ENVIRONMENTAL SCOPING REPORT FOR A 20 MW SOLAR PLANT AT LISELO SUB KHUTA, KATIMA RURAL CONSTITUENCY, ZAMBESI REGION.

FOR

CAMELOT INVESTMENTS (PTY) LTD

PREPARED BY

outrun consultants

building prosperous individuals, communities and organizations through

"RESEARCH, TRAINING & CAPACITY BUILDING"

P. O. BOX 708 22 KHOMASDAL

WINDHOEK, NAMIBIA.

+264 812 683 578

outrungreeninfo@gmail.com

DOCUMENT TYPE	**FINAL ENVIRONMENTAL SCOPING FOR THE CONSTRUCTION AND OPERATION OF A 20 MW SOLAR PLANT AT LISELO IN ZAMBEZI REGION**
DOCUMENT VERSION	**FINAL**
CONSULTANT'S DETAILS	**PROPONENT'S DETAILS**
OUTUN CONSULTANTS CC P. O. BOX 70822 KHOMASDAL WINDHOEK NAMIBIA CONTACT NUMBER: +264 812 683 578 EMAIL: outrungreeninfo@gmail.com	CAMELOT INVESTMENTS (PTY) LTD P. O. BOX 91154 KLEIN WINDHOEK WINDHOEK NAMIBIA CONTACT NUMBER: +264 811227296 EMAIL: djnkoshi@gmail.com
CONTACT PERSON	**CONTACT PERSON**
LEAD EIA PRACTITIONER MR. JOSIAH T. MUKUTIRI	MANAGING DIRECTOR MR. JURIUS NKOSHI
SIGNATURE: .....DATE:7 / 12 / 2025	SIGNATURE: .....DATE:7 / 12 / 2025

Acknowledgement

Many thanks to all stakeholders, Interested and Affected Parties and key stakeholders for their corporation and contributions that have shaped this ESIA study.

Table of Contents

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESR	Environmental Scoping Report
EMA	Environmental Management Act (2007)
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industry, Mines and Energy

Purpose of this Document

An Environmental Scoping and Management Plan is one of the most important products of an Environmental Assessment (EA) process. It synthesizes all recommended mitigation and monitoring measures, laid out according to the various stages of a project life cycle, with clearly defined follow-up actions and responsibility assigned to specific actors based on the potential project impacts identified during the scoping exercise. This ESMP is a legally binding document and has been compiled in accordance with the Namibian Environmental Management Act (No. 7 of 2007) and its Environmental Impact Assessment Regulations (2012) (MET, 2008). This plan describes project scope, potential impacts, the mitigation and monitoring measures to be implemented during the following phases of these developments.

Decommissioning did not form part of the scope of this ESIA, and should it become necessary to decommission the plant a clearance certificate should be applied for and due process followed. The decommissioning of the solar energy facility would therefore be addressed in a new ESIA process to be conducted prior to the site being decommissioned. However, this ESMP makes recommendations that should be considered in the new ESIA process prior to decommissioning.

The components of the EMP should meet the requirements of the ESIA Regulations. The ESMP must address the potential environmental impacts of the proposed activity on the environment covering design, construction and operation. It is therefore the responsibility of MEFT and the proponent to ensure that the proposed activity as well as the ESMP process conforms to the principles of the EMA and should ensure that any contractors appointed comply thereto. Outrun Consultants CC therefore, carried out the ESMP process according to the EMA.

Executive Summary

The applicant, Camelot Investments (PTY) LTD (CI) is a wholly Namibian owned company and is planning to set up a 20 MW Solar Plant at Liselo Sub Khuta in Katima Rural Constituency, Zambesi Region. Construction of energy related infrastructure is a listed activity in the Environmental Management Act of 2007 making it mandatory to conduct an Environmental Impact Assessment and apply for an Environmental Clearance Certificate before implementing the project. Outrun Consultants CC an independent consulting company, conducted the ESIA process for CI. The ESIA was conducted in 2 phases, the Scoping Phase during which interested and affected parties were given the opportunity to comment on the proposed project activities. Comments received during the scoping exercise were incorporated. The second phase gave rise to the draft environmental scoping and management plan report which was shared with stakeholders for their inputs. The proposed construction and operation of a solar plant pose potential environmental damage in the form of air pollution due to dust, destruction of the landscape, aesthetic view and visual impacts. Liselo Sub Khuta rural area whose source of livelihood is centred on crop and livestock production coupled with income derived from other sources such as fishing, businesses, cash remittances, salaries and wages and pensions. The predicted environmental impacts can be managed resulting in minimal or insignificant residual effects through the successful implementation of the proposed Environmental Management Plan. Specific instructions have been formulated as part of the ESMP.

1. Introduction

The ever-increasing demand for energy and need to find more sustainable and environmentally friendly energy resources have prompted developers to explore new energy generation options. Increasing economic growth and social development in Namibia is placing a growing demand on energy supply. Coupled with the rapid advancement in economic and social development, is the growing awareness of environmental impact, climate change and the need for sustainable development. Namibia's abundance of solar resources and the increasing of solar technologies and applications are of a high priority for the country.

To utilise renewable energy resources, Camelot Investments (Pty) Ltd (CI) is proposing to construct a 20 Megawatt (MW) Solar Power Plant on a 62.5 Ha communal land plot at Liselo Sub Khuta, in Zambesi Region. This project will comprise of Photovoltaic (PV) solar technology. The development site is located on communal land with registered customary land right certificates presented below:

Table 1: The land parcels customary land rights bought by Camelot Investments (Pty) Ltd (Certificates are annexed as Annexure 1).

NAME OF LEASE HOLDER	REGISTRATION CERTIFICATE
Linnox Lutambo Lutambo	ZAMCLB-CLR-006323
Agnes Masikilo Tuombale	ZAMCLB-CLR-005467
Linnox Lutambo Lutambo	ZAMCLB-CLR-007342
Lutambo Euthent Lutambo	ZAMCLB-CLR-009838
Manja Lennah Lutambo	ZAMCLB-CLR-009839

This document has been drafted according to the Namibian Environmental Management Act (No. 7 of 2007) and its Regulations of (2012) whereby various aspects of the intended development were considered under the listed activities with potential impacts on the environment. Therefore, this development requires authorisation granted in the form of an Environmental Clearance Certificate (ECC) by the Environmental Commissioner (Ministry of Environment and Tourism).

CI (Applicant) appointed Outrun Consultants cc, an independent environmental consulting company to conduct the impact assessment and subsequently apply for the ECC in fulfilment of the Environmental Management Act (2012). The commitments described here form part of the Environmental Clearance Certificate

(ECC) between CI and the state, as represented by the Ministry of Environment, Forestry and Tourism (MEFT). Non-compliance is considered illegal and may have legal consequences. The amendment, transfer or renewal of the ECC should be communicated to the Environmental Commissioner as stipulated in the Environmental Management Act (EMA) of 2007 and its ESIA Regulations 2012. Any changes to this ESR and ESMP will require an amendment to the ECC for these developments.

1.1. Site Locality

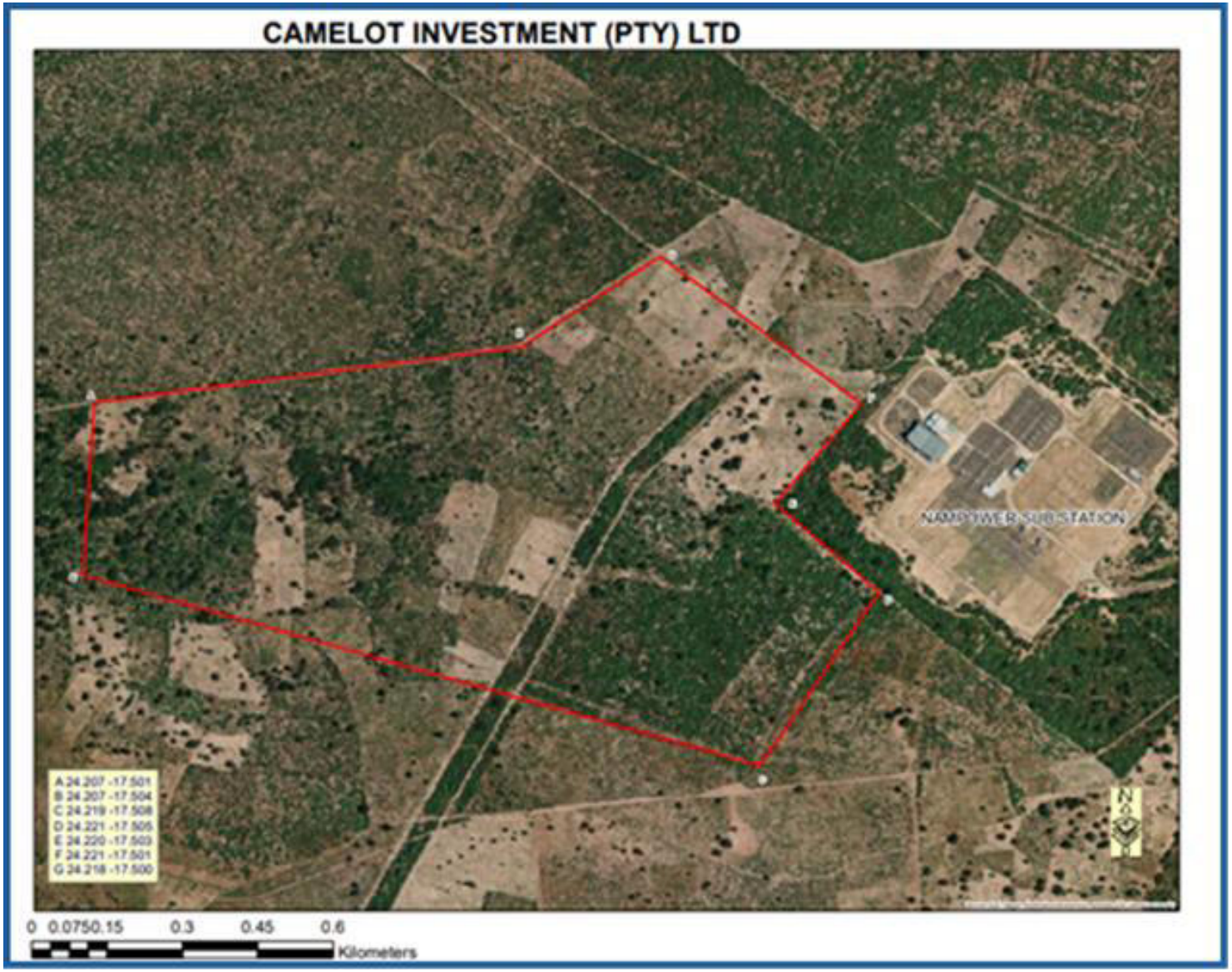

Figure 1: The location of the proposed project.

1.2. Project Concept

1.2.1. Solar technologies

Solar panels technology has become one of the renewable energy system making inroads into the energy sector to replace the ozone depleting fossil powered energy plants. This section gives a description of how this technology works. The solar panels allow photons also known as light particles to knock electrons from atoms (the smallest particles of matter) causing them to move. The flow of those electrons is called electricity. Solar panels comprise many, smaller units called photovoltaic cells. (Photovoltaic simply means they convert sunlight into electricity.) Many cells linked together make up a solar panel. Each photovoltaic cell is basically a sandwich made up of two slices of semi-conducting material, usually silicon the same stuff used in microelectronics. The solar plant is connected to the national electricity grid through cabling allowing the electricity to be available to consumers.

Figure 2: Typical mini-solar plant (photo for illustrative purposes only).

2. Project Overview

CI (Pty) Ltd intends to construct and operate a solar panel based photovoltaic (PV) plant at Liselo Sub Khuta, in Katima Rural Constituency, Zambesi Region. The proposed Solar Power Plant entails the construction and operation of one 20 MW solar plant, associated infrastructure and services for the provision of renewable electricity to the national power grid. The proposed solar plant entails the transformation of fallow agricultural (crop) land to accommodate the proposed plant, associated infrastructure and services. The infrastructure and structures for the proposed project includes but is not limited to inter alia:

The project includes the following components:

- Photovoltaic infrastructure: numerous rows of PV panels and associated support infrastructure to generate electricity.
- Buildings: operation and maintenance buildings to house equipment and a guard cabin for security.

2.1. Phases of the Project

The process which was followed in compiling this report follows the Environmental Management Act of (2007) and Environmental Impact Assessment Regulations 2012 and applies the principles of sustainable development. The purpose of is to predict potential impacts and formulate mitigation measures that are made binding on all contractors during the construction phase as well as during the operational phase. The point of departure from the formulation of the EMP is to take a proactive route by addressing potential problems before they occur. This should limit corrective measures needed during the construction and operational phases of the development. Additional mitigation will be included throughout the project's various phases, as required and if necessary. This assessment deals with the following phases as detailed below:

2.1.1. Planning and Design Phase

This stage offers an ideal opportunity to incorporate proactive environmental management measures with the goal of attaining sustainable development. While there is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g. as proposed in the EMP) during the planning phase, the necessary corrective action can be taken to further limit potential impacts.

2.1.2. The Construction Phase

Most of the impacts during this phase will have immediate effects (e.g. noise, dust and water pollution). If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts can then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management.

2.1.3. Operation and Maintenance

By taking proactive measures during the planning and construction phases of the solar plant, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete. It is therefore a goal of this report to reduce the impact on the immediate and surrounding environment by minimising environmental harm and preventing environmental incidents:

- Systematically manage environmental risk
- Where practicable eliminate environmental risk, or if not practicable adequately control via application of a hierarchy of risk control measures.

To comply with requirements of:

- The contract specifications
- Legislation prescribed by the relevant Regulatory Authorities MEFT
- Namibia Energy Policy

2.2. Need for the Project

CI intends to invest equity in all its projects and maintain that equity over a long period of time, for this reason CI has a truly vested interest in the long-term success of the proposed project and the renewable energy sector. The achievement of this goal can only be realised when it is aligned with the policies, plans and targets for the sector set by the government.

The primary objectives of CI are:

- To transfer knowledge and skills where Parties work together.
- To create jobs in a new industry to position ourselves in the regional and world markets; and
- To reduce the price of electricity produced through a concerted joint R&D program which will look to improve performance and reduced the cost of installation, operation and maintenance.

The proposed project enables CI to construct, operate and maintain an efficient, economic, reliable, safe and environmentally-sound, solar-powered generating facility. The facility will help Namibia to meet the regional and national objectives mandated for renewable electric energy and above all save foreign currency spent on importing electricity. The site selected is in an area where there is excellent solar resource.

The project cost would be substantial of which could potentially be spent in Namibia on procurement of local materials, services, and labour. It is estimated that the project could create several jobs during the peak of construction and a few during operations. The project will make a notable contribution towards the achievement of the government's job creation targets.

The Project is designed to meet the increasing demand for clean, renewable electrical power in Namibia. The multiple benefits associated with developing renewable energy infrastructure have been recognized by both local regional and National policymakers. Development of solar resources reduces reliance on foreign sources of energy, promotes national energy security, diversifies energy portfolios and contributes to the

reduction of greenhouse gas emissions at the same time creating many jobs within a new industry at the same time raising the core knowledge bases of the country.

In addition, the Kyoto Protocol, because of concern about climate change, advocates for energy efficiency and the use of renewable energy sources are presented as sustainable solutions leading to a reduction in $C0_2$ emissions into the atmosphere. Namibia's climate is ideal with regards to solar resources, with a high level of energy generation potential.

2.3. Practitioners' Details

2.3.1. Details of Environmental Assessment Practitioner

CI appointed Outrun Consultants cc to conduct the ESIA for the application of the ECC for the construction of a 20 MW solar plant at Liselo Sub Khuta. Outrun Consultants CC is a privately owned consultancy company doing various projects in Southern Africa Development Community (SADC) countries. Our core services are:

- Environmental Impact Assessment
- Strategic Environmental Assessment
- Environmental Investigations
- Research and Training
- Feasibility Studies
- Agronomy
- Monitoring and Evaluation

Outrun draws its experts from regional and international universities. Outrun declares that we have no interests in this project and are independent and will act as such during the ESIA process as required by the ESIA regulations. The team members who participated in the ESIA are presented in Table 1 below.

Table 2: Outrun Team of Experts and their responsibilities in this study.

ORGANIZATION	AREA OF RESPONSIBILITY / FIELD OF EXPERTISE	TEAM MEMBERS
OUTRUN	Project management ESIA coordination	Josiah T. Mukutiri
OUTRUN	ESIA process	Emmerencia Montzinger
CI (PTY) LTD	Development of the concept	Jurius Nkoshi (Mr)
OUTRUN	Literature review / Desk study	Josiah T. Mukutiri and Emmerencia Montzinger
OUTRUN	Legislation & Policy Review	Josiah T. Mukutiri and Oliver Chigariro
OUTRUN	Development of Environmental Management Plan (EMP)	Oliver Chigariro
OUTRUN	Public Consultation and Facilitation	Josiah T. Mukutiri and K. Mueze.

3. Process and Methodology

Given that construction of a solar plant is a prescribed activity under the Environmental Management Act (2007), the process started with the appointment of the consulting company as presented above. The Consultants carried out a full ESIA as required, and this chapter describes the ESIA process followed during the study. The ESIA study was guided by the Namibian Environmental Impact Assessment Policy of 1994 and the Namibian Environmental Management Act of 2007. Various methodologies were implemented to fulfil the requirements of each step in the ESIA process list as shown below.

3.1. ESIA Process

The ESIA study was conducted as follows:

- Preliminary Activities setting terms of reference for the ESIA, selecting consultant (agent who would prepare the ESIA) to do the ESIA,
- Literature review of all relevant information.
- Field work for making of detailed studies of the baseline situation. This included bio-physical environment and socio-economic conditions.
- An analysis of the potential environmental impacts. This included impact prediction and significance assessment.
- Public participation
- The preparation of an environmental management plan for the project and finally.
- The compilation of the ESIA report.

Below is a description of the phases mentioned above. This is only a bird's view description of the various phases followed by the assumptions and limitations derived from study of situation and discussions with the Proponent.

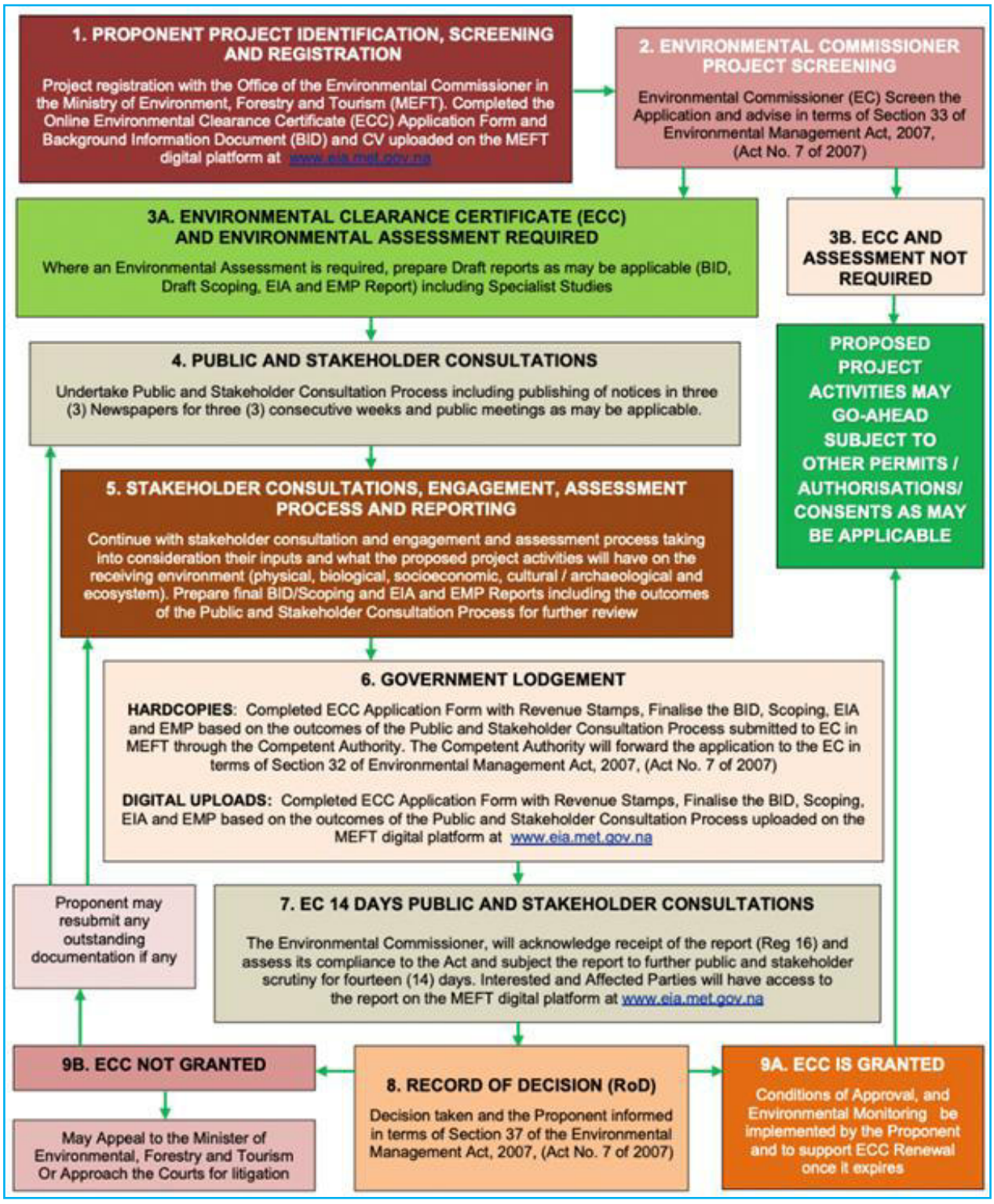

Figure 3: EIA Process flow.

3.1.1. Clarifying terms of reference and levelling of expectations

Levelling of expectations – an opening meeting was held between the consultancy team and the Proponent. The purpose of the meeting was to clarify the methodology,

communication process between the Consultants and the Proponent, time frame and expected outcomes of the ESIA study.

3.1.2. Literature review

Various related documents were reviewed to gather information on the potential impacts, the alternatives, how to mitigate the impacts, decommissioning and rehabilitation plan. The literature included maps, publications, and reports on topography, climate, land use, and socio-economic setup of the Village where the project site is located. The literature review helped in undertaking components and areas that would deserve attention during field assessment. The literature review which was mainly based on the desk study method included the following:

3.1.3. Information search from internet, journals, books and stakeholders

Examples of solar projects from both developing and developed world were reviewed including their merits and demerits. Besides its operation, potential environmental impacts were also reviewed.

3.1.4. Analyse the potential environmental impacts of marble exploration activities from typical data and research

The three major environmental compartments which are land, air and water were chosen to be observed and discussed in detail. These compartments had been chosen because they are the main receiving environmental compartments that should be considered before implementing the project. Environmental data was analysed to determine potential environmental impacts of marble exploration activities. The potential impacts were ranked for impact significance as presented later.

3.1.5. Field Survey

Field surveys were carried out to verify some facts obtained from the literature review. A more informed assessment was however the main objective of the field studies. This was done to confirm the condition of the area in terms of climate, soils, land use, topography and socio-economic set up of the area. It also involved surveys to identify the different environmental components and their state to determine the most likely impacts.

3.1.6. Public Involvement

A wide range of key stakeholders were invited to participate and express their views through various media communication. The consultations were done mainly to get a view of the affected parties as well as how they think the project should be carried out for minimum impacts on health, environment and the well-being of the people. Issues which were highlighted by stakeholders were incorporated into the ESIA process, the project design and the proponents have committed the same during project implementation.

3.1.7. Identification and analysis of impacts in terms of magnitude and significance

Construction and operation of renewable energy projects have potential negative impacts on the environment. Impacts will depend on the sensitivity of the environment and the stress already imposed on it. To accurately predict the various impacts caused by the above mentioned, the ecological impacts as well as the socio-economic impacts were delineated. Potential environmental impacts were identified and an analysis criterion shown in the chapter on impact prediction and analysis was used to rank the impacts.

3.1.8. Recommended mitigation measures for identified impacts

Mitigation measures were developed based on practical measures supported by research and scientific evidence. Extensive literature review of reputable publications and journals helped the formulation of mitigation measures.

3.1.9. Analysis of alternatives of the project – both economic and environmental

The analysis of alternatives was done to ensure that resources were used efficiently and that decisions were environmentally sound.

3.1.10. Development of an environmental management plan

An Environmental and Social Management plan (ESMP) was prepared to give a guideline base to the project proponent on how the identified impacts could be mitigated and managed. The plan was put in a tabular format indicating the impact, indicator, monitoring frequency and the responsible agent. When all the important information was derived from the impacts prediction and analysis section, all the important aspects were put down, and responsibilities were assigned to monitor the different aspects.

3.1.11. Preparation of the ESIA Report

The completion of the various tasks assigned to the team members during the ESIA study gave rise to separate individual reports. The reports were collated to come up with a complete environmental impact assessment report.

4. The Proposed Development's Legal and Policy Requirements

This section presents the treaties, policies and legislations that were reviewed in line with this project. The various compliance requirements are also presented.

4.1. Relevant Treaties, International agreements and Protocols, policies and legislation.

4.1.1. Environmental Management

Table 3: Treaties and International Agreements, Policies and Laws governing the proposed project.

Environmental Management Act (2007)	The Namibian Environmental Management Act of (2007) guided the ESIA study and referred to the principles contained in the Act. This is the very Act that binds all the responsible parties against their respective environmental obligations against which the ESIA clearance is issued. Failure to comply attracts fines and / or prosecution depending on the severity of the matter. The Proponent should meet environmental conditions upon which the Environmental Clearance Certificate will be issued.
Namibia's Environmental Assessment Policy of 1994.	The policy contains a list of prescribed projects that may have significant negative impacts on the environment. Such projects require authorisation from the Ministry of Environment, Forestry & Tourism (MEFT) - Directorate of Environmental Assessment (DEA). Energy projects are listed activities that warrants an ESIA since it involves the following activities: • Land clearing and removal of overland vegetation though its minimal or insignificant. • Excavation of the land Accordingly, the project requires authorisation from MEFT: DEA, which will be based on the findings of the detailed ESIA study. This is ESIA was done in accordance with the policy guidelines.
Electricity Act No. 4, 2007.	To establish the Electricity Control Board and provide for its powers and functions; to provide for the requirements and conditions for obtaining

	licences for the provision of electricity; to provide

	for the powers and obligations of licensees; and to provide for incidental matters.
Water Act (1956)	Water Act 54 of 1956 and the Water Resources Management Act 24 of 2004, provides the general protection against surface and ground water pollution. It prohibits the pollution of underground and surface water bodies including liability of clean-up costs after closure / abandonment of an activity. Potential groundwater contamination is anticipated during the operation of the solar plant. On the same note it is important to ensure that lubricants and other petroleum waste generated through equipment repair and servicing be handled appropriately reducing the chances of ground water contamination.

4.1.1. Waste Management

Hazardous Substances Ordinance 14 of 1974	The hazardous substances ordinance 14 of 1974 controls substances with potential to cause injury or ill-health or death of human beings because of their toxic, corrosive, irritant, strongly sensitizing or flammable nature. There are many products that are covered under this Act including petroleum fuels and lubricants. Care should be taken throughout the product lifecycle right from receiving, storage, product use and disposal. In cases were special storage facilities are required the Proponent should provide as such.
Petroleum Act (Act 2 of 1991)	This Act gives control over the storage of refined petroleum products, and to provide for matters incidental thereto. Handling and discharge of oil products is also regulated under this Act.
Pollution Control and Waste Management Bill	This bill aims to prevent and regulate the discharge of pollutants to air, water, and land. It further aims to promote the establishment of a system of waste management, and enable Namibia to meet its international obligations. Waste management should be guided by the 3R principle, Reduce, Reuse and Recycle. Only unrecyclable and unusable materials will be disposed of at a designated disposal site.

4.1.2. General Environmental Protection and Management

Environmental Management Act (2007)	Requires that projects with significant environmental impacts be subjected to an

	environmental impact assessment (ESIA) process and is presented above under, “item 4.1.1.”

4.1.3. Noise and Vibration

Labour Act (1992)	The labour Act governs the employer to employee relationship including issues pertaining to occupational health and safety, remuneration, provision of appropriate protective clothing, grant of leave etc. It is important to refer to the Act and ensure compliance with fair labour practices especially during the construction and operation phases.

4.1.4. Land Use and Planning Issues

The Forest Act (2001)	Forests are extremely important resources. They conserve soil and water, maintain biological diversity, and provide many products such as wood and foods. The Forest Policy and Forest Act enable us to protect our forests. The basic aim of the Forest Policy is to protect and make our forests productive to improve the economic welfare of rural communities as part of the national poverty reduction plan. The Forest Act (No. 12 of 2001), as amended by the Forest Amendment Act (No. 13 of 2005), is the law through which the Forest Policy is implemented. Basically, the Act stipulates how forest resources may be used and the responsibilities of the users. It aims to prevent deforestation by making it illegal to clear woody vegetation on more than 15 hectares of land or remove more than 500 cubic meters of forest produce per year. Removal of forest produce on any piece of land requires approval by the Director of Forestry. The project site is covered by Mopani trees and requires permit issued by MEFT before clearing.

The table below forms the core of the development of the ESMP for the construction and operational phases of the solar power development. It summarizes the management activities that will form the core of the Environmental and Social Management Plan to follow. Table three (3) can be used as a checklist on site, especially during the construction phase. Compliance with the ESMP must be monitored on a timely basis during the design, construction, and operational phases of this project.

Table 4: Summary of permit requirements.

THEME	LEGISLATION INSTRUMENT	MANAGEMENT REQUIREMENTS	STATUS
Archaeology	National Heritage Act 27 of 2004	All protected heritage resources (e.g. human remains etc.) discovered need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before they may be relocated.	To be applied from the NHC.
Forestry	Forest Act 12 of 2001 (guideline) Nature Conservation Ordinance 4 of 1975 (Guideline only). Permit for removal of protected and unique species.	Protected tree species as listed in relevant legislation and any vegetation within a 100 m from a water course may not be removed without permission from the relevant officials from Ministry of Agriculture, Water & Forestry (MAWF).	To be applied from MEFT.

Environment	Environmental Management Act (EMA) of 2007 ESIA Regulations (2012).	The amendment, transfer or renewal of the Environmental Clearance Certificate (ECC). Amendments to this EMP will require an amendment of the ECC for the development.	ECC from the MEFT: DEA
	List of activities that may not be carried out without an ECC.	Any activities listed in this listing notice require an ECC and therefore an Environmental Assessment.	
Labour	Labour Act 11 of 2007 Health and Safety Regulations (HSR). Local recruitment and procurement policy; training and skills development, and awareness programmes.	Adhere to all applicable provisions of the Labour Act and the Health and Safety Regulations.	To be compiled by the project proponent during the planning phase and implemented by the Contractor during construction, operational and decommissioning phases
Roads	Obtain permission from Roads Authority to construct access route and to upgrade existing roads.	Obtain permission from Roads Authority to construct access route and to upgrade existing road	To be applied for from Roads Authority by the Contactor prior to commencement of construction activities.

Water supply	Water Act 54 of 1956	Rural water supply regulated by NAMWATER and MAWF. Section 21 details provisions relating to the effluent discharge permits.	Apply to NAMWATER for water supply. Water discharge permit to be applied for from Ministry of Agriculture, Water and Forestry (MAWF) by the IPP Contractor prior to commencement of construction activities. This will mainly be domestic from the ablution toilet.
Energy	Electricity Act 2 (2000) The National Energy Policy	Adhere to all the recommendations and permissions granted by the Act and supporting policies.	Licences to be applied for at the Electricity Control Board (ECB)

5. Public Participation Process

Public consultation is an integral part of a comprehensive ESIA and is done to ensure that issues are identified early during the process before major decisions are made. It is a requirement to carry out public consultations under the Namibia Environmental Assessment Policy of 1994 and to achieve principles of best practice during the ESIA process.

5.1. Purpose of the Public Participation Process

The purpose of the public participation process is to:

- Provide information to IAPs and other stakeholders about the project background, proposed site, project concept and predicted potential impacts.
- Establish the public's interests, concerns and expectations regarding the proposed project.
- Obtain input from IAPs, the public and other key stakeholders.

5.2. Identification of Key Stakeholders

The following key stakeholders were identified for consultation purposes:

- Ministry of Industry, Mines & Energy.
- Zambesi Regional Council.
- Nampower.
- Liselo Sub Khuta Residents / Community members.
- Other members with interest or affected by the project.

5.3. Initiation of Environmental Scoping Process

The scoping process was initiated by publicising it through the Confidante and the Windhoek Observer. The publications announced the beginning of the scoping process and invited stakeholders and members of the public to register as IAPs to participate in the ESIA for the construction of the 20 MW solar plant. A Background Information Document (BID), see attached copy in Annexure 2, was forwarded to stakeholders.

Table 5: National newspapers publication dates.

Publication	**Publication Dates**
Confidente	28 November 2025
Confidente	4 December 2025
Windhoek Observer	25 November 2025
Windhoek Observer	28 November 2025

The BID contained the relevant information about the proposed project and promoted stakeholders and public participation in the scoping process. A comment sheet was provided at the end of the BID report inviting comments on issues of interest and importance to the stakeholders.

5.6. Public Consultation

Attendance was poor and could have been due to bad weather as it had been raining and the consultation was complemented by conducting focus group discussions with community members. The environmental impact assessment scope generated from this process was used to guide the ESIA study. All the factors identified during the environmental scoping phase were studied and the findings were shared with the various stakeholders as required.

Figure 4: Focus group discussion during public consultation at Mueze homestead. Source: Own photograph taken during public consultation.

5.7. Issues & Concerns Raised

The issues, concerns and interests raised during the consultations are summarised in the following table.

Table 6: Issues / concerns and interests identified during public consultations.

Interested & Affected Party (IAP)	**Issue / Concern raised**	**Response**
NAMPOWER	The existing access road up to the Zambesi Sub Station belongs to NAMPOWER and the Proponent should apply for consent to use the same.	The Proponent will do as such.
Community members	What is the status of the land ownership, and who owns the land on which the project will be implemented and where are the boundary pegs?	The land rights purchase agreement and leasehold certificates were shown to the concerned members.
	There will be increased risk of lightning in the surrounding villages due to lightning protection of the new solar plant.	It is recommended that the Proponent considers installing lightning protection of the neighbouring households within a 200m from the site.

5.7.1. Review of Draft Environmental Scoping and Management Plan Report

The draft report was shared with the Headman of the village and was also posted at the Ministry of Industries, Mines and Energy resource centre for public review and commenting for a minimum period of 2 weeks.

5.7.2. Public Participation: Way Forward

Comments on the reports were incorporated to generate the final report before submission to the Competent Authority: MIME and the decision regarding the ESIA report will be published.

5.8. Identification of Alternatives

This section covers a discussion of alternatives to the proposed construction of the solar plant. The “do nothing” alternative was also considered.

5.8.1. Alternative sites and / or routes

No alternative sites were studied since the Proponent only has this land parcel for the proposed development. The potential substation for connection to the national grid is adjacent to the land in question thus making routing alternatives null. In addition, the proposed solar energy site is considered highly desirable due to the following considerations:

- Solar resource
  Analysis of available data from existing weather stations suggests that the site has sufficient solar resource to make a solar energy facility viable.

- Site extent
  Sufficient land was secured under long-term lease agreements with the landowner to enable sufficient power supply to make the project feasible.
- Land suitability

Sites that facilitate easy construction conditions (relatively flat land with few rock outcrops or waterbodies) are favoured. This site meets those requirements.

- Landowner support

  The selection of site where the landowner is supportive and understands the development of renewable energy is essential for ensuring the success of the project. This consideration in the land selection criteria resulted in the choice of this land and no further site location alternative was considered.

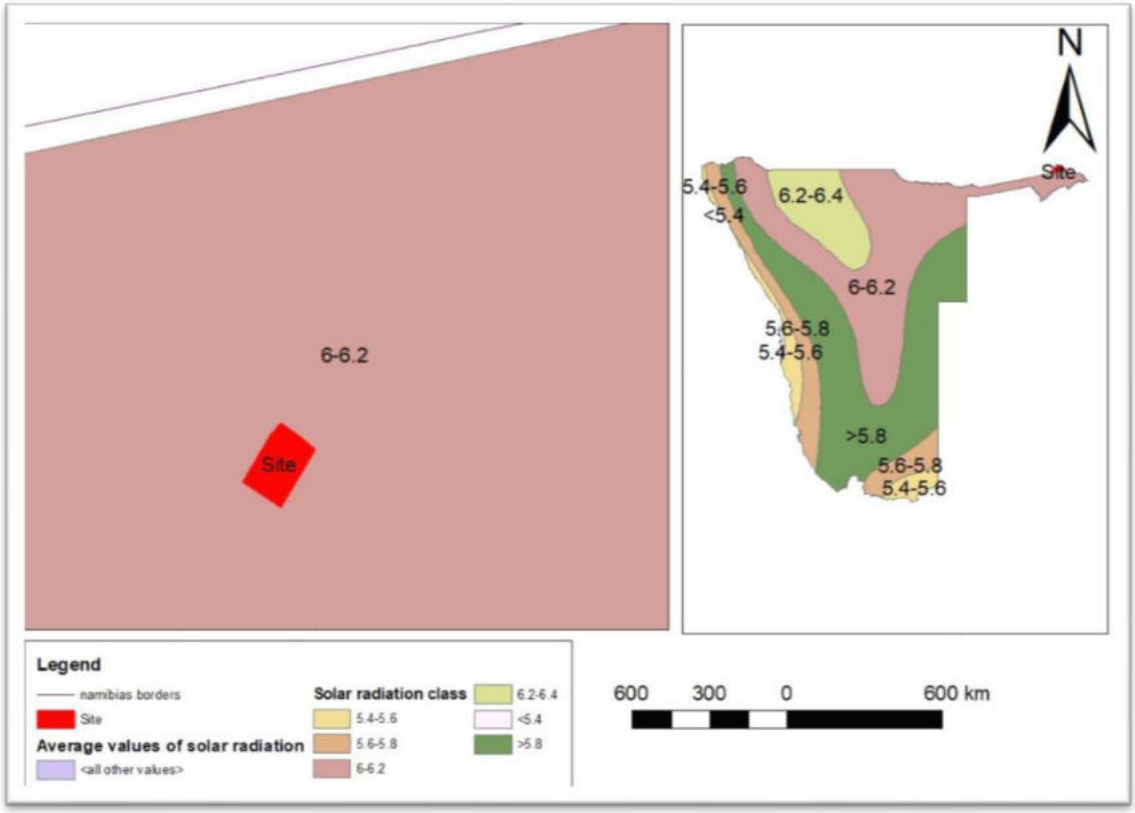

Figure 5: The proposed project site lies in the 6 - 6.2 solar radiation class as shown in the map above.

5.8.1.1. Road

The proposed site is very accessible through a tarred road built to access the existing power substation located adjacent to the proposed site of the new solar plant.

5.8.1.2. Water

The Proponent plans to bring water onsite through a NAMWATER line. NAMWATER will carry out a sufficiency study and if positive the Proponent will be billed accordingly for the connections and consumption.

5.8.2. Layout alternatives

The PV layout and project component design are guided by various technical aspects of the project such as detailed site-specific solar data and construction conditions which will only come out after the feasibility study. From a technical perspective, the layout depends on several factors including:

- local topographical conditions and the aspect of the site in relation to the sun's daily movements.
- the intensity of the solar resource at the site as determined from on-site measurements and data modelling; and
- Other local meteorological conditions such the amount of suspended particles in the air (dust).

An indicative project layout will be developed using the resource data that is currently available by the design team taking cognisance of the above.

5.8.3. Technology Alternatives

5.8.3.1. Concentrated Solar Power (CSP) Systems

There are three CSP systems that were analysed for the proposed project. These are the 3 prominent systems used worldwide and are described below. More details are provided for the chosen Photovoltaic technology chosen for this project.

5.8.3.1.1. Linear systems

Linear CSP systems typically consist of many parallel rows of parabolic (u-shaped) reflectors that track the sun from east to west during the day and concentrate the sunlight on a pipe that runs down the focal line of each trough. The concentrated

sunlight is amplified 30 to 100 times its normal intensity on the pipe containing heat transfer fluid (oil). The fluid flows through the pipe and is used to boil water and generate steam. The steam is used in a conventional steam turbine to generate electricity. Linear Fresnel reflector concentrating systems are configured similarly to that of the linear CSP. It uses Fresnel lenses and mirrors to concentrate the sunlight onto a fixed receiver tube above the mirrors. The mirrors are mounted on trackers that are configured to follow the sun and ensure that the rays are concentrated on the focal point of the receiver. The mirrors are flat or slightly curved and are not as optically efficient as the trough reflectors.

5.8.3.1.2. Power Tower

Power tower systems utilize many flat, sun-tracking heliostats (mirrors) to concentrate sunlight onto a receiver on top of a central receiver tower. Heat transfer fluid flowing through the receiver is heated by the concentrated sunlight and the heated fluid generates steam, which by means of a steam turbine generates power. Molten salt is the preferred heat transfer fluid for the power tower system due to its superior heat transfer and heat storage capabilities which enables it to be effective in generating steam even when the sun is not shining or during cloudy conditions.

5.8.3.1.3. Dish Engine

The dish engine uses mechanical energy rather than steam to generate electricity. A large, mirrored dish tracks the sun and concentrates the sunlight onto a receiver at the focal point of the dish. The receiver is integrated into a high efficiency combustion engine that has thin tubes containing helium or hydrogen gas that expands when heated. The tubes run on the outside of the engine's four piston cylinders and open into the cylinders. As the gas is heated to high temperatures it expands in the cylinders driving the pistons and effectively drives an electric generator. This system does not lend itself to thermal storage and will only generate electricity when the sun is shining.

Heat transfer mediums

There are three main heat transfer mediums used in utility scale concentrating solar power facilities. Oil, or Therminol, is the liquid used in a typical parabolic trough solar power project (molten salt is typically not used as there are many kilometres of horizontal piping, unlike a central tower project, which has only short lengths of

almost exclusively vertical tubing). The main heat transfer mediums used in central power tower projects are steam (“Direct Steam” method) or molten salt.

In thermal power generation there are predominantly three types of cooling systems that are in use. These are wet cooling, dry cooling and hybrid wet/dry cooling systems. These systems were evaluated and compared and the most suitable alternative recommended.

- Wet Cooling

Evaporative wet cooling is widely considered to be the most common method for new power plants due to its economical and high performing cooling technique. This technique however consumes high volumes of water, more than 1 million cm^3 per annum. Waste heat energy dissipated from the power plant is rejected to the air through evaporation of the cooling water. The cooling water evaporates in a cooling tower. As a result of the continuous evaporation, water treatment chemicals and minerals contained in the water become concentrated over time and require that a portion of the cooling water

(“blowdown”) be drained to remove high concentrations of accumulated salts and particulates. This is a potential source of an environmentally hazardous substance.

- Dry Cooling

Dry cooling uses considerably less water than dry cooling and is becoming more prevalent in new power plants due to the limitations on water in arid areas, where most solar thermal power plants are established. All of the waste heat from the plant is rejected to the air. Air has a much lower capacity to carry heat and is considered less efficient than water as a cooling medium. Large fans are required to remove the heat from the pipe array in the cooling system and often these fans use a portion of the power generated by the plant. This effectively causes dry cooling to have a reduced thermal efficiency compared with wet cooling. The dry cooling system does not create any environmentally hazardous blowdown. In summary dry cooling uses less water but the plant produces slightly less power as a result.

- Hybrid Wet / Dry Cooling

Hybrid cooling involves a combination of wet and dry cooling. Hybrid designs are aimed at reducing water consumption in comparison with wet cooling and enhance the plant's performance in warm weather when the thermal efficiency of dry cooling is least effective. Hybrid systems either involve separate wet and dry systems that operate in parallel or use water to cool the air used in the air-cooled condenser. This system uses a fraction of the water of wet cooling, and the turbine performance can be maintained on or close to design conditions. Considerably less blowdown will be resultant when compared with wet cooling. It is less expensive than an air-cooled plant and more expensive than a water-cooled plant.

5.8.3.2. Photovoltaic Power (PV) Systems

There are two PV technologies that were considered for the proposed project. The two technologies are the most prominent technologies in use worldwide and are described below:

5.8.3.2.1. Crystalline Technologies

By far, the most prevalent bulk material for solar cells is crystalline silicon (C-SI). Bulk silicon is separated into multiple categories according to crystallinity and crystal size in the resulting ingot, ribbon, or wafer.

Monocrystalline silicon (c-Si):

Often made through the Czochralski process. Single-crystal wafer cells tend to be expensive, and because they are cut from cylindrical ingots, do not completely cover a square solar cell module without a substantial waste of refined silicon. Hence most c-Si panels have uncovered gaps at the four corners of the cells.

Poly- or Multi-crystalline silicon (poly-Si or mc-Si):

Made from cast square ingots of large blocks of molten silicon carefully cooled and solidified. Poly-Si cells are less expensive to produce than single crystal silicon cells, but are less efficient.

Ribbon silicon is a type of multi-crystalline silicon:

It is formed by drawing fiat thin films from molten silicon and results in a multi-crystalline structure. These cells have lower efficiencies than poly-Si, but save on production costs due to a great reduction in silicon waste, as this approach does not require sawing from ingots. Prices of polycrystalline silicon have gradually dropped as companies build additional polysilicon capacity quicker than the industry's projected demand. Manufacturers of wafer-based cells have responded to high silicon prices in 2004 - 2008 prices with rapid reductions in silicon consumption.

5.8.3.2.2. Thin film Technologies

Thin-film technologies reduce the amount of material required in creating a solar cell. Though this reduces material cost, it also reduces energy conversion efficiency. Thin-film solar technologies have enjoyed large investment due to the success of First Solar and the promise of lower cost and flexibility compared to wafer silicon cells, but they have not become mainstream solar products due to their lower efficiency and corresponding larger area consumption per watt production. The choice of the technology ultimately will lie with the Proponent and his design team based on the technical factors highlighted.

5.8.3. No-Go Option

The “no-go” option means maintaining the status quo were no solar plant will be constructed. This would be the best for the environment given that it remains untouched. However, that situation is not favoured as it means no development and lack of employment opportunities for the local people. The electricity import bill remains high to the disadvantage of the citizens of this country.

6. Description of the receiving Environment

6.1. Land use on the Project Site and the Surrounding Areas

The project site lies on communal land occupied under a communal land rights lease agreement for 99 years. The major livestock kept in this area are cattle and goats. The livelihoods system is anchored on subsistence farming comprised of integrated crop and livestock production supported by other incomes such as fishing, businesses, pensions and cash remittances.

6.2. Soils

The project site lies on sandy loams with very little clay and organic matter making them inherently infertile and unsuitable for crop production. These soils are characteristically deep and highly susceptible to erosion.

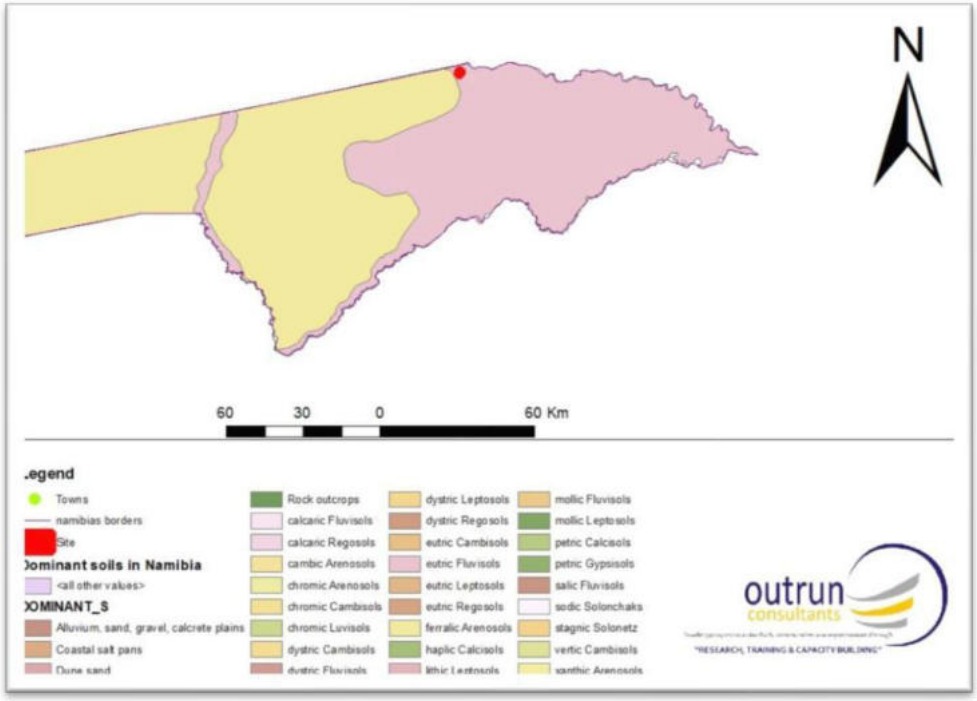

Figure 6: Soils of the project area.

6.3. Climate

Climate refers to the meteorological or weather elements measured in a particular region or area over a long period of time of 20 to 30 years. The climate of an area is generally affected by the latitude, terrain, altitude and distance or proximity to water

bodies. Climatic knowledge about an area is important because it shapes human activities of the people inhabiting the area. This is because climatic factors such as rainfall and temperature affect geomorphology, weathering and soil formation, transport of materials, flora and fauna and the use of natural resources, (Bertram and Broman, 1999). This area receives a minimum of 550 mm total rainfall per annum in contrast to the arid rest of the country. It is also served by a perennial Zambesi River flowing through to Zambia and Zimbabwe.

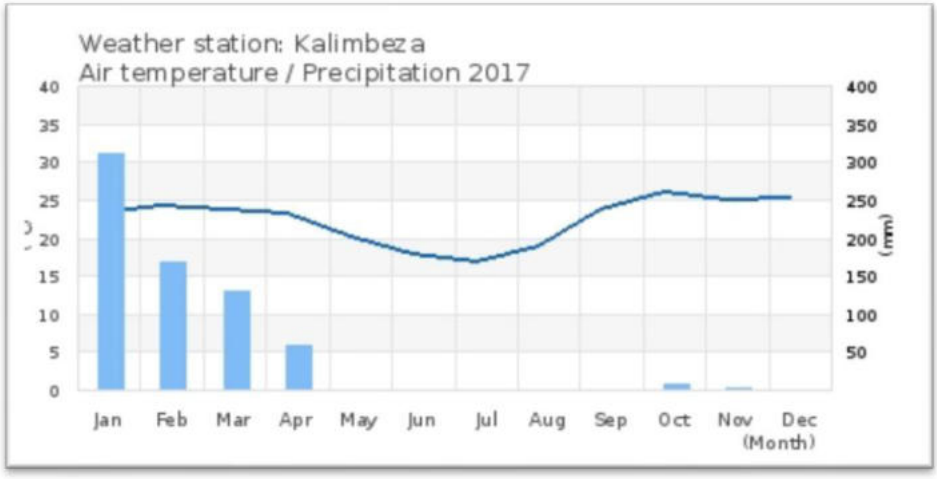

Figure 7: Katima Mulilo average rainfall and temperature recorded from the nearest weather station in 2017 at Kalimbeza.

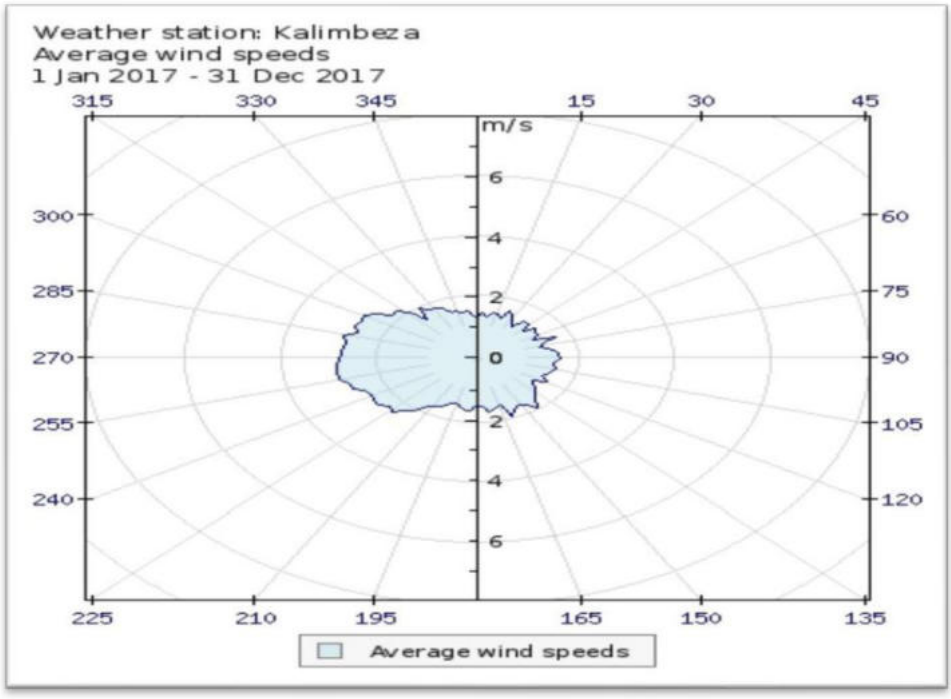

Figure 8: Katima Mulilo average wind speeds.

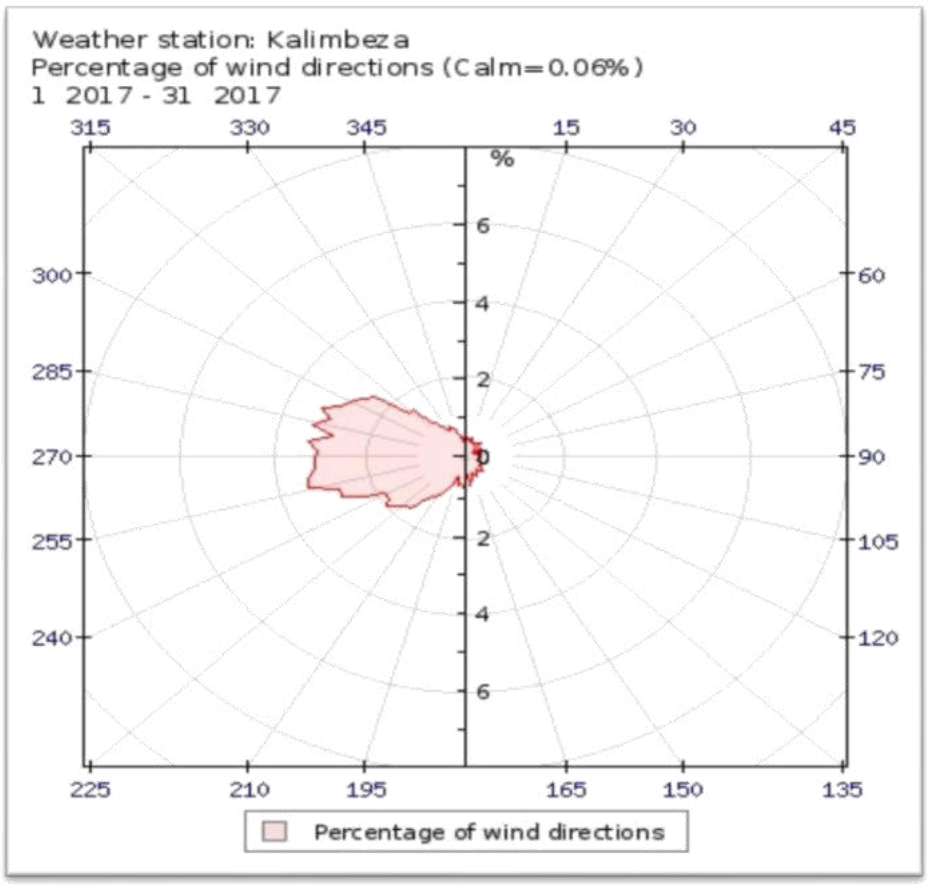

Figure 9: Katima Mulilo percentage wind directions for the year 2017.

Table 6: Precipitation and solar irradiance received in 2017.

Summary of average precipitation and solar irradiance received in the past decade.	
Kalimbeza - 2017	
Precipitation total	675.9 mm
Solar Irradiance total	6,874.48 MJ/m^2

6.4. Topography

The project site is generally flat and well drained sandy loam soils.

6.5. Flora

The vegetation structure reflects the most prominent form of plants present in an area. The area was cleared of vegetation mainly for cultivation purposes and other needs such as firewood, building poles etc. The project site is now covered by bushes in the early stages of reestablishing themselves. An aerial view of the site shows clear contrast between the project site and the uncleared bordering forests.

Figure 10: Partially cleared project site. The land was primarily cultivated over the years. Source: Own photograph taken during the site visit.

6.6. Value of plant resources on the project site

The value of plants found in the study area is rated as poor or low and this is based on a scale of the relative abundance of resources in Namibia. There are basically three measures of value of plant resources used:

- Relative abundance of hardwoods used for timber and firewood,
- Grazing for livestock and wildlife and
- Browse for livestock and wildlife

The overall decision was made based on the location of the proposed solar plant location which predominantly is a fallow crop production field.

6.7. Fauna

Wildlife transect surveys were done to assess the occurrence of wildlife. No signs of wildlife could be identified. This area has extensive human activity and being close to the town area drives wildlife away. The nearest emerging communal conservancies are Siluka and Mulusi Bukalo and are at least 16 kilometers from the project site.

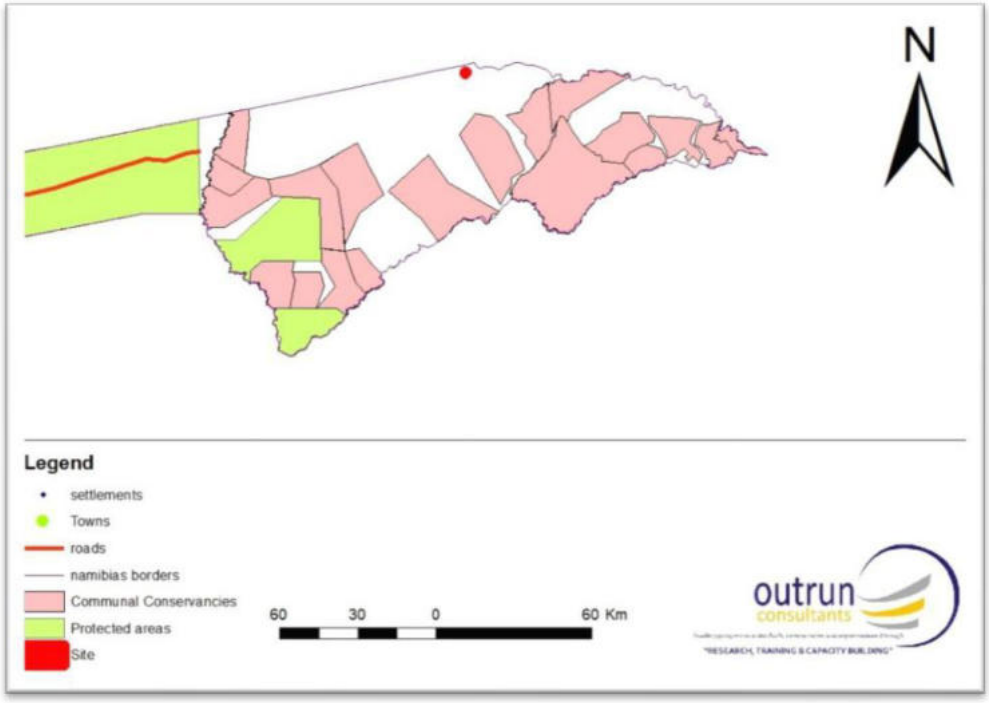

Figure 11: The proposed project site in relation to emerging communal conservancies and protected areas.

7. Potential Environmental Impacts

7.1. Introduction

A key part of the Scoping Process is the preliminary identification and consideration of issues and concerns that may impact (positively and/or negatively) with the biophysical and socio-economic environments. The issues that were identified as potentially significant during the Scoping Phase formed the basis on which further studies were conducted during the ESIA Phase.

7.2. Description of Potential Impacts

The potential impacts on environmental and social resources arising from the proposed development include direct and indirect impacts. Potential impacts were also linked to the different stages of the project which are identified as construction, operation and decommissioning. The table below presents the overview of likely aspects arising from each of the key project activities and considers their likely interaction with socio-economic and environmental resources and receptors.

Table 7: Project activities and potentially affected environmental receptors or resources.

Project Activities	Receptor / Resource								
	Fauna	Flora	Soils	Hydrology	Traffic and Transport	Air Quality	Land Use and Agricultural Potential	Landscape and Visual Amenity	Socio-economics
Preconstruction and construction									
Vegetation Clearance									
Construction of Access Roads									
Construction of Hard Standing									
Site Levelling and Grading									
Preparation of Solar Panel Foundations									
Underground Cables/Overhead lines									
Solar Panel Delivery and Erection									

Construction of Service Building									
Hard Standing Area Rehabilitation									
Waste									
Operation									
Project Activities	**Receptor / Resource**								
	Fauna	**Flora**	**Soils**	**Hydrology**	**Traffic and Transport**	**Air Quality**	**Land Use and Agricultural Potential**	**Landscape and Visual Amenity**	**Socio-economics**
Solar Panel									
Operation Use of Access Tracks									
Use of Buildings									
Site Maintenance Waste									
Decommissioning									
Removal of Solar Panels									

Removal of Foundations									
Removal of Access Roads									
Removal of Underground Cables									
Waste									
Site Restoration & Rehabilitation									

Key: Shaded box indicates potential interaction between the project activity and resource or receptor.

7.3. Potentially Significant Impacts

The following section describes potentially significant issues based on the findings from the site visit and consultations held with IAP's. Many of these impacts can be adequately addressed through the implementation of appropriate mitigation and management measures.

7.3.1. Air Quality Impacts

Construction Phase

During the construction phase it is expected that, the main sources of impact will result due to the construction of access roads, and the plant area. These predicted impacts cannot be quantified, primarily due to the lack of detailed information related to scheduling and positioning of construction related activities which will only come out in the feasibility study. Instead, a qualitative description of the impacts was done. It involved the identification of possible sources of emissions and the provision of details related to their impacts.

Construction is commonly of a temporary nature with a definite beginning and end. Construction usually consists of a series of different operations, each with its own duration and potential for dust generation. Dust emission will vary from day to day depending on the phase of construction, the level of activity, and the prevailing meteorological conditions. Dust will be generated significantly due to the dry conditions and the sandy texture of the soils in the project area.

The following possible sources of fugitive dust have been identified as activities which could potentially generate dust during construction operations at the site:

- Transportation of materials
- Scraping;
- Debris handling;
- Land clearing for infrastructure

7.3.1.1. Creation and Grading of Access Roads

Access roads are constructed by the removal of overlying topsoil, whereby the exposed surface is graded to provide a smooth compacted surface for vehicles to drive on. Material removed is often stored in temporary piles close to the road edge, which allows for easy access once the road is no longer in use, whereby the material stored in these piles can be re-covered for rehabilitation purposes. Often however, these unused roads are left as is if sections of them could be reused at a later stage.

A large amount of dust emissions is generated by vehicle traffic over these temporary unpaved roads. Substantial secondary emissions may be emitted from material moved out from the site during grading and deposited adjacent to roads. Passing traffic can thus re-suspend the deposited material. To avoid these impacts material storage piles deposited adjacent to the road edge should be vegetated, with watering of the pile prior to the establishment of sufficient vegetation cover. Piles deposited on the verges during continued grading along these routes should also be treated using wet or chemical suppressants depending on the nature and extent of their impacts.

A positive correlation exists between the amount of dust generated (during vehicle entrainment) and the silt content of the soil as well as the speed and size of construction vehicles. Additionally, the higher the moisture content of the soil the lower the amount of dust generated. The periodic watering of these roads sections will aid in the reduction of dust generated from these sources. Cognisance should be taken to increase the watering rate during high wind days and during the summer months when the rate of evaporation increases.

7.3.1.2. Preparation of areas identified for the construction of the plant and supporting infrastructure

Removal of material usually takes place with a bulldozer, extracted material is then stored in piles for later use during rehabilitation procedures. Fugitive dust is generated during the extraction and removal of overlying material, as well as from windblown dust generated from cleared land and exposed material stockpiles. Dust problems can

also be generated during the transportation of the extracted material, usually by truck, to the stockpiles. This dust can take the form of entrainment from the vehicle itself or due to dust blown from the back of the trucks during transportation.

To avoid the generation of unnecessary dust, material drop height should be reduced and material storage piles should be protected from wind erosion. This can take the form of wind breaks, water sprays or vegetation of piles. All stockpiles should be damped down, especially during dry weather.

It should be noted that emissions generated by wind are also dependent on the frequency of disturbance of the erodible surface. Each time material is added to or removed from a storage pile or surface, the potential for erosion by wind is restored. Dust created during the transportation can be limited by watering the road sections that are being used and by either wetting the material being transported or covering the back of the trucks, to limit the windblown dust from the load.

7.4. Overview of potential Impacts

The following components of the environment may be impacted upon during the construction phase:

- Ambient air quality;
- Local residents;
- Employees;
- Environmental aesthetic value.

The impact on air quality and air pollution of fugitive dust is dependent on the quantity and drift potential of the dust particles. Large particles settle out near the source causing a local nuisance problem. Fine particles can be dispersed over much greater distances. Fugitive dust may have significant adverse impacts such as reduced visibility, soiling of buildings and materials, reduced growth and production in vegetation and may affect sensitive areas and aesthetics. Fugitive dust can also adversely affect human health. It is important to note that impacts will be of a temporary nature, only occurring during the construction period.

Given the short duration and low level of activity expected during construction but bearing in mind that no quantitative emission figures exist, no long adverse impacts are anticipated on these receptors. Impact of fugitive dust emissions on employees on site could however be significant during the construction phase, but will vary between phases, with level of activity and meteorological conditions.

Operational Phase

This section aims to deal with the predicted air quality impacts which result due to the proposed operations. Minimal air quality impacts are anticipated and may result from the following:

- Material handling and transportation.
- Natural winds blowing dust especially under dry conditions.

Decommissioning Phase

The decommissioning phase is associated with activities related to the demolition of infrastructure and the rehabilitation of disturbed areas. The total rehabilitation will ensure that the total area will be a free draining covered with topsoil and grassed. The following activities are associated with the decommissioning phase:

- Existing buildings and structures demolished, rubble removed and the area levelled;
- Remaining exposed excavated areas filled and levelled using overburden recovered from stockpiles;
- Stockpiles and tailings impoundments to be smoothed and contoured;
- Topsoil replaced using topsoil recovered from stockpiles;
  and
- Land and permanent waste piles prepared for revegetation.

Possible sources of fugitive dust emission during the closure and post-closure phase include the following:

- Movements of stockpiles by bull dozers;
- Grading of the site;

- Transport and disposal of overburden for filling;
- Infrastructure demolition;
- Infrastructure rubble piles;
- Transport and disposal of infrastructure rubble;
- Transport and reuse of topsoil; and
- Soil preparation for revegetation

Exposed soil is often prone to erosion by water. The erodibility of soil depends on the amount of rainfall and its intensity, soil type and structure, slope of the terrain and the amount of vegetation cover (Brady, 1974). Revegetation of exposed areas for long-term dust and water erosion control is commonly used and is the most cost-effective option.

7.5. Noise Impacts

During the construction phase construction vehicles including excavation equipment and trucks may produce a noticeable increase in noise disturbance. Construction vehicles may create some noise and vibration along access routes. Noise levels during operation are low. Noise associated with maintenance activities may create some disturbance, but this will be low level and localised. Potential noise mitigation measures are included in the EMP.

7.6. Loss of Agricultural Land

The major impact on the natural resources of the study area would be the loss of arable land due to the construction of the various types of infrastructure. However, this impact would in all probability be of limited significance (due to the low potential soils and the fact that construction of the infrastructure will not involve deep excavations or large-scale topsoil removal) and would be local in extent. At the end of the project life, it is anticipated that removal of the structures would enable the land to be returned to a natural state, with little impact, especially given the low prevailing agricultural potential.

7.7. Visual and Aesthetic Landscape Impacts

Visual resource impacts would result from the construction, operation, and maintenance of the proposed solar plant. Specifically, impacts would result from project components being seen from sensitive viewpoints and form effects to the scenic values of the landscape. Impacts to views would be the highest when viewers are identified as being sensitive to change in the landscape, and when their views are focused on and dominated by the change. Visual impacts would occur when changes in the landscape are noticeable to viewers observing the landscape from their homes or from tourism / conservation areas, travel routes, and important cultural features and historic sites all of which do not exist in this area except homes. The visual impacts that could result from the project would be direct, adverse, and long-term given the generally flat landscape. Appropriate measures to manage impacts associated with dust generation, noise and visuals / aesthetics were crafted and are presented in the ESMP.

8. Conclusion and Recommendations

8.1. Conclusion

The construction of a 20 MW solar plant at Liselo Sub Khuta has negative environmental impacts. The ESIA study findings showed negative environmental impacts to the environment to varying degrees depending on the nature of the activity and impacts arising thereof. Management and corrective measures were formulated and implementation timelines proposed depending on the gravity of threat to human life and the environment.

The identified impacts, mitigation and monitoring activities, indicators, responsible parties and monitoring frequency are indicated in the EMP. The EMP should form the obligatory conditions upon which the ESIA clearance certificates will be issued and non-compliance attracts prosecution. The EMP should be implemented throughout the project lifecycle and an Environmental Management System formulated and implemented based on the ESIA study findings. Environmental monitoring and performance evaluations should be conducted and targets for environmental improvement set and monitored throughout the project lifespan. It is also our determination that the findings should be incorporated earlier and sound SHE policies and supportive programmes implemented.

8.2. Recommendations

Recommendations were developed to guide the Proponent on the key activities that should be done to effectively manage safety, health and environment:

- Develop SHE policies based on the study findings and use impacts evaluation to formulate the objectives.
- Develop and implement Environmental Management Systems.
- Develop an occupational health and safety plan
- Adhere to the environmental management obligations upon which the ESIA clearance certificate will be issued by the MEFT: DEA.

- The ESIA clearance will not exempt the Proponent from obtaining other relevant permits and should do as such:
    - Permit to remove protected trees on a portion of the project site.
    - Water connection.
    - Connection to the National Grid.
    - Access roads etc.
- Provide relevant training to capacitate the workers with knowledge and skills to manage safety, health and the environment.