<ul style="list-style-type: none"> <li>• Farm Ossen Kraal No. 40 / 1, 6</li> <li>• Farm Ruigte Fontein No. 150 / RE, 1, 3</li> <li>• Farm De Bruins Requist No. 168 / RE</li> <li>• Farm Gunsteling No. 165 / 1 (RE)</li> <li>• Farm Lange Hoek No. 183 / RE</li> <li>• Farm Lange Hoek No. 171 / 7</li> <li>• Farm Roland No. 169 / RE</li> <li>• Farm No. 166 / 1, 2</li> <li>• Farm No. 607 / RE (0)</li> </ul>

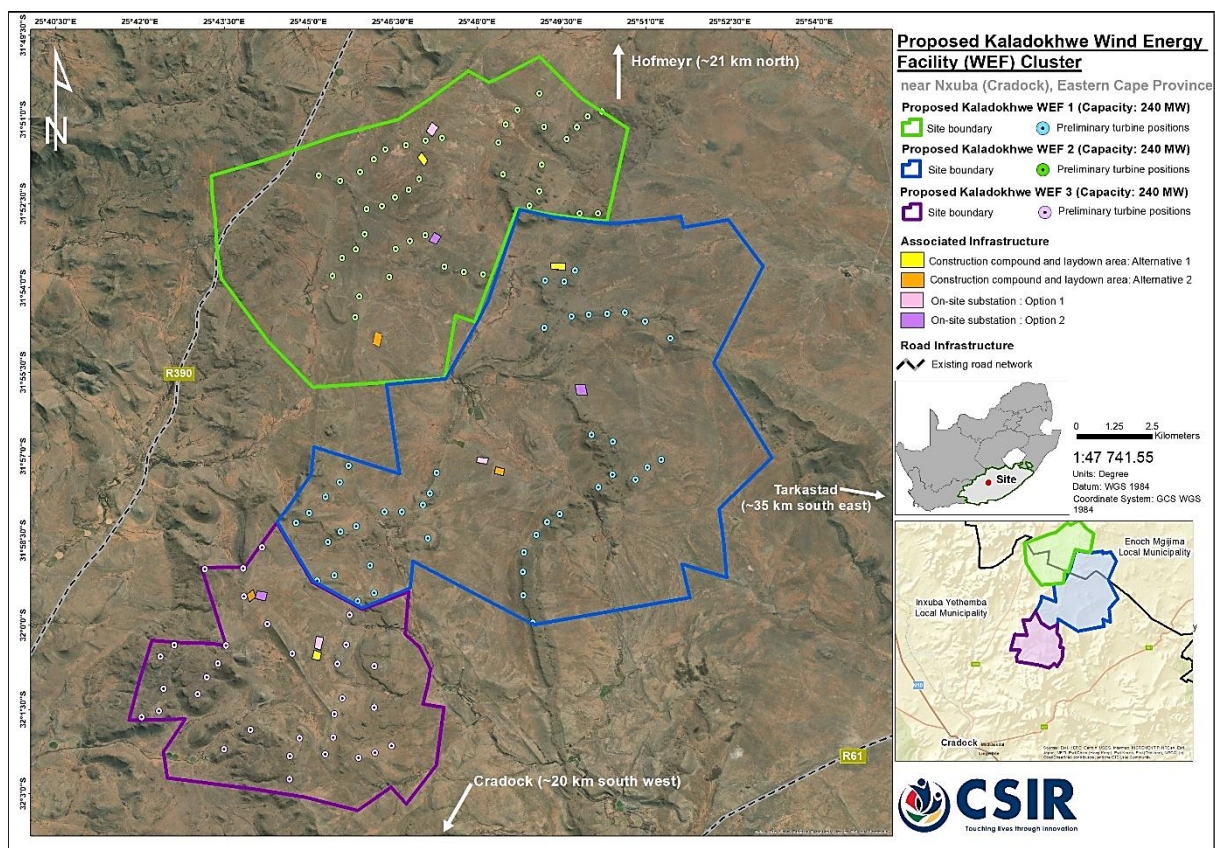
The proposed Kaladokhwe WEF 3, which can be accessed via an existing public road off the R61 provincial tar road connecting Nxuba (previously Cradock) and Tarkastad, will be located within the Inxuba Yethemba Local Municipality. The proposed Kaladokhwe WEF 1 and Kaladokhwe WEF 2 will be located within both the Inxuba Yethemba Local Municipality and the Enoch Mgijima Local Municipality.

The proposed project does not fall within any of the Renewable Energy Development Zones (REDZs), which were promulgated in Government Gazette 41445, Government Notice (GN) R114 on 16 February 2018. The proposed Kaladokhwe WEF 3 project site is located approximately 30 km away (at its closest point) from the Stormberg REDZ. In addition, the proposed Kaladokhwe WEF 3 project site is located approximately 2.5 km away (at its closest point) from the Eastern Strategic Transmission Corridor (as gazetted on 16 February 2018, GN R113). Therefore, the project’s proximity to the Stormberg REDZ and the Eastern Strategic Transmission Corridor supports the development of a large-scale renewable energy project at the proposed location. The proposed project is therefore linked to the national planning vision for large-scale wind and solar development in South Africa. As a result, a full Scoping and EIA Process in terms of Appendix 2 and 3

of the 2014 NEMA EIA Regulations (as amended) is being undertaken for each of the three proposed WEFs with a 107 decision-making timeframe, as opposed to a Basic Assessment Process and 57-day decision-making timeframe allowed for in the REDZs and strategic transmission corridors. The Competent Authority for this proposed project is the National Department of Forestry, Fisheries and the Environment (DFFE). An integrated Public Participation Process is being undertaken for the proposed project.

The Draft Scoping Report is being released to all Interested and/or Affected Parties (I&APs), Organs of State and relevant stakeholders for a 30-day review period, extending from 21 October 2022 to 21 November 2022, excluding public holidays. All comments received during the 30-day review will be incorporated into a detailed Comments and Responses Report, and addressed, as applicable and where relevant, and will be included with the Final Scoping Report. The Final Scoping Report will be submitted to the DFFE, in accordance with Regulation 21 (1) of the 2014 NEMA EIA Regulations (as amended), for decision-making.

## PROJECT LOCATION



**Figure A. Locality Map of the Proposed Kaladokhwe WEF 1-3 Projects, near Nxuba (previously Cradock) in the Eastern Cape.**

The locality of the proposed Kaladokhwe WEF 3 project is shown in Figure A. The co-ordinates of the proposed project site are detailed in Chapter 2 of the Draft Scoping Report.

## PROJECT ENVIRONMENTAL IMPACT ASSESSMENT TEAM

In accordance with Regulation 12 (1) of the 2014 NEMA EIA Regulations (as amended), the Project Applicant has appointed the Council for Scientific and Industrial Research (CSIR) to undertake the required Scoping and EIA Process in order to determine the potential biophysical, social and economic impacts associated

with undertaking the proposed development. The project team, including the relevant specialists, is indicated in Table B below.

**Table B. Project Team for the Kaladokhwe WEF 3 Scoping and EIA Process**

NAME	ORGANISATION	ROLE/STUDY TO BE UNDERTAKEN
<b><i>Environmental Management Services (CSIR)</i></b>		
Paul Lochner ( <i>Registered EAP (2019/745)</i> )	CSIR	Technical Advisor and Quality Assurance
Rohaida Abed ( <i>Pr.Sci.Nat.</i> )	CSIR	Project Review
Lizande Kellerman ( <i>Pr.Sci.Nat.</i> )	CSIR	Project Manager
Suvasha Ramcharan	CSIR	Project Officer
Dhiveshni Moodley ( <i>Cand.Sci.Nat.</i> )	CSIR	GIS Specialist
<b><i>Specialists</i></b>		
Johann Lanz ( <i>Pr.Sci.Nat.</i> )	Private	Agriculture and Soils Compliance Statement
Jaco van der Walt	Beyond Heritage	Heritage Impact Assessment (Archaeology, Palaeontology and Cultural Landscape)
Jon Smallie	Wildskies Ecological Services	Avifauna Impact Assessment
Werner Marais	Animalia	Bat Impact Assessment
Gerhard Botha	Nkurenkuru Ecological and Biodiversity	Aquatic Biodiversity
Tarryn Martin and Amber Jackson	Biodiversity Africa	Terrestrial Biodiversity and Species
Morné De Jager	Enviro Acoustic Research	Noise Impact Assessment
Lourens du Plessis	LOGIS	Visual Impact Assessment
Iris Wink	Iris Wink Consulting	Traffic Impact Assessment
Tony Barbour	Tony Barbour Environmental Consulting	Socio-Economic Impact Assessment
Lizande Kellerman ( <i>Pr.Sci.Nat.</i> ) and Suvasha Ramcharan	CSIR	Civil Aviation Site Sensitivity Verification
Lizande Kellerman ( <i>Pr.Sci.Nat.</i> ) and Suvasha Ramcharan	CSIR	Defence Site Sensitivity Verification

## **PROJECT DESCRIPTION**

It is important to point out at the outset that the exact specifications of the proposed project components will be determined during the detailed design and engineering phase prior to construction (subsequent to the issuing of EA, should it be granted for the proposed project).

A summary of the key components of the proposed Kaladokhwe WEF 3 project is provided in Table C below.

**Table C. Summary of the proposed Kaladokhwe WEF 3 project components and associated infrastructure**

Infrastructure	Description
Number of turbines:	32
Turbine Capacity:	Up to 8 MW
Hub Height:	Up to 160 m
Rotor (Blade) Diameter:	Up to 200 m
Blade length:	Up to 100 m
WEF Project Size / Generation Capacity:	Up to 240 MW
Reinforced foundation diameter:	32 m per turbine
Crane hardstand:	70 m x 45 m per turbine
Blade hardstand:	80 m x 45 m per turbine
On-site substation hubs:	<p>The proposed project will include two on-site substation hubs incorporating the facility substation, switchyard, collector infrastructure, BESS and associated O&amp;M buildings. Each substation hub will comprise an area of 4 ha. The substation-built infrastructure will have a maximum height of 10 m.</p> <p><b>Two</b> possible locations or placement options for the on-site substation hubs have been identified and will be assessed during the EIA Phase.</p>
Capacity of on-site substation:	33/132 kV
Area occupied by construction compound and lay down area:	<p>Size = Six (6) ha (i.e. 300 m x 200 m)</p> <p><b>Two</b> possible locations or placement alternatives for the construction compound and laydown area have been identified and will be assessed during the EIA Phase.</p>
Internal service roads:	<p>The Kaladokhwe WEF 3 will have a total internal service road network of up to 40 km. Permanent service roads will be 6 m wide and may require side drains on one or both sides. All service roads will be gravel and may have underground cables running alongside them. During construction, a 12 m road corridor may be temporarily impacted upon which will be rehabilitated to a width of 6 m after construction has been completed. Temporary clearing of up to 50 m may be required in areas where cut and fill may be required as well for the construction of the bell mouth road junction, turning circles and temporary passing lanes on site. The existing internal service road network, in addition to whether additional internal service roads are to be constructed on the project site will be confirmed by the Project Developer during the EIA Phase. The specialists will assess all proposed internal service roads during the EIA Phase.</p>
Concrete batching plant:	One (1) ha
Operational and Maintenance (O&M) Building:	Two (2) ha

Battery Energy Storage System (BESS):	<p>The BESS will cover an area of approximately five (5) ha, have a maximum height of 8 m (as recommended) and have a storage capacity of at least 1000 MWh. The BESS technologies that are being considered include:</p> <ul style="list-style-type: none"> <li>- Lead Acid and Advanced Lead Acid</li> <li>- Lithium ion, NiCd, NiMH-based Batteries (<i>preferred</i>)</li> <li>- High Temperature (NaS, Na-NiCl<sub>2</sub>, Mg/PB-Sb)</li> </ul>
Site Access:	<p>The proposed Kaladokhwe WEFs and associated infrastructure will be located approximately 30 km northeast of the town of Nxuba (previously Cradock) in the Eastern Cape Province. Access to the proposed Kaladokhwe WEF 3 project site will be facilitated via an existing public road off the R61 road connecting Nxuba (previously Cradock) and Tarkastad. The main access road to the WEF will comprise a gravel road with a maximum width of 10 m. The length of the main access road is yet to be confirmed.</p>
Proximity to grid connection:	<p>To facilitate the connection of the proposed Kaladokhwe WEF 3 project to the national electrical grid network, the Project Applicant is proposing the construction of a 132 kV overhead transmission powerline, to be located within a 300 m assessment corridor, and its associated electrical infrastructure. This 132 kV overhead transmission powerline will connect at the on-site substations at the Kaladokhwe WEF 3 and extends approximately 60 km in a north-westerly direction to connect at a newly proposed 132 kV / 400 kV Main Transmission Substation (MTS) located to the west of the N10 national road including from the newly proposed MTS, the connection into the two existing Hydra and Poseidon 400 kV overhead transmission powerlines will be facilitated through a 400 kV Loop-In-Loop-Out (LILo) connection, all of which will form part of a separate Application for Environmental Authorisation (EA).</p> <p><b><u>Note from the CSIR:</u></b> A separate Environmental Assessment Process will be undertaken once the grid connection and the 132 kV power line routing for the proposed Kaladokhwe WEF 3 has been confirmed, and hence does not form part of this S&amp;EIA Process.</p>
Fencing:	<p>For various reasons such as security, public protection and lawful requirements, the proposed built infrastructure on site will be secured via the installation of appropriate fencing. Existing livestock fencing on the affected farms portions may be upgraded in places where deemed insufficiently secure, whereas permanent fencing will be required around the O&amp;M areas and on-site substation hubs. Access points will be managed and monitored by an appointed security service provider. The type and height of fencing to be installed will be</p>

	confirmed during the detailed design phase prior to construction.
--	---

## **NEED FOR THE ENVIRONMENTAL IMPACT ASSESSMENT**

As noted above, in terms of the 2014 NEMA EIA Regulations (as amended) published in GN R326, R327, R325 and R324, a full Scoping and EIA Process is required for the proposed project. The need for the Scoping and EIA is triggered by, amongst others, the inclusion of Activity 1 listed in GN R325 (Listing Notice 2):

- *“The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs (a) within an urban area; or (b) on existing infrastructure”.*

Chapter 4 of the Draft Scoping Report contains the detailed list of activities contained in GN R327, R325 and R324 which are triggered by the various project components and thus form part of this Scoping and EIA Process.

The purpose of the Scoping and EIA Process is to identify, assess and report on any potential impacts the proposed project, if implemented, may have on the receiving environment. The Scoping and EIA therefore needs to show the Competent Authority, the National DFFE; and the Project Applicant, Kaladokhwe Wind 3 (Pty) Ltd, what the consequences of their choices will be in terms of impacts on the biophysical and socio-economic environment and how such impacts can be, as far as possible, enhanced or mitigated and managed as the case may be.

## **POTENTIAL ISSUES AND HIGH-LEVEL IMPACT ASSESSMENT**

Potential issues and impacts associated with the proposed Kaladokhwe WEF 3 project have been identified based on scoping level assessment of the environmental status quo of the receiving environment (environmental, social and heritage features present on site – as discussed in Chapter 3 of this Scoping Report) as well as input from specialists that form part of the EIA project team. These potential issues and impacts, summarised in Table D below, will be assessed in further detail during the EIA Phase through the specialist assessments and are included in Chapter 6 of this Scoping Report. It must be noted that additional issues may be raised during the Scoping Phase, which could potentially be assessed during the EIA Phase. The Terms of Reference (ToRs) for the various Specialist Assessments are included in Chapter 7 of this Scoping Report.

**Table D. Summary of Issues to be addressed during the EIA Phase as part of the Specialist Assessments**

Specialist Assessment / Input	Key issues to be addressed
<b>Agriculture and Soils</b>	<b><u>Construction and Operational Phases:</u></b> <ul style="list-style-type: none"> <li>▪ Loss of agricultural land use;</li> <li>▪ Soil degradation including erosion, topsoil loss and contamination; and</li> <li>▪ Increased financial security for farming operations<sup>1</sup>.</li> </ul>
<b>Aquatic Biodiversity</b>	<b><u>Construction Phase:</u></b>

<sup>1</sup> This potential issue is considered to have a positive impact because of the proposed development.

Specialist Assessment / Input	Key issues to be addressed
	<ul style="list-style-type: none"> <li>▪ Disturbance and possible loss of aquatic habitats within the watercourses with the associated impact to sensitive aquatic biota;</li> <li>▪ The removal of indigenous riparian and instream vegetation that has the potential to reduce the ecological integrity and functionality of the watercourses;</li> <li>▪ Water demand for construction could place stress on the existing available water resources should external water sources not be utilised;</li> <li>▪ Road crossing structures if not adequately designed could impede flow in the watercourses;</li> <li>▪ Alien vegetation infestation within the aquatic features due to disturbance; and</li> <li>▪ Increased sedimentation and risks of contamination of surface water runoff during construction.</li> </ul> <p><b><u>Operational Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Ongoing disturbance of aquatic features and associated vegetation along access roads or adjacent to the infrastructure that needs to be maintained;</li> <li>▪ Modified runoff characteristics from hardened surfaces at the turbines and the substations, as well as along the access roads that have the potential to result in erosion of hillslopes and watercourses; and</li> <li>▪ Possible increased potential for water quality impacts such as contamination from sewage generated on site because of the operation on site.</li> </ul> <p><b><u>Decommissioning Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ An increased disturbance of aquatic habitat due to the increased activity on the site; and</li> <li>▪ Increased sedimentation and risks of contamination of surface water runoff.</li> </ul>
<b>Terrestrial Biodiversity and Species (including Animal and Plant Species)</b>	<p><b><u>Construction Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ The clearing of natural vegetation and resultant loss of faunal habitat;</li> <li>▪ The loss of endangered, threatened, protected and endemic plants/animals;</li> <li>▪ Direct faunal mortalities due to construction activities and increased vehicle traffic;</li> <li>▪ Increased human activity, noise and light levels;</li> <li>▪ Increased dust deposition;</li> <li>▪ Establishment of alien vegetation as a result of the clearing of the vegetation;</li> <li>▪ Increased stormwater run-off and erosion; and</li> <li>▪ Changes in animal behaviour.</li> </ul> <p><b><u>Operational Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Direct faunal mortalities;</li> <li>▪ Increased human activity, light and noise levels;</li> <li>▪ Establishment of alien vegetation will continue; and</li> <li>▪ Changes in animal behaviour.</li> </ul> <p><b><u>Decommissioning Phase:</u></b></p>

Specialist Assessment / Input	Key issues to be addressed
	<ul style="list-style-type: none"> <li>Some clearing of natural vegetation due to removal of infrastructure;</li> <li>Possible ingestion or ensnarement of animals due to waste material lying around;</li> <li>Establishment of alien invasive vegetation; and</li> <li>Increased erosion and stormwater run-off.</li> </ul>
Avifauna	<p><b>Construction Phase:</b></p> <ul style="list-style-type: none"> <li>Total or partial displacement of avifauna due to habitat transformation associated with the presence of the wind turbines and associated infrastructure;</li> <li>The noise and movement associated with the construction activities at the project footprint will be a source of disturbance, which would lead to the displacement of avifauna from the area.</li> </ul> <p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>Avifauna mortality and injury through collisions with the wind turbines; and</li> <li>Electrocution of priority species on the internal electrical grid network.</li> </ul> <p><b>Decommissioning Phase:</b></p> <ul style="list-style-type: none"> <li>The noise and movement associated with the activities at the study area will be a source of disturbance, which would lead to the displacement of avifauna from the area.</li> </ul>
Bats	<p><b>Construction Phase:</b></p> <ul style="list-style-type: none"> <li>Displacement of bats due to habitat loss / habitat transformation;</li> <li>Roost disturbance; and</li> <li>Roost destruction.</li> </ul> <p><b>Operational Phase:</b></p> <ul style="list-style-type: none"> <li>Mortality of bats due to turbine collisions while commuting/foraging and/or due to barotrauma;</li> <li>Mortality of bats due to turbine collisions during migrations; and</li> <li>Light pollution associated risks including loss of insect prey and increased collision risks for bats foraging closer to turbines.</li> </ul> <p><b>Decommissioning Phase:</b></p> <ul style="list-style-type: none"> <li>Displacement of bats due to disturbance associated with the decommissioning activities.</li> </ul>
Heritage (including Archaeology and Cultural Landscape)	<p><b>Construction and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>The destruction or disturbance of archaeological artefacts or sites;</li> <li>The destruction or disturbance of graves or burial sites;</li> <li>The destruction or disturbance of historic built infrastructure;</li> <li>Visual intrusion of visually sensitive heritage resources and/or cultural landscape features, which might erode its association with intangible heritage.</li> </ul>
Palaeontology	<p><b>Construction and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>Damage and/or destruction of scientifically valuable fossils preserved at or beneath the ground due to surface clearance or excavations.</li> </ul>
Noise	<p><b>Construction and Decommissioning Phases:</b></p> <ul style="list-style-type: none"> <li>Noise pollution i.e. increase in ambient sound levels due to construction activities (e.g. equipment and vehicle noise).</li> </ul>

Specialist Assessment / Input	Key issues to be addressed
	<p><b><u>Operational Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Mechanical and aerodynamic noise from the operation of the wind turbine components.</li> </ul>
Socio-Economic	<p><b><u>Construction Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Investment and the contribution to the national, regional and local economy<sup>1</sup>;</li> <li>▪ Generation of employment, income and skills<sup>1</sup>; and</li> <li>▪ Pressures on community fabric and resources due to an influx of jobseekers.</li> </ul> <p><b><u>Operational Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Lower national CO<sub>2</sub> emissions per unit of energy generated<sup>1</sup>;</li> <li>▪ Investment and the contribution to the national, regional and local economy<sup>1</sup>;</li> <li>▪ Generation of employment, income and skills<sup>1</sup>; and</li> <li>▪ Improvement of community facilities and prospects through funding of social upliftment projects<sup>1</sup>.</li> </ul> <p><b><u>Decommissioning Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Loss of employment due to decommissioning of the facility.</li> </ul>
Traffic	<p><b><u>Construction and Decommissioning Phases:</u></b></p> <ul style="list-style-type: none"> <li>▪ Increase in vehicle traffic due to construction activities – Potential traffic congestion and delays on the surrounding road network and associated noise and dust pollution.</li> </ul> <p><b><u>Operational Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Potential traffic congestion and delays on the surrounding road network due to increased vehicle traffic<sup>2</sup>.</li> </ul>
Visual	<p><b><u>Construction Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Visual intrusion and potential flicker effect by wind turbines and associated structures and infrastructure on visual receptors;</li> <li>▪ Visual intrusion by wind turbines and associated structures and infrastructure on landscape receptors;</li> <li>▪ Potential visual impact of security and construction lighting on the nightscape of the region;</li> <li>▪ Potential scarring in the landscape caused by earthworks and excavations; and</li> <li>▪ Increased dust emissions from heavy machinery and vehicle traffic.</li> </ul> <p><b><u>Operational Phase:</u></b></p> <ul style="list-style-type: none"> <li>▪ Visual intrusion and potential flicker effect by wind turbines and associated structures and infrastructure on visual receptors;</li> <li>▪ Visual intrusion by wind turbines and associated structures and infrastructure on landscape receptors; and</li> <li>▪ Potential visual impact of on-site security lighting and red-flashing warning lights on top of the turbine hubs on the rural nightscape of the region.</li> </ul> <p><b><u>Decommissioning Phase:</u></b></p>

<sup>2</sup> Note that the traffic generated because of the development during the operational phase will be minimal and will not have a significant impact on the surrounding road network in light of the remote and rural setting of the area.

Specialist Assessment / Input	Key issues to be addressed
	<ul style="list-style-type: none"> <li>▪ Visual intrusion and increased dust emissions due to decommissioning activities including disassembly of project components, heavy machinery, increased vehicle traffic and rehabilitation; and</li> <li>▪ Potential visual impact of security and construction lighting on the nightscape of the region.</li> </ul>

The effect of potential on-site impacts can be limited or reduced to acceptable levels through avoidance, minimisation and the implementation of appropriate mitigation measures and management actions during the construction, operational and decommissioning phases of this proposed development.

Therefore, based on the scoping level specialist input assessed and provided during the Scoping Phase, potential negative impacts associated with the proposed Kaladokhwe WEF 3 project are anticipated to be generally of **Moderate to Low significance after mitigation**, whilst some positive socio-economic impacts of moderate significance are expected.

**Summary of where requirements of Appendix 2 of the 2014 NEMA EIA Regulations (as amended, GN R326) are provided in this Scoping Report**

<b>Section of the EIA Regulations</b>	<b>Requirements for a Scoping Report in terms of Appendix 2 of the 2014 NEMA EIA Regulations (as amended, GN R326)</b>	<b>Chapter / Appendix</b>	<b>YES / NO</b>
Appendix 2 - (1)(a)	Details of - i. the EAP who prepared the report; and ii. the expertise of the EAP, including a curriculum vitae;	<b>Appendix A and Appendix B</b>	<b>Yes</b>
Appendix 2 - (1)(b)	The location of the activity, including - i. the 21-digit Surveyor General code of each cadastral land parcel; ii. where available, the physical address and farm name; iii. where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	<b>Chapter 1 and Chapter 2</b>	<b>Yes</b>
Appendix 2 - (1)(c)	A plan which locates the proposed activity or activities applied for at an appropriate scale, or if it is - i. a linear activity, a description, and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or ii. on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	<b>Chapter 2</b>	<b>Yes</b>
Appendix 2 - (1)(d)	A description of the scope of the proposed activity, including – i. all listed and specified activities triggered; ii. a description of the activities to be undertaken, including associated structures and infrastructure;	<b>Chapter 2 and Chapter 4.2</b>	<b>Yes</b>
Appendix 2 - (1)(e)	A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;	<b>Chapter 4.1</b>	<b>Yes</b>
Appendix 2 - (1)(f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	<b>Chapter 1.7</b>	<b>Yes</b>
Appendix 2 - (1)(g)	A full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including - i. details of all the alternatives considered; ii. details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	<b>i) Chapter 5.1 ii) Chapter 4.4; Appendix D; and Appendix E iii) Chapter 6.1 to 6.16 iv) Chapter 3 and Appendix F</b>	<b>Yes</b>

Section of the EIA Regulations	Requirements for a Scoping Report in terms of Appendix 2 of the 2014 NEMA EIA Regulations (as amended, GN R326)	Chapter / Appendix	YES / NO
	<ul style="list-style-type: none"> <li>iii. a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;</li> <li>iv. the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</li> <li>v. the impacts and risks which have informed the identification of each alternative, including nature, significance, consequence, extent, duration, and probability of such identified impacts, including the degree to which these impacts – <ul style="list-style-type: none"> <li>(aa) can be reversed;</li> <li>(bb) may cause irreplaceable loss of resources; and</li> <li>(cc) can be avoided, managed or mitigated;</li> </ul> </li> <li>vi. the methodology used in identifying and ranking the nature, significance, consequences, extent, duration, and probability of potential environmental impacts and risks associated with the alternatives;</li> <li>vii. positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</li> <li>viii. the possible mitigation measures that could be applied and level of residual risk;</li> <li>ix. the outcome of the site selection matrix;</li> <li>x. if no alternatives, including alternative locations for the activity, were investigated, the motivation for not considering such and</li> <li>xi. a concluding statement indicating the preferred alternatives, including the preferred location of the activity;</li> </ul>	<ul style="list-style-type: none"> <li>v) Chapter 6 and Appendix F</li> <li>vi) Chapter 7.5</li> <li>vii) Chapter 6 and Appendix F</li> <li>viii) Chapter 6.14 and 6.15</li> <li>ix) Chapter 5.2 and 5.3</li> <li>x) Chapter 5.1 and 5.3</li> <li>xi) Not applicable. The preferred alternatives will be confirmed during the EIA Phase following detailed specialist assessment.</li> </ul>	
Appendix 2 - (1)(h)	<p>A plan of study for undertaking the environmental impact assessment process to be undertaken, including -</p> <ul style="list-style-type: none"> <li>i. a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;</li> <li>ii. a description of the aspects to be assessed as part of the environmental impact assessment process;</li> <li>iii. aspects to be assessed by specialists;</li> </ul>	Section 7.1 - 7.8	Yes

Section of the EIA Regulations	Requirements for a Scoping Report in terms of Appendix 2 of the 2014 NEMA EIA Regulations (as amended, GN R326)	Chapter / Appendix	YES / NO
	<ul style="list-style-type: none"> <li>iv. a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists;</li> <li>v. a description of the proposed method of assessing duration and significance;</li> <li>vi. an indication of the stages at which the competent authority will be consulted;</li> <li>vii. particulars of the public participation process that will be conducted during the environmental impact assessment process; and</li> <li>viii. a description of the tasks that will be undertaken as part of the environmental impact assessment process;</li> <li>ix. identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.</li> </ul>		
Appendix 2 - (1)(i)	<p>An undertaking under oath or affirmation by the EAP in relation to -</p> <ul style="list-style-type: none"> <li>i. the correctness of the information provided in the report;</li> <li>ii. the inclusion of comments and inputs from stakeholders and interested and affected parties; and</li> <li>iii. any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;</li> </ul>	<b>Appendix B</b>	<b>Yes</b>
Appendix 2 - (1)(j)	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;	<b>Appendix B</b>	<b>Yes</b>
Appendix 2 - (1)(k)	Where applicable, any specific information required by the competent authority.	<b>N/A</b>	<b>X</b>
Appendix 2 - (1)(l)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.	<b>N/A</b>	<b>X</b>
Appendix 2 - (2)	Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a scoping report, the requirements as indicated in such notice will apply.	<b>Not applicable in terms of the actual Scoping Report, but various gazetted assessment and reporting protocols have been complied with for the specialist studies. Refer to Chapter 4 of this Scoping Report.</b>	<b>Yes</b>