

# A scoping report on the Environmental Impact Assessment for the 20 MW Solar Power Plant at Naruchas, Hardap Region



An application for an Environmental Clearance Certificate (ECC)

**Report Compiled for:** 

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## List of Abbreviations

TERM	DEFINITION
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
GPS	Global Positioning System
HSE	Health, Safety and Environmental
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NHC	National Heritage Council
PPE	Personal Protective Equipment



SOPs	Standard Operating Procedures
ToRs	Terms of Reference



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# **Executive Summary**

## Introduction

#### Overview

The proponent, Ano Energy (Proprietary) Limited, was provisionally granted land and intends to construct a 20MW solar power plant approximately 18 kilometers north of Rehoboth via the B1 main road that connects Windhoek and Rehoboth. The solar power plant substation will assist in the supply of electricity to Namibia in the future and potentially supply electricity to neighbouring countries.

The proponent intends to construct a 20 MW solar power plant. Augite Environmental Consulting was appointed by the proponent to undertake an Environmental Assessment (EA) and Environmental Management Plan (EMP) for the mineral exploration project.

#### Location

The allocated area is located 18 kilometers north of Rehoboth on the B1 enroute to Windhoek in the Hardap region. The proposed solar power plant will be constructed approximately 20 kilometers from Rehoboth on the Rehoboth Townland. The coordinates for the centre of the allocated plot are -23.173304°, 17.100338°.

## **Environmental Assessment Requirements**

The Environmental Regulations procedure (GN 30 of 2012) stipulates that no construction of solar power facilities and activities may be undertaken without an environmental clearance certificate. As such, an environmental clearance certificate must be applied for in accordance with regulation 6 of the 2012 environmental regulations. It is imperative that the environmental proponent must conduct a public consultation process in accordance with regulation 21 of the 2012 environmental procedure, produce an environmental scoping report and submit an Environmental Management Plan for the proposed solar power plant. The findings of the EIA study will inform the MET and DEA decision making and provide information on the design and operation of the PV facility.



# Project Background

The proponent, Ano Energy (Pty) Ltd, was provisionally granted land by the Rehoboth Town council approximately 18 kilometers from north of Rehoboth in route to Windhoek in the Hardap region. The allocated land that is planned for this project is measures a size of 65 ha for the solar power plant project. An outline of the area is shown in the image below.



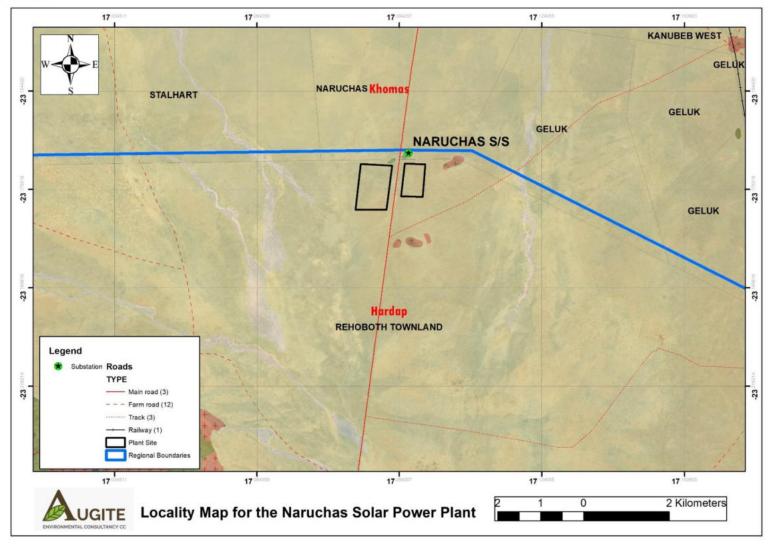


Figure 1.The surrounding roads that connect the Naruchas sub-station and the other local villages in the area.



## Solar Power Plant Tenure

The allocated land is situated in a communal area, and the proponent has applied for the piece of land via the Ministry of Agriculture, Water and Land Reform. A public notice to leasehold and occupational land right in the Hardap region was advertised in the New Era newspaper. The size of the allocated solar power plant area is **65 Hectares**. It is granted for renewable energy supplying purposes where a 20 MW solar power plant will be constructed.

## Role Players

Table 1. List of role players in the project.

Organization	Project Role
Ministry of Mines and Energy -	Competent Authority
Electricity Control Board	
Ministry of Environment, Forestry	Decision making authority for environmental
and Tourism- Directorate of	authorization
Environmental Affairs	
Ano Energy (Pty) Ltd	Proponent
Namibia Power Corporation (Pty) Ltd	Energy distributor
Augite Environmental Consultants cc	Independent Environmental Consultant (EAP)

## **Environmental Consultant**

Augite Environmental Consulting cc was appointed by the proponent to undertake an Environmental Assessment (EA) and Environmental Management Plan (EMP) for the mineral exploration project. Augite does not have any interest, be it business, financial, personal or other, in the proposed activity, application or appeal, other than fair remuneration for work performed on this project. The public participation process and report writing was overseen by Dr Kaukurauee Kangueehi as the EAP. CV's of various role players are annexed to the appendix section of this report.

## **Project Location**

The area that has been earmarked is located some 20 kilometers north of Rehoboth in Hardap Region. The proposed solar plant site is accessible along the B1 tarred road and while the



remaining 1 kilometers can be accessed via an informal secondary road. The coordinates for the centre of the allocated plot are

-23.173304°, 17.100338°.

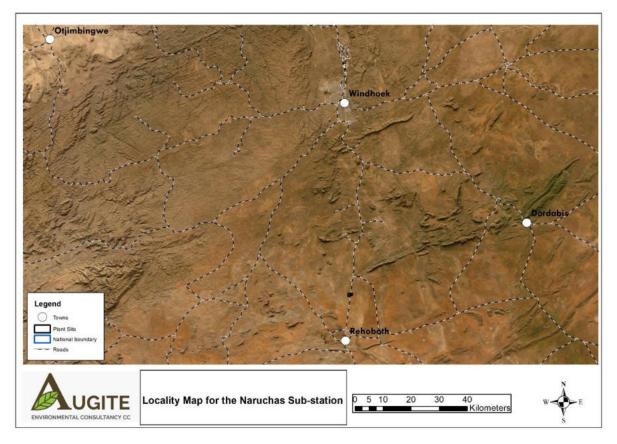


Figure 2. Solar power plant area in proportion to where it is located in Namibia.

## Infrastructure and Services

## Electricity

At this stage, electricity requirements for the project are minimal. The bulk of the power supply to the solar power plant site will be sourced from the existing Naruchas substation since the activities at site will be to supply power. The power requirements for the proposed project will increase during the different construction phases of the solar power plant as power will only be required for the following activities:

- Emergency lighting.
- Powering small machinery during the construction phases of the solar power plant.
- Power supply for temporary office block or container if necessary.



## Water supply

The water requirements for the project will be sourced from the extension pipeline from the Naruchas substation project which is less than a kilometre from the solar power plant site. Water containers will be brought on site and utilised whenever necessary. The water will mostly be used for general consumption and cleaning.

#### Refuse and Waste Removal

The proponent will negotiate directly will all suppliers of consumables such as grease, oil etc. to remove these materials for disposal once they have been used and need to be discarded. The proponent will provide adequate temporary sanitary facilities and such facilities must be maintained in a hygienic condition. Sewerage will be disposed of in a manner not polluting the environment. The proponent will remove all refuse pertaining to the proponent's activities, domestic or otherwise, from the property. The proponent will undertake environmental rehabilitation, both during and at the conclusion of the solar power plant activity operations.

## IT systems and Communication

Once the construction has commenced, provision will be made for two-way radios to enable the heavy machinery workers the on-site staff to communicate effectively.

## Security and Fencing

Provision has been made for fencing although strict access to and from the solar power plant site will be facilitated by personnel.

#### **Buildings**

At this stage, no informal tents will be set up and so provision will be made for prefabricated containers. In addition, most of the workforce will be sourced from Rehoboth in consultation with the Rehoboth town council.

#### Roads

Access to the solar power plant site is limited as there are currently no convenient roads, except for 4x4 tracks.



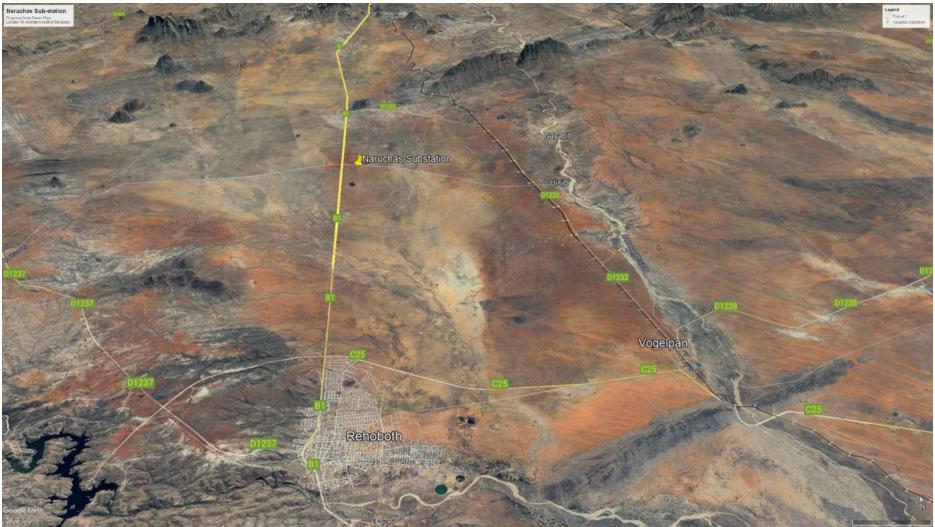


Figure 3. Topographic map showing the existing road network within the proposed solar plant area.



### **Topography**

The terrain consists of rocky hills but predominantly flat for most of the area where the solar power plant will be constructed. The area is in transition with the highest hills situated to the south of Rehoboth from the Langberg and Marienhof Formations, rising to an altitude of 1720 meters above sea level.



Figure 4. The Naruchas sub-station with the surrounding few outcrops.

## Mobile equipment

The proponent's vehicle fleet will be optimised during the next project phase. Provision will be made 4x4 vehicles and a heavy-duty truck that will be used for the construction of solar power plant activities.

## Fuel Distribution, storage, and supply

During the construction phase of the solar power plant activities phase, diesel will be delivered to the by road transport and offloaded into the vehicles by offloading pumps.

# Storage of Lubrication and Consumables

During the construction of the solar power plant phase, consumables and lubricants will be stored in a designated area within a container. These substances will only be used for mechanical purposes and are assumed to be non-hazardous.



## Fire Fighting Provision

Portable fire-extinguishers will be fitted, as required, in vehicles and mobile containers where possible.

## **Environmental Impact Assessment Requirements**

The Environmental Regulations procedure (GN 30 of 2012) stipulates that no construction or a solar power plant generating farm may be undertaken without an environmental clearance certificate. As such, an environmental clearance certificate must be applied for in accordance with regulation 6 of the 2012 environmental regulations. It is imperative that the environmental proponent must conduct a public consultation process in accordance with regulation 21 of the 2012 environmental procedure, produce an environmental scoping report and submit an Environmental Management Plan for the proposed 100 MW solar power plant that will generate and supply electricity to the bigger part of Namibia.

## Purpose of the Scoping Report

The scoping report is prepared for the Environmental Impact Assessment for the proposed 20 MW solar power plant farm that will be constructed 20 kilometers north of Rehoboth or approximately 60 kilometres south of the capital city of Windhoek, in the Khomas region. The proposed solar plant site is accessible along the B1 tarred road and while the remaining kilometre can be accessed via a gravel road. Environmental scoping is a critical step in the preparation of an EIA for the proposed 20 MW solar power plant project. The scoping process identifies the issues that are likely to be most important during the EIA and eliminates those that are of little concern. The scoping process shall be concluded with the establishment of terms of reference for the preparation of an EIA, as set out by the Ministry of Environment and Tourism. The purpose of this scoping report is to:

- Identify any important environmental issues to be considered before commencing with 20 MW solar power plant project activities on the project site.
- To identify appropriate time and space boundaries of the EIA study.
- To identify information required for decision-making.

As such, the key objectives of this scoping study are to:

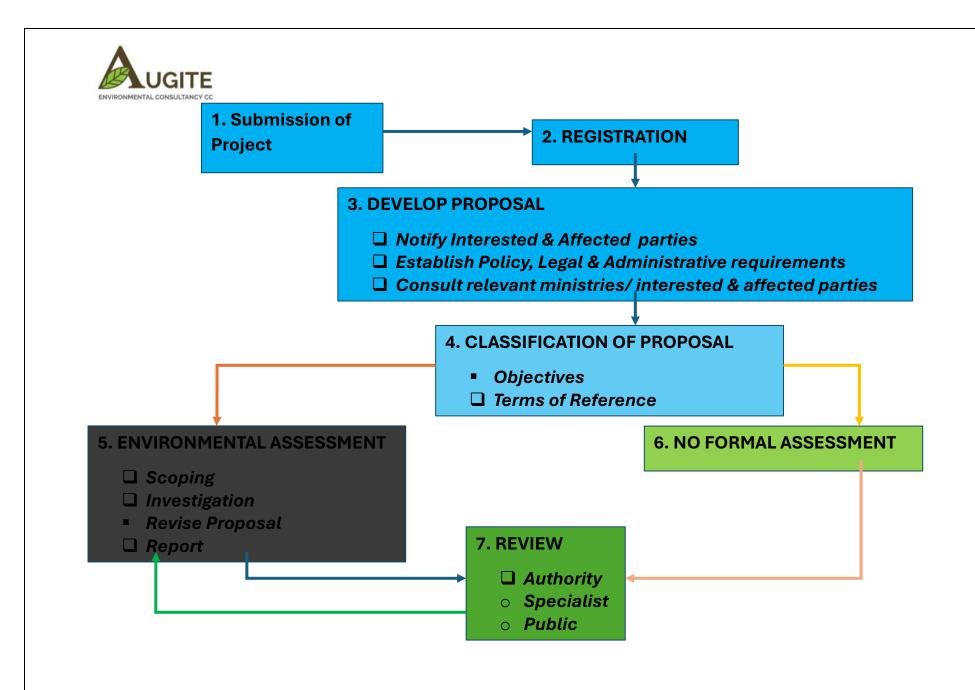


- Inform the public about the proposed 20 MW solar power plant project and activities.
- Identify the main stakeholders, their comments and concerns.
- Define reasonable and practical alternatives to the proposal.
- To establish the terms of reference for an EIA study.

#### Terms of Reference

The approach and methodology taken was guided by the Environmental Regulations of 2012 and the Terms of Reference (ToR) which were provided by the proponent:

- Identify all legislation and guidelines that have reference to the proposed project.
- Identify existing environmental (both bio-physical and socio-economic) conditions of the area to determine their environmental sensitivity.
- Inform Interested and Affected Parties (I&APs) and relevant authorities of the details of the proposed development and provide them with a reasonable opportunity to participate during the process.
- Consider the potential environmental and social impacts of the development and assess the significance of the identified impacts.
- Compile a Scoping Report detailing all identified issues and possible impacts, stipulating the way forward and identifying specialist investigations, if required.
- Outline management and mitigation measures in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.
- Submit the final scoping report to the competent authority and the Environmental Commissioner.



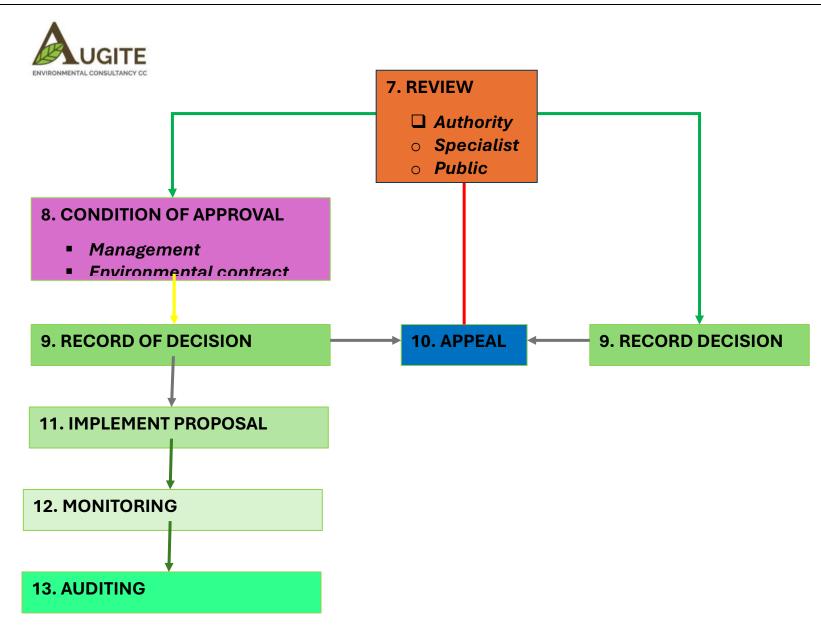


Figure 5. Flowchart of the Environmental Impact Assessment process followed in Namibia.



## Environmental Assessment Approach and Methodology

Environmental assessment process in Namibia is governed by the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007) and in line with the provisions of the Cabinet approved Environmental Assessment Policy for Sustainable Development and Environmental Conservation of 1995.

This report has taken into consideration all the requirements for preparation of all the supporting documents and application for an Environmental Clearance Certificate and lodgement of such application to the Environmental Commissioner (EC), Department of Environmental Affairs (DEA) in the Ministry of Environment and Tourism (MET).

The purpose of the Scoping Phase was to communicate the scope of the proposed project to Interested and Affected Parties (I&APs), to consider project alternatives, to identify the environmental (and social) aspects and potential impacts for further investigation and assessment, and to develop the terms of reference for specialist studies to be conducted in the Impact Assessment Phase if necessary. The steps undertaken during the Scoping Phase are summarised below.

# Project Initiation and Screening

The project registered on the online ECC portal (eia.met.gov.na) to provide notification of the commencement of the EIA process and to obtain clarity on the process to be followed.

## Initial Scoping Public Participation Process

The objective of the public scoping process was to ensure that interested and affected parties (I&APs) were notified about the proposed project, given a reasonable opportunity to register on the project database and to provide initial comments. Steps that were undertaken during this phase are summarised below:

• **I&AP identification:** A preliminary I&AP database was compiled using the farmers contact details that were obtained from the Ministry of Lands and contact details of other interested and affected parties that were provided by the proponent. Additional



I&APs were added to the database based on responses to the advertisements and notification letters, as well as attendees to the various meetings.

- Notification letter and Background Information Document (BID): A notification letter and Background Information Document was distributed for review and comment for a period of 3-4 weeks after commencement of the project.
- Advertisements and site notice: Advertisements announcing the proposed project, the availability of the BID, public meetings and the I&AP registration / comment period were placed in two widely distributed newspapers for two consecutive weeks. Site notices were placed on the boundaries of farm fences and on the notice boards of the Regional Council. Over and above the issues raised were incorporated into the scoping report. These submissions were collated and responded to as indicated in the public participation section of the scoping report.

# Compilation and Review of Draft Scoping Report (DSR)

The DSR was prepared in compliance with Section 8 of the EIA Regulations of 2012 and incorporated with comments received during the initial Public Participation Process. The DSR was distributed for a 14-day review and comment period.

## Final Scoping Report and Completion of the Scoping Phase

The Final Scoping Report (FSR) summarises the following: the legal and policy framework; approach to the EIA and process methodology; the project's need and desirability; proposed project activities; key characteristics of the receiving environment; and key issues of concern that will be further investigated and assessed in the next phase of the EIA. The FSR complies with Section 8 of the EIA Regulations 2012. All written submissions received during the DSR review and comment period will be collated and responded to. The FSR was submitted to the competent authority. In terms of Section 32 of the Environmental Management Act, 2007 (No. 7 of 2007), the competent authority is then required to make a recommendation on the acceptance or rejection of the report to Ministry of Environment and Tourism (MET): Department of Environmental Affairs (DEA), who will make the final decision.



## List of Specialist Studies Undertaken

Section 9 (a) of the Environmental Regulations of 2012 requires a disclosure of all the tasks to be undertaken as part of the assessment process, including any specialist to be included if necessary.

The 20MW solar power plant project has not commenced yet. This means that the proponent has not conducted any surface disturbance on the ground (i.e., clearing of land, erecting fences, and making of new roads) to start with the construction of the project. As such, no field specific specialist studies were commissioned by the proponent as no specific target area has been delineated yet. Although specialist studies were deemed unnecessary for this environmental impact assessment due to low intensity and extent of the exploration activities at this stage, a heritage impact assessment study was undertaken for this project. Specialist studies conducted in the area, in previous years, have been reviewed as part of the scoping and assessment process of this project.

## Need and Desirability

## Need of the Solar Energy Supply Project

Electricity plays an important role in the development of a country and an important sector. Namibia is heavily reliant on neighbouring countries such as South Africa and Zambia for electricity. Currently, the country imports up to 60% of the total electrical energy requirements. The country demands for electricity stands at approximately 600MW per year, while Namibia can potentially generate up to 487 MW. Hence, there is still a deficit of up to 200MW of power.

Currently, the major electrical power suppliers are the Ruacana Hydropower Station, Van Eck Coal Power Station, Paratus Diesel Power Station and Anixas Power Station. One of the major objectives of the Harambee Prosperity Plan Goals is to increase the local electricity generating capacity of the country from 400 to 600MW. The primary goal of Witputz Energy (Pty) Ltd goal is to assists the country in achieving this goal.

The solar power plant project may assist in helping Namibia attain some of the goals set out in National Development Plans such as the National Development Plans (NDPs) and Vision 2030 strategy. During the development phase, the project will provide employment to at least 20



people from the surrounding towns and settlements. During the construction phase of the solar power plant, the low-skilled employment opportunities can contribute to social-economic development around the surrounding community.

#### **Alternatives**

During the application of the lease of land for the solar power plant, no alternative sites were considered. The proposed allocated site has shown the potential to be near the isolated from major towns and can receive maximum sunlight for the majority part of the year.

## **Project Alternatives**

An alternative to the proposed solar power plant activity would be to allocate the land-usage to other income generating activities such as agricultural activities. The proposed project will strictly employ locals from nearby towns and settlements.

#### Solar Power Plant Method Alternatives

The area is poorly vegetated with open grassland and minimal heavy machinery needed to create the solar power plant farm required. Excavators, backhoes, bulldozer, grader, and a loader will be the majors equipment used in the early stages to create the necessary land. This method is more modern, effective, and environmentally friendly method.

#### No-Go Alternatives

The no-go alternative will mean that the current land activities such as farming and important vegetation species will not be disturbed, that is, there will not be disturbance of the flora and fauna. However, the no go alternative is not considered since it will lead to negative socioeconomic impacts. The solar power plant will provide jobs and a consistent power supply to the country.

# Summary of applicable legislation

All energy supply services, related to renewable energy activities such as solar power plants in Namibia, are regulated by the Ministry of Mines and Energy whereas the environmental regulations are regulated by the Ministry of Environment and Tourism. The acts that affect the



implementation, operation, and management of energy supply and energy delivery activities in Namibia are shown below.

## Environmental Management Act of 2007

Line Ministry: Ministry of Environment and Tourism

The regulations that accompany this act lists several activities that may not be undertaken without an environmental clearance certificate issued in terms of the Act. The act further states that any clearance certificate issued before the commencement of the act (6 February 2012) remains in force for one year. If a person wishes to continue with activities covered by the act, he or she must apply for a new certificate in terms of the Environmental Management Act.

Forest Act, No. 12 of 2001

Line Ministry/Body: Ministry of Agriculture, Water and Forestry

The act regulates the cutting down of trees and reads as follows "To provide for the establishment of a Forestry Council and the appointment of certain officials; to consolidate the laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and control and management of forest trees; to repeal the preservation of Bees and Honey proclamation 1923, preservation of Trees and Forests Ordinance, 1952 and the Forest Act, 1968; and to deal with incidental matters". The constitution defines the function of the Ombudsman and commits the government to sustainable utilization of Namibia's natural resources for the benefit of all Namibians and describes the duty to investigate complaints concerning the over-utilization of living natural resources for the benefit of all Namibians and describes the duties to investigate complaints concerning the over-utilization of living natural resources, the irrational exploitation of nonrenewable resources, the degradation and the destruction of ecosystem and failure to protect the beauty and character of Namibia. Article 95 states that "the state shall actively promote and maintain the welfare of the people by adopting; inter alia policies aimed at maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of natural resources on a sustainable basis for the benefit of all Namibians both present and future".



## Agricultural (Commercial) Land Reform Act 6 of 1995

Line Ministry/Body: Ministry of Lands, Resettlement and Rehabilitation

To provide for the acquisition of agricultural land by the State for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices; to vest in the State a preferent right to purchase agricultural land for the purposes of the Act; to provide for the compulsory acquisition of certain agricultural land by the State for the purposes of the Act; to regulate the acquisition of agricultural land by foreign nationals; to establish a Lands Tribunal and determine its jurisdiction; and to provide for matters connected therewith.

Petroleum Products and Energy Act No. 13 of 1990

Line Ministry/Body: Ministry of Mines and Energy

The act regulates the importation and usage of petroleum products. The act reads as "To provide measures for the saving of petroleum products and an economy in the cost of the distribution thereof, and for the maintenance of a price thereof; for control of the furnishing of certain information regarding petroleum products; and for the rendering of services of a particular kind, or services of a particular standard; in connection with motor vehicles; for the establishment of the National Energy Fund and for the utilization thereof; for the establishment of the National Energy Council and the functions thereof; for the imposition of levies on fuel; and to provide for matters incidental thereof'.

Water Resources Management Act of 2004

Line Ministry: Ministry of Agriculture, Water and Forestry

The act provides for the management, protection, development, usage, and conservation of water resources; to provide for the regulation and monitoring of water resources and to provide for incidental matters.

Nature conservation ordinance, ordinance No. 4 of 1975

Line Ministry: Ministry of Environment and Tourism



The Nature Ordinance 4 of 1975 covers game parks and nature reserves, the hunting and protection of wild animals (including reptiles and wild birds), problem animals, fish, and the protection of indigenous plants. It also establishes a nature conservation board. The basic set of regulations under the ordinance is contained in GN 240/1976 (OG 3556). The topics covered in the regulations include tariffs (game parks), regulations relating to game parks, swimming baths, use of boats in game parks, inland fisheries, keeping game and other wild animals in capturing. In addition, the ordinance also regulates game dealers, game skins, protected plants, birds kept in cages, trophy hunting of hunt-able game, hunting at night, export of game and game meat, sea birds, private game parks, nature reserves, regulations of wildlife associations and registers for coyote getters.

National Heritage Act, 2004 (Act No. 27 of 2004)

Line Ministry/Body: National Heritage Council

The National Heritage Act provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.

Atmospheric Pollution Prevention Ordinance 11 of 1976

Line Ministry/Body: Ministry of Health and Social Services

This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, except for East Caprivi, is proclaimed as a controlled area for the purposes of section 4(1) (a) of the ordinance.

Hazardous Substance Ordinance, No. 14 of 1974

Line Ministry/Body: Ministry of Safety and Security

The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage and handling.



## Namibian Water Corporation (Act 12 of 1997)

Line Ministry/Body: Namibian Water Corporation

The act caters for water rehabilitation of prospecting and mineral exploration areas, environmental impact assessments and for minimising or preventing pollution.

Public and Environmental Health Act, 2015

**Line Ministry/Body**: Ministry of Health and Social Services provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters.

# Description of Proposed Solar Power Plant Project

#### Introduction

Ano Energy Pty Ltd is a wholly black owned entity which is legally organized as a proprietary limited within requisite parameters of the Companies Act 28 of 2004 of the Republic of Namibia. Whilst supplying solar power energy takes centre stage the concept is openly positioned to flexibly evolve with a diversified portfolio in energy business. It's an exciting state-of-the-art investment which would be one of a few in the central part of Namibia with a focus on produce renewable energy marketed and exported local Namibian energy needs and demands.

Although Namibia is a semi-arid country, one of its biggest goals is to add between 300-500 MW of solar capacity to meet the expected the domestic demand for energy. The goal will be to make Namibia a net energy exporter, the country needs to increase its solar capacity to up to 3-5 gigawatts (GW) by 2030. Ano Energy (Pty) Ltd aims to add value and supply energy to Namibia, in order for the country to meet some of these goals.

Ano Energy (Pty) Ltd project is dedicated to establishing a sustainable, profitable and unique solar power energy business that will offer considerable amount of employment opportunities to skilled, semi-skilled, ordinarily employable youth of the south central Hardap Region on a permanent and temporary basis.



## Techniques for Solar Power Plant Project

#### Identification of Suitable Land

The identified land suitable for solar power plant involved certain stages, such as searching areas with sufficient sunlight and low cloud cover supplies, remote sensing, consultation with the various farm owners to acquire land needed for a solar power plant. Various areas in the country were investigated for this project, ranging from the south (some towns were considered), northeast (high rainfall conditions and low sunlight in comparison to other regions was an obstacle) and the northwest. After numerous consultations, the area around Naruchas substation in the Hardap Region was chosen as the most suitable location for this project. One of the main reasons for choosing the area was to create employment opportunities in an area where there is high unemployment and secondly because of the proximity of the allocated land to the main electrical lines. In addition, the acceptance and encouragement of the community also played a crucial role in identifying this area as most suitable in comparison to other surveyed sites.

#### 3.2.1.2 Remote Sensing

Remote Sensing is the collection of information about an object or area without being in physical contact with it. Data gathering systems used in remote sensing are photographs obtained from manned space flights or airborne cameras, and electronic scanner or sensors such as multispectral scanners in satellites or airplanes and TV cameras, all of which record data digitally. Aerial photography and satellites allow people to work with modern techniques. Aerial photography was used to narrow down the most suitable area for this horticulture project. The proponent team collects information such as tracks, roads, fences, and habitation, as well as maps of outcrops, regolith, and vegetation cover across a region.

#### 3.3 Labour Requirements

The proponent intends to employ about 50-150 personnel, including 10 management staff for the first phase of the project. The employees will be sourced from the local community including people from Rehoboth. All employees will undergo a safety induction, first aid training course and wildlife awareness program. The Labour Act of 2007 will always be adhered to.



# Description of the Current Environment

#### 4.1 Introduction

This section aims to document the present state of the environment, the likely impact of changes being planned and the regular monitoring to attempt to detect changes in the environment. As such, this area represents a high fauna diversity. Namibia has four very large and arid regions which set them apart in various ways from the rest of the country; Kunene and Erongo region in the west and Karas and Erongo in the south (Mendelsohn, et al., 2002). Kunene Region occupies the northwest corner of Namibia.

The Skeleton Coast Park forms its entire western boundary with the Atlantic Ocean. The Kunene River with its Epupa Falls forms an international boundary with Angola to the north. Nationally, Kunene is bordered by Omusati Region and the western boundary of Etosha National Park. In the south it forms the southern boundary of most of Etosha National Park and borders Erongo and Erongo regions.

The Karas region is home to the Namib-Naukluft National Park, /Ai/Ais-Richtersveld Transfronteir Park and many conservancies. The Karas Region encompasses a range of biomes or landscapes neatly arranged parallel to one another. On the west is the forbidding Namib-Naukluft National Park Coast - a region of rocks, fog, shipwrecks and desolation, washed by the waters of the Benguela current, which brings Antarctic cold to desert heat. The region's administrative capital is Keetmanshoop. The Karas Region covers an area of 161,514 km² of the total Namibian land. This figure shows a population density of 0.42 persons per km². Karas Region is the largest region in Namibia.

#### 4.2 Climatic Conditions

#### 4.2.1 Temperature

In the proposed area, the summers are long, hot and occurs for the larger part of the year, while the winters are short, cool, dry, windy, and clear. The temperature typically varies from 8°C to 34 °C degrees. Rehoboth has a desert climate with low precipitation for the large portion of the year.



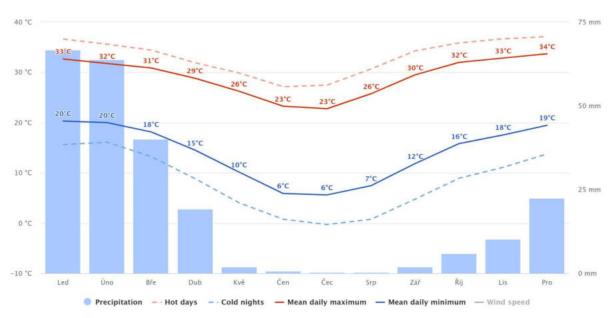
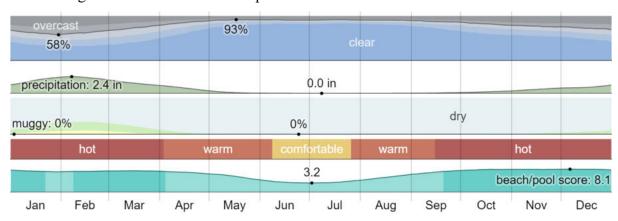


Figure 6.Average temperature for a period from 2010 to 2022 for Rehoboth (source: https://www.timeanddate.com/weather/namibia/rundu/climate).

#### 4.2.2 Precipitation

It is predicted that a 10% decrease in rainfall will be experienced in the northern and southern regions of Namibia, and a 20% decrease in the central regions, by 2050. These figures are expected to worsen to 20% and 30% respectively by 2080 (Tripe et al. 2010). The rainfall is irregular, with a mean annual rainfall of 280 mm (MAWRD, 2022). Rainfall in the area is highly seasonal, with dry periods extending from May to September, while there is a wet period over the rest of the year. During the good years of rain, it is usually visible from the rise of groundwater levels in the aquifers in the area.



Figure~7.~Average~precipitation,~temperature~and~precipitation~for~Rehoboth~(https://en.climate-data.org/africa/namibia/kunene-region/epupa-896579/#climate-graph).



The wind experienced in an area is highly dependent on the local topography among other factors. While, the allocated area is flat with only two hills that are close to the proposed solar plant area. The average hourly wind speed in Rehoboth experiences significant seasonal variation over the course of the year. The windier part of the year lasts for 6.5 months, from May 13 to November 29, with average wind speeds of more than 8.2 miles per hour. The windiest month of the year in Rehoboth is July, with an average hourly wind speed of 9.7 miles per hour. The calmer time of year lasts for 5.5 months, from November 29 to May 13. The calmest month of the year in Rehoboth is March, with an average hourly wind speed of 6.7 miles per hour.

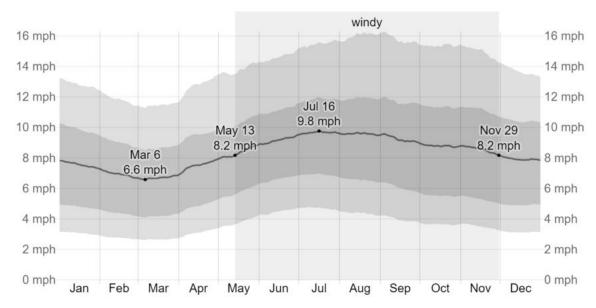


Figure 8. Average wind and maximum speed for the town of Rehoboth.



Activities around the solar power plant area mainly consist of tourism and small-scale livestock farming. Besides tourism, there are no other industries or operating mines in the area. Probable sources of air pollution in the area are emissions and dust from vehicles travelling on gravel roads, dust generated by cattle grazing and wind erosion from the exposed areas.  $PM_{10}$  describes all particulate matter in the atmosphere with a diameter equal to or less than  $10~\mu m$  and are generally emitted from motor vehicles (diesel engines) and burning of wood.  $PM_{2.5}$  describes all particulate matter in the atmosphere with a diameter equal to or less than  $2.5~\mu m$  and are mostly related to combustion.  $NO_2$  and nitric oxide (NO) are formed simultaneously in combustion processes and other high temperature operations such as blast furnaces. Sources of  $SO_2$  include fossil fuel combustion from industry and power plants.  $SO_2$  is emitted when coal or other biomass fuels are burnt for energy.

Data from accuweather.com shows that the air quality in the area is generally excellent with an air quality index of 15 AQI. The ground-level ozone (O<sub>3</sub>) is about 15  $\mu$ g/m³ which is excellent. The fine particle matter levels (PM <sub>2.5</sub>) are about 9  $\mu$ g/m. The particle matter (PM<sub>10</sub>) is about 9  $\mu$ g/m³. The nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), and sulphur dioxide (SO<sub>2</sub>) levels in the area are recorded to be 0  $\mu$ g/m³.

## 4.3 Geology

## 4.3.1 Geological setting

The allocated area covered by alluvium cover, mostly Kalahari sand cover. There are a few isolated outcrops close to the site of Hornkrantz Granite Gneiss and Kobos granites. In addition, the larger area is underlain by a variety of metamorphosed sediments and igneous rocks of the Sinclair Sequence. Towards the south, closer to Rehoboth, most of the formations are intruded by dolerite dykes. The area is also surrounded by quartzite and phyllite-rich meta-sedimentary rocks.



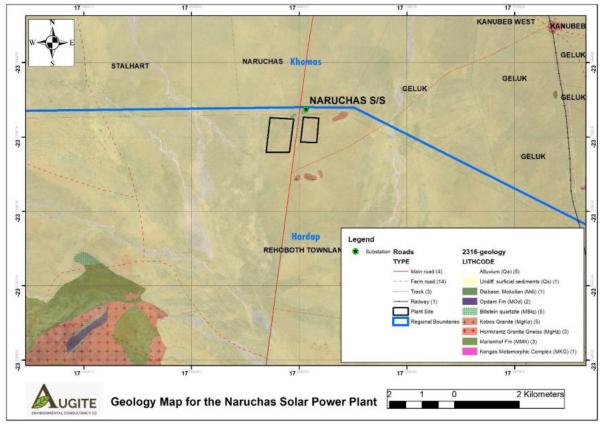


Figure 9. The various geological complexes that can be found in the area the Naruchas Sub-station.

## Hydrogeology and Water Resources

The area is underlain by rocks with little groundwater potential and aquifers with low to moderate groundwater potential. The allocated area is mostly covered by sand, gravel and unconsolidated to semi-consolidated calcrete. The water flow direction is predominantly towards the south and south west. Hence, the groundwater system is mostly recharged from water from the Khomas highlands in the north. There is low vulnerability on the aquifer and the water quality is excellent and good for human consumption in the area.



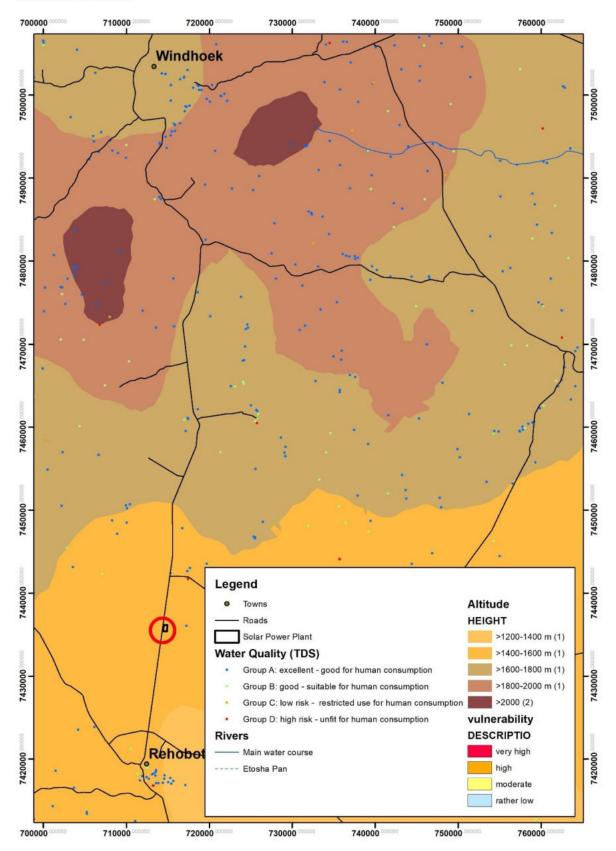
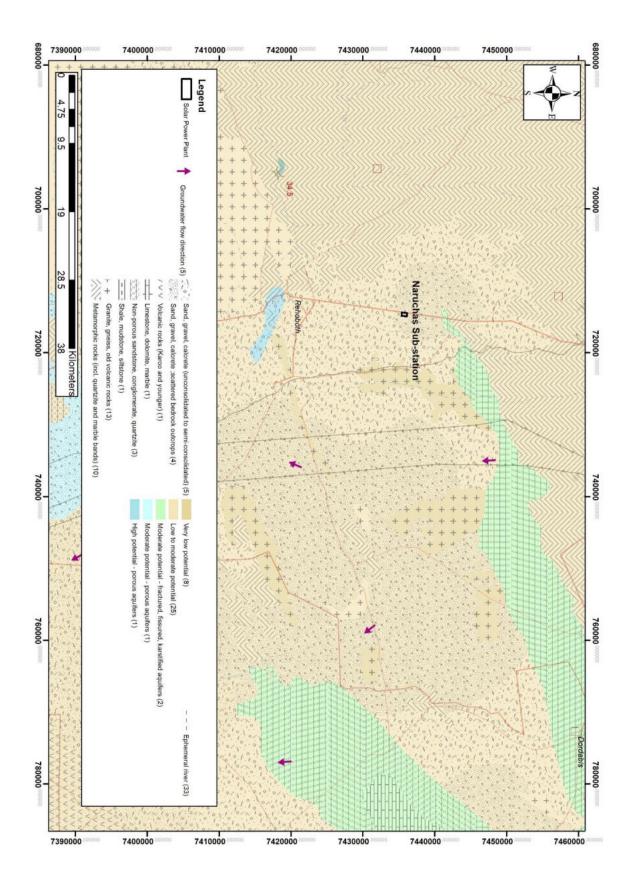


Figure 10. The hydrogeological map of the Naruchas sub-station, where the solar power plant will be constructed.







### 4.5 Flora and Fauna

The vegetation in the allocated area is a transition zone between three vegetation zones: there is a Kalahari shrubland to the east, the Nama Karoo to the south and the shrub savannah to the north. The allocated area consists of mostly thorn shrub savannah and a lot of floristic elements of the Nama Karoo association like dwarf shrub and grass species. There are a variety of Acacias and perennial thorn trees in the valleys, and shrubs and grass such as acacias Erubescene, Acacia Erilobia.

The information is based on a detailed literature review and a site visit which was carried out. The area is a habitat for many invertebrate's frogs, snakes and geckoes. Small mammals occurring in the smaller landscape, encompass several species of bats, shrews, mice, gerbils, hares, mongooses, rats, ground squirrels and black backed jackal.

#### Avifauna (Birds)

Simmons et al (2003) points that although Namibia's Avifauna is comparatively sparse compared to the high rainfall equatorial areas elsewhere in Africa, approximately 658 species have already been recorded with a diverse unique group of arid endemics. There are approximately 650 species of birds that have been recorded in Namibia, although the country's avifauna is comparatively sparse compared to the high rainfall equatorial areas in Africa (Brown & Lawson, 1989). Brown et al (1989) mentions that 14 species of birds are endemic or near endemic to

Namibia with the majority of Namibian endemics occurring in the Savannah of which ten species occur in a north south belt of dry Savannah in Central Namibia. Simmons (2003) recorded 240 species of birds within the vicinity of the project area. These birds consist of raptors, chats, larks and karoid species. Christian (2005) recorded the presence of the following bird species in the vicinity of the area, which include:

The project area does not fall within an Important Birding Area (IBA). Fourteen species of birds are endemic or near endemic to Namibia occurring in the savannas (30%) of which ten species occur in a north-south belt of dry savanna in central Namibia.

A full list of bird species within the area is shown in the appendix.



### Archaeology and Heritage Sites

Archaeological sites in Namibia are protected under the National Heritage Act of 2004 (No. 27 of 2004). Evidence shows that, the emergence of modern humans and their ancestors have lived in Namibia for more than one million years, and there are fossil remains of lineal hominin ancestors as early as the Miocene Epoch (Kinahan, 2017). Erongo is one part of the country with high archaeological sensitive areas, with more than 37 declared national monuments in Namibia and other non-designated archaeological sites. Archaeological sites offer an abstract of the past with regards to the way our forefathers lived and interacted with the environment. All historical objects that are older than 50 years and which can be found in the state of disuse, ranging from tools, artefacts, human and hominoid remains, and artificial features and structures can all be considered as archaeological objects.

Reviewing the previous reports and data has shown that there no known heritage sites close to the existing solar plant site. The only known heritage sites are located some 70 kilometres north in Windhoek, these sites are namely the Heroes Acre, Prayer Mounds and Mass Grave at Old Location Cemetry site. Archaeological sites are essential from a scientific, cultural, tourism and legal perspective, hence they will be protected (fenced in or removed) if discovered in the area.

#### Socio-Economic Environment

## 4.9.1 Demographics of Rehoboth

The town of Rehoboth is located just south of Windhoek, approximately 90 kilometers. Rehoboth is the second largest town in the Hardap region. The town is in the central part of Namibia, located in a high elevation plateau with several natural water hot-springs. The population of Rehoboth has increased from 21,378 in 2005 to 40,788 in 2023. The town is subdivided into eight neighbourhoods, which locally known as blocks. The various can be classified based income and wealth in the town.

The region's economy is heavily reliant on the agricultural activities. The area receives much higher rainfall in comparison to the rest of the country, the region has great agricultural potential for the cultivation of various crops. There is also potential for organised abatoir and



large livestock export, which should stimulate job employment and related industries. The land in the area is communal land and is being administered by various traditional authorities.

### 4.9.2 Social Economic Impact

Although a few people (including farmers) and animals might be negatively affected by dust and noise during the construction, the proponent must ensure that these aspects are properly mitigated. In addition, once construction has been completed, the energy generation/production is a relatively noise free and there will be no dust in the area. There will be a loss of agricultural land (roughly 65 Ha), hence this will be a negative impact. There will be closer accessibility to power and greater energy security in the country. That will be a major positive development to the country. The construction phase of the project will ensure employment creation. There will be some vegetation removal and habitat destruction during the construction phase. There will be some generation of dust and visual effects during the construction phase. There might be some bird's collision from the reflection of the solar panels.

With the potential employment of 80 people, this means that 100 families will benefit from the solar power plant project. The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community. Community meetings will be held from time to time by the proponent wherever possible, with the purpose of effectively communicating with the local community and to avoid any unexpected social impacts. Farming accounts for 35.57% of household income followed by 26.31% earn from wages and salaries. Under agriculture crop farming accounts for 60.15% and livestock farming 26.06% of household income. A well-established and active regional farmers' association, which is affiliated to the national farmers' union, advocates for the small farmers.

### 5. Assessment of Impacts

The purpose of this assessments of impacts section is to identify and consider the most pertinent environmental impacts and to provide possible mitigation measures that are expected from the agricultural activities from the allocated area. Two different phases are associated with the proposed development. Firstly, the clearing phase, and secondly the harvesting after the cultivation is being covered by this assessment. Should the solar power plant activities cease in the future, an EIA will need to be conducted to deal with the associated changes to environment. Mitigation measures for the identified impacts are also provided in this Section.



The following assessment methodology was used to examine each impact identified:

Table 2. Criteria for Assessing Impacts

PART A: DEFINITION AND CRITERIA							
Definition of SIGNIFICANO	CE	Significance = consequence probability					
Definition of CONSEQUEN	CE	Consequence is a function of severity, spatial extent and duration					
Criteria for ranking of the	Н	Substantial deterioration (death, illness or injury). Recommended level will often be					
SEVERITY/NATURE of		violated. Vigorous community action. Irreplaceable loss of resources.					
environmental impacts	M	Moderate/measurable deterioration (discomfort). Recommended level will					
		occasionally be violated. Widespread complaints. Noticeable loss of resources.					
	L	Minor deterioration (nuisance or minor deterioration). Change not measurable/will					
		remain in the current range. Recommended level will never be violated. Sporadic					
		complaints. Limited loss of resources.					
	L+	Minor improvement. Change not measurable/will remain in the current range					
		Recommended level will never be violated. Sporadic complaints.					
	M+	Moderate improvement. Will be within or better than the recommended level. No					
		observed reaction.					
	H+	Substantial improvement. Will be within or better than the recommended level.					
		Favorable publicity.					
Criteria for ranking the	L	Quickly reversible. Less than the project life. Short-term					
DURATION of impacts	M	Reversible overtime. Life of the project. Medium-term					
	Н	Permanent beyond closure – Long-term.					
Criteria for ranking the	L	Localized-Within the site boundary.					
SPATIAL SCALE of	M	Fairly widespread–Beyond the site boundary. Local					
Impacts	Н	Widespread – Far beyond site boundary. Regional/national					

Table 3. The various impacts consequences

### PART B: DETERMINING CONSEQUENCE

### SEVERITY = L

DURATION	Long-term	Н	Medium	Medium	Medium
	Medium term	M	Low	Low	Medium
	Short-term	L	Low	Low	Medium

### SEVERITY = M

DURATION	Long-term	Н	Medium	High	High
	Medium term	M	Medium	Medium	High
	Short-term	L	Low	Medium	Medium

SEVERITY = H



DURATION	Long-term	Н	High	High	High
	Short-term	L	Medium	Medium	High
			L	M	Н
			Localized Within site boundary Site	Fairly widespread Beyond site boundary Local	Widespread Far beyond site boundary Regional/national

Table 4. The various significance of the impacts

	PART C: DETERMINING SIGNIFICANCE						
PROBABILITY	Definite/Continuous	Н	Medium	Medium	High		
(of exposure to	Possible/frequent	M	Medium	Medium	High		
impacts)	Unlikely/seldom	L	Low	Low	Medium		
			L	M	Н		
			CONSEQUENCE				

Table 5. The various interpretation of significance.

PART D: INTERPRETATION OF SIGNIFICANCE				
Significance	Decision guideline			
High	It would influence the decision regardless of any possible mitigation.			
Medium	It should have an influence on the decision unless it is mitigated.			
Low	It will not have an influence on the decision.			

<sup>\*</sup>H = high, M = medium and L = low and + denotes a positive impact.

## **Public Participation Process**

The public participation process commenced with newspaper advertisements in two widely distributed newspapers for three consecutive weeks as shown in Appendix B. Known interested and affected parties were notified directly via mail and fax. Posters were placed at the office of



the Regional Council office and at the site as well. Interested and affected parties that were notified directly including farmers. No negative concerns were received at this stage. Should any interested and affected parties raise any concerns during the on-going project phase, the Ministry of Environment and Tourism will be immediately notified. The registered interested and affected are indicated in the table below:



### 5.1. Overall socio-economic benefits and issues

### 5.1.1. Socio-economic benefits

With the potential employment of 180 people, this means that 200 families will benefit from the project during the construction phase. The 20 MW solar PV project will a total of 180.8 full time equivalent (FTE) jobs, primarily for highly skilled personnel and construction workers. The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community. Community meetings will be held from time to time by the proponent wherever possible, with the purpose of effectively communicating with the local community and to avoid any unexpected social impacts. The project generates 67,800MWh electricity and supplies enough clean energy to power 16 000 households. The project will consists of 33 000 modules and 100 inverters will be installed on the project site. The project will be developed in a single phase. The power will be sold to Nampower under a power purchase agreement.

### 5.1.1.1. Potential Direct Benefits

**Direct capital investment:** The solar power plant project will require a significant capital investment of at least N\$ 350 million. the project will take approximately 15 months to complete and approximately 65 hectares of land is required to supply 67.8 GWh of clean energy annually.

**Stimulation of skills transfer:** Due to the nature of photovoltaic projects, the proponent will implement ad-hoc training programme for some of its staff members. Training programmes will be well structured and staff members will permanently benefit from these training programmes. The employment opportunities created by the proponent growing solar energy market add to the already compelling reasons to implement robust clean energy policies at the national and region levels.

**Job creation:** With the potential employment of 180 people, this means that 180 families will benefit from the project during the on-going phase. The project has a great potential to improve livelihoods and contribute to sustainable development within the surrounding community.



#### 5.1.1.2. Potential Indirect Benefits

- The data generated from the solar power project programme will be made available to the Ministry of Mines and Energy for future research purposes.
- General enhancement of the health conditions and quality of life for a few people in the surrounding settlements.
- Of significance is the prospect of diversification of the surrounding economy, which is presently mainly focussed on subsistence communal farming.
- The setting up of this solar power plant will result in Namibia becoming a more energy reliant country and will be less dependent on neighbouring countries.

### 5.1.1.3. General socio-economic concerns

Notwithstanding the above benefits there are a few concerns that could reduce or counteract the above benefits related to the project, as follows:

- As the movement of staff and contractors to and from the area increases, the risk of spread of HIV/AIDS increases.
- Increased influx of people to the area as people come in search of job opportunities during the construction of the solar power plant project; and
- Increased informal settlement and associated problems.
- Scenic view that will be lost around the area
- Loss of agricultural land- a loss of 65 Ha land for communal agricultural purpose will have a negative socio-economic effect.
- Electric and Magnetic Fields (EMF)- electric and magnetic fields are created with the generation and use of electricity and at the frequency of the electrical power system.
- Birds collisions- birds might collide if blinded by the solar panels reflection to the sun rays. However, birds are attracted to the shininess of solar panels, which often look like moving water when flying above. Some birds mistake panels for bodies of water and try to dive into the "water," which hurts or kills them. Many researchers have noted birds that try to dive into solar panels are aquatic species.

Table 6. Impact evaluation for socio-economy

Identified	Significance	Duration	Extent	Intensity	Probability
Impact	NMM MM				



Increased spread	M	L	LD	N	M	LP
of						
HIV/AIDS &						
Covid-19						
Increased influx of	L	L	SD	L	L	P
people to the area						
Increased	M	L	MD	L	L	LP
informal						
settlement in the						
area						
Scenic view	M	L	LD	L	M	L
Loss of	M	M	M	Н	Н	Н
agricultural land						
Electric and	L	L	L	L	L	L
Magnetic Fields						
(EMF)						
Birds impact	M	M	M	L	M	LM

Solar Plant activity phases and associated issues

### 5.2.1. Construction of the Solar Power Plant Phase of the Project

The following potential effects on the environment during the construction phase of the solar power plant project have been identified:

### 5.2.1.1. Dust

Dust may be generated during this phase and might be aggravated during the winter months when strong winds occur. Dust will be generated by the vehicles moving in the area. Fall out dust settling on vegetation is likely to cause local disruptions in herbivorous and predatory complexes and should be minimised as far as possible.

### 5.2.1.2. Noise

Noise will most likely be generated by vehicles during the construction phase. It is recommended that vehicle movement be limited to normal daytime hours to allow nocturnal animals to roam freely at night.

### 5.2.1.3. Safety and Security

During the construction phase, small tools and equipment will be used on site. This increases the possibility of injuries, and the responsible manager must ensure that all staff members are



briefed about the potential risks of injuries on site. The manager is further advised to ensure that adequate emergency facilities, including first aid kits, are available on site. All Health and Safety standards specified in the Labour Act should be complied with. Should a camp be necessary at a later stage, it should be in such a way that it does not pose a risk to the community members and wildlife that roam the area.

### 5.2.1.4. Visual

The allocated area is situated more than 1 km from any main road. As such, any visual impact that might be caused by the solar power plant workers team are minimal. In some parts of the area, the topography of the allocated site is very flat. Birds that are temporarily blinded by the solar panels



Table 7. Impact evaluation for the target generation phase of the project.

Identified	Significance		Duration	Extent	Intensity	Probability
Impact	NMM	MM				
Dust	L	L	LD	N	M	LP
Noise	M	L	SD	L	L	P
Safety & Security	M	L	MD	L	L	LP
Visual	L	L	MD	О	L	LP

### 5.2.2. Generating Energy Phase of the Project

During the operation phase of the project, many workers might be needed to assist with the generation and supplying of energy to the main grid line. To conveniently refuelling company vehicles without driving long distances, a small portable fuel storage tank will be brought on site.

### 5.2.2.1. Air Quality

In terms of air quality, emissions will be given off by 4x4 vehicles and tractors but not to an extent that warrants concern. Dust will also be produced by the tractors and the movement of vehicles in the area.

### 5.2.2.2. Fire and Explosion Hazard

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and subsequent safety risks may arise.

All fuel storage and handling facilities in Namibia must however comply with strict safety distances as prescribed by SANS 10089. SANS 10089 is adopted by the Ministry of Mines and Energy as the national standard. It must further be assured that enough water is available for fire firefighting purposes. In addition to this, all personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the exploration area. Regular inspections should be carried out to inspect and test firefighting equipment and pollution control materials at the solar power plant site.



All fire precautions and fire control at the site must be in accordance with SANS 10089 1:1999, or better. A holistic fire protection and prevention plan is needed.

Experience has shown that the best chance to rapidly put out a major fire, is in the first 5 minutes. It is important to recognise that a responsive fire prevention plan does not solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to timeously prevent, curb and avoid conditions that may result in fires. An integrated fire prevention plan should be drafted before harvesting.

### 5.2.2.3. Generation of Waste

Solid waste be generated from contractors, staff members and other visitors to the area. Care should be taken when handling waste material. The types of waste that could be generated during operation include hazardous industrial waste (e.g. lubricants), general industrial waste (e.g. scrap material), and domestic waste (e.g. packaging). The waste will be temporarily handled and stored on site before being removed for final disposal at permitted waste disposal facilities. A registered Waste Management Company would be contracted to remove all hazardous waste from the exploration site. Ablution facilities will use chemical toilets and/or sealed septic tanks and the sewerage taken to the local village periodically. No waste will be discharged on site.

### 5.2.2.4. Health and Safety

Occupational exposures are normally related to the dermal contact with fuels and inhalation of fuel vapours during handling of such products. For this reason, adequate measures must be brought in place to ensure safety of staff on site, and includes:

- Proper training of operators;
- First aid treatment;
- Medical assistance;
- Emergency treatment;
- Prevention of inhalation of fumes;
- Protective clothing, footwear, gloves and belts; safety goggles and shields;
- Manuals and training regarding the correct handling of materials and packages should be in place and updated as new or updated material safety data sheets becomes available;
- And Monitoring should be carried out on a regular basis, including accident reports.



### 5.2.2.5. Fauna

Solar power plant generating facilities may have minor disturbances on the habitat of a few species but no significant impacts on the animals are expected. The proponent shall ensure that no animal shall be captured, killed or harmed by any of the employees in any way. Wildlife poaching will strongly be avoided as this is an offence and anyone caught infringing in this regard will face suspension from the project and will be liable for prosecution.

### 5.2.2.6. Vegetation

The natural vegetation is seemingly undisturbed in the project area except for grasses, which have been grazed by livestock and wild animals. Some vegetation species in the area may be adversely impacted by the project. The solar power plant site will also be fenced off. The type of vegetation that might be affected by the project are:

- Bushes
- Ephemeral grasses
- Small trees

Some of the sensitive vegetation types in the area include:

- Shallow drainage line vegetation
- Scrublands surrounding the mineral exploration area

Certain species regarded as particularly important for conservation may yet be identified and made known via an Addendum to this report. If particularly important species are found, they will be located by GPS and their locations communicated to the Ministry of Environment and Tourism. Such locations will then be demarcated and completely avoided.

### 5.2.2.7. Avifauna

Birds or Nest sites will not be disturbed by any employee, tourist or contractor. Should the employees observe any bird nesting sites for vultures, they will be reported to the Ministry of Environment and Tourism and the site will be avoided.

### 5.2.2.8. Alien Invasive Plants

Disturbance to the natural environment often encourages the establishment of alien invasive weed species. Some of the plant species that could become invasive in the area are listed below:



- Prosopis glandulosa
- Lantana camara
- Cyperus esculentus
- Opuntia imbricate
- Cereus jamacara
- Melia azedarach

There are numerous ways in which invasive species can be introduced deliberately or unintentionally.

### 5.2.2.9 Heritage Impacts

Although no archaeological sites have been identified yet in the project area, appropriate measures will be undertaken upon discovering any new archaeological sites. All archaeological remains are protected under the National Heritage Act (2004) and will not be destroyed, disturbed or removed. The Act also requires that any archaeological finds be reported to the Heritage Council Windhoek.

Table 8. Impact evaluation for the operational phase of the project.

Identified	Significance		Duration	Extent	Intensity	Probability
Impact	NMM	MM	-			
Air Quality	M	L	LD	L	M	HP
Fire &	Н	L	SD	О	M	LP
Explosion						
Hazard						
Generation	M	M	SD	О	M	D
of waste						
Health and	Н	M	LD	N	M	P
Safety						
Fauna	M	L	MD	L	M	D
Vegetation	M	L	MD	L	M	D
Avifauna	M	L	MD	L	M	LP
Alien	M		L	MD	L	P
Invasive						
Plants						



Heritage	M	L	O	Н	LP

### 5.2.2.10 Groundwater Impacts

Solar Power Supply services will not affect the availability of water and or the quality therefore works may affect the water availability for deep rooted trees in riverbeds. Surface water for animals may be affected by the energy supply activities during the construction phase. In rare instances, the quality of the groundwater for water consumption may be compromised by energy supply activities only during the construction phase. The water consumption of a solar power plant is minimal to non-existent when the solar power plant is in full operation.

### River Morphology

There will be no direct contact with the river, hence no morphological changes are expected to occur. The rivers in the area are ephemeral and located at least two kilometres from the proposed plant site.



Planning and Designing Phase							
Impact	Mitigation measures						
Flora and	• Do not clear cut the entire development site, but rather keep the						
Fauna	individual trees/shrubs not directly affecting the developments as						
(Biodiversity)	part of the landscaping.						
	• Protected trees are not to be removed without a valid permit from						
	the local Department of Forestry						

	Constructional Phase Impacts				
Impact		Mitigation measures			
Flora	and	• Prevent the destruction of protected and endemic plant species.			
Fauna		• Prevent contractors from collecting wood, veld food, etc. during			
		the construction phase.			
		• Recommend the planting of local indigenous species of flora as part			
		of the rehabilitation at sites where sand, gravel and rock has been			
		removed as these species would require less maintenance than			
		exotic species.			
		• Prevent the introduction of potentially invasive alien ornamental			
		plant species such as; Lantana, Opuntia, Prosopis, Tecoma, etc.; as			
		part of the landscaping as these species could infest the area further			
		over time.			
		• Protected trees and plants are not to be removed without a valid			
		permit from the Ministry of Agriculture, Water and Land Reform.			
Surface	and	No dumping of waste products of any kind in or near surface water			
Ground		bodies or in the riverbed.			
Water		• Heavy operations vehicles should be kept out of any surface water			
Impacts		bodies (including the river) and the movement of construction			
		vehicles should be limited where possible to the existing roads and			
		tracks.			



ENVIRONMENTAL CONSULTANCY	<ul> <li>Ensure that oil/ fuel spillages from operation vehicles and machinery are minimised and that where these occur, that they are appropriately dealt with.</li> <li>Drip trays must be placed underneath operation vehicles when not in use to contain all oil that might be leaking from these vehicles.</li> <li>Contaminated runoff from the operation sites should be prevented from entering the surface and ground water bodies.</li> <li>All materials on the operation site should be properly stored.</li> <li>Disposal of waste from the sites should be properly managed and</li> </ul>
	<ul> <li>Operation workers should be given ablution facilities at the operation sites that are located at least 30 m away from any surface water and regularly serviced.</li> <li>Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash operation equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.</li> </ul>
Soil Erosion	<ul> <li>Appropriate erosion control structures must be put in place where soil may be prone to erosion.</li> <li>Checks must be carried out at regular intervals to identify areas where erosion is occurring.</li> <li>Appropriate remedial actions are to be undertaken wherever erosion is evident.</li> </ul>
Heritage	<ul> <li>The project management should be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds.</li> <li>In the event of such finds, construction must stop, and the project management or contractors should notify the National Heritage Council of Namibia immediately.</li> </ul>
Health, Safety and Security	<ul> <li>Personnel should not overnight at the site, except the security personnel.</li> </ul>



ENVIRONMENTAL CONSULTANCY	YCC
	• Ensure that all personnel are properly trained depending on the nature of their work.
	Provide for a first aid kit and a properly trained person to apply first
	aid when necessary.
	Restrict unauthorised access to the site and implement access
	control measures.
	<ul> <li>Clearly demarcate the operation site boundaries along with signage</li> </ul>
	of "no unauthorised access".
	<ul> <li>Clearly demarcate dangerous areas and no-go areas on site.</li> </ul>
	<ul> <li>Staff and visitors to the site must be fully aware of all health and</li> </ul>
	safety measures and emergency procedures.
	• • • •
	The contractor must comply with all applicable occupational health and safety requirements.
	The workforce should be provided with all necessary Personal  Protective Equipment where comparations
Tr ee-	Protective Equipment where appropriate.
Traffic	Limit and control the number of access points to the site.  Example 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
	Ensure that road junctions have good sightlines.
	Operational vehicles' need to be in a road worthy condition and
	maintained throughout the operational phase.
	Transport the materials in the least number of trips as possible.
	Adhere to the speed limit.  I always a second of the speed limit.
<b>N</b> 7 •	Implement traffic control measures where necessary.
Noise	No amplified music should be allowed on site.
	Inform immediate neighbours of operation activities to commence
	prior to commencing and provide for continuous communication
	between the neighbours and contractor.
	Limit operation times to acceptable daylight hours.
	Install technology such as silencers on operation machinery.
	Do not allow the use of horns as a general communication tool but use
D. A.	it only where necessary as a safety measure.
Dust and	It is recommended that dust suppressants such as Dustex be applied to
Emission	all the operation clearing activities to ensure at least 50% control
	efficiency on all the unpaved roads and reduce water usage.



	Operation vehicles to only use designated roads.
	During high wind conditions the contractor must make the decision
	to cease works until the wind has calmed down.
	Cover any stockpiles with plastic to minimise windblown dust.
	Provide workers with dust masks where necessary.
	Should dust levels become significant dust suppression techniques
	should be applied.
	Waterless dust suppression means should be utilised within areas
	experiencing water scarcity.
Waste	It is recommended that waste from the temporary toilets be disposed
	of at an approved Wastewater Treatment Works.
	• Enough waste bins should be placed around the site for the soft refuse.
	• Enough skip containers for the heavy waste and rubble should be
	provided for around the site.
	Solid waste will be collected and disposed of at an appropriate local
	land fill or an alternative approved site, in consultation with the local
	authority.
Hazardous	Storage of the hazardous substances in a bunded area, with a volume
Substances	of 120 % of the largest single storage container or 25 % of the total
	storage containers whichever is greater.
	Refuel vehicles in designated areas that have a protective surface
	covering and utilise drip trays for stationary plant.



### Conclusion

The scoping report is prepared for the Environmental Impact Assessment Ano Energy (Pty) Ltd, was provisionally granted 65Ha of land in the Hardap region to construct a solar power plant. Environmental scoping is a critical step in the preparation of an EIA for the solar power plant project.

In most cases, the solar power plant project will not be complicated, and it involves removing some vegetation and some trees from an already sparsely vegetated area on small portions for construction purposes. With the implementation of the recommended mitigation measures in this scoping assessment, the significance of the operational phase impacts can be likely reduced to a low (negative).

With the potential employment of 150 people, this means that 150 families will benefit from the project during the construction phase of the project and upon the more skills will be transferred during the power generation phase, the local economy will benefit due to the circulation of money in the region. The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community.

The potential negative impacts associated with the proposed solar power plant farm in the Hardap region are expected to be low to medium in significance. Provided that the relevant mitigation measures are successfully implemented by the proponent, there are no environmental reasons why the proposed project should not be approved. The project will have significant positive economic impacts that would benefit the local, regional and national economy of Namibia.

Several other potential impacts have been addressed in Section 5 and 6 of this EIA, and will be managed through the implementation of the EMP. The EMP contains a set of Environmental Specifications that will form part of all contracts between the proponent and contractors such as lubrication companies. The requirements of the EMP will be enforced on site by the Management team, and periodic environmental audits will be undertaken and submitted to MET. This EIA has been subject to a few limitations, which are explained as follows: the time available in which to secure an environmental contract with the authorities; and, the limited botanical work done to date did not raise any concerns but will be monitored on an on-going



basis. If any "special" species of plants are found, these will be located by GPS. An addendum will then be added to the EMP to indicate localities that should be avoided, or to implement other appropriate measures about any special plants.



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Public notices in Rehoboth



































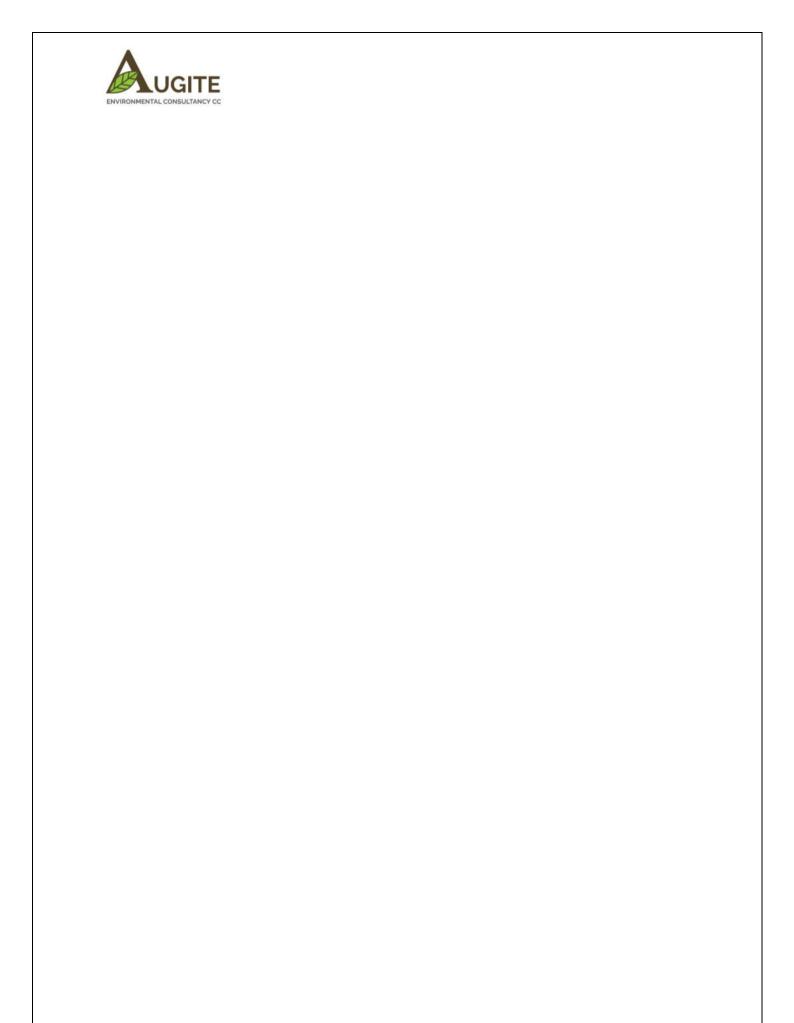














### **Newspaper Adverts**







#### NATIONAL COUNCIL

#### DIVISION: RESEARCH AND INFORMATION SERVICES

Chief Development Planner Grade 6 (Parliamentary Researcher)

Number of position Number of position Duty Station Salary Scale Salary Notch Transport Allowance Windhoek N\$354,883 – N\$424,119 N\$354,883 per annum N\$10,512 per annum N\$17,424 per annum

um Requirement: An appropriate B. Degree qualification NQF Level 7.

Bisting Preference: A disgree in Research, Publical science, Public administration or any other relevant is ciences or equivalent at MQT level 7 plus at least three (3) years of appropriate experience in research policy development environment will serve as a radical advantage.

he functions of the Chief Development Planner (Parliamentary Researcher) (Grade 6) are to:

- he functions of the Chief Development Planner (Parliament) Risearcher) (Grade 6) are to:

  Frovide research assistance to Members of Parliament (MPs), parliamentary Committees, and Senior
  management of the National Council.

  Undertake and facilitate the undertaking of research and present research findings to MPs, Committees,
  Management and relevant stakeholders.

  Guisée and facilitate the National Council (Parliament')'s research agenda through a defined research cycle;
  Develop research proposals and mobible resources for the same:
  Champion Parliamentary research by training and guiding staff of the National Council on appropriate
  Champion Parliamentary research by training and guiding staff of the National Council on appropriate
  Champion Parliamentary research by the National Council on appropriate
  Champion Parliamentary research and in parlicular parliamentary research and publications and report on
  the same for purposes of adapting it to the context of the National Council on appropriate
  Assist with the compilation, implementation and coordination and of the National Council is Strategic Plan
  and Performance Management System (PMS).

  Support National Council to develop and implementation of a coordination and of the National Council is Strategic Plan
  and Performance Management develop and implementation of a coordination and council to develop and implementation of recommendations of the Council by Offices/Melatinish
  Assist the National Council to develop and implementation of precommendations, or the Council by Offices/Melatinish
  Assist the National Council to develop and implementation or recommendations or the Council to carry out their fegiciative, oversight and
  representations.

  May from the time to temper to the required to travel with the Members and staff of Parliament in and out of the
- Supports that features a first such as the contraction of the support of the supp

ase Note: In terms of the National Council Affirmative Action Plan for the period 2023 – 2025, persons with abilities are encouraged to apply for this position.

Enquiries: Mr Immanuel Kooper at Telephone No: 061-202 8048 Mr Barney Karuuombe at Telephone No: 061 - 202 8012

plicants should familiarize themselves with the information below which is applicable to all ertised positions for the National Council

- Candidacy is not limited to Public Servants only and preference will be eigen to Namibian Nationals
- Applications for all positions advertised herein, must be made on the latest revised Application for Employment Number 156043 and Health Questionnaire Form Number 156094 with a <u>provision of current resolvery under Section</u>. Q which is obtainable at all government offices, definitions, Agencies. Please take note that no any other version will be accepted and failure to complete the correct form or to attach all required documents will result in automatic disqualification of the application.
- Where the information requested in the application form or Health Questionnaire that do not apply to ye then the word No. None or N/A (for Not Applicable) must be indicated on that space.
- Candidates from outside the public service must attach testimonials / certificate of service fire and current employers to proof their experience and current job level. Failure to attach proof and current job level will disquality the application.
- All foreign qualifications must be submitted accompanied by certified copy of the evaluation or qualification from Namibia Qualification Authority (NQA).
- se note that only shortlisted applicants will be contacted and no personal documents will be re
- A fully completed Application Form for Employment: Health Questionnaire: detailed Curriculum Vitae; confirmation of probation letter, testimoniats; certificate of service (where necessary), and originally certified copies of educational qualifications accompanied by transcripts (academic records); and National documents (proof of citizenship), must be submitted to the following address:

The Secretary National Council Private Bag 13371 WINDHOEK

CLOSING DATE: MONDAY, 16 SEPTEMBER 2024 @17HOO

Tel: (061) 208 0800/44 Fax: (061) 220 584 Email: classifieds@nepc.com.na

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CLASSIFIEDS



a must Must possess a MSChS dagnee At least 5 years' experience post internetip Demonstrated diagnostic competence and minor surgical skills



Environmental Impact Assessment for a Solar Power Plant in the vicinity of Rehoboth, Hardap Region, Namibia

Project: The allocated solar power plant area is located Reholoots, in the Herstap region.

Preponent: AND Creegy (Pig) Ltd:
All influents and affected prefixes are hereby mixed to register and
All influents and affected prefixes are hereby mixed to register and
authorithms commontering registering the proposed project on or before
64/09/09/60 Contractivities the registrations are further influentation.
Apple Contractivities and Consulting
Dr. R. Kongueste
Tomat Statistics and Consulting
Dr. R. Kongueste
Cost Insultance (DRITOSOCOT)

COMMITTE IN TERMS OF THE MERCHANDERS OF THE MERCHAN

According to the Keelmanshoop Town Planning Scheme dated August 2015 Hale 8 Column A. a shallows it as consent use for a Residential Issued of I the velocity Residential Issued of I the velocity haliness on my or to include the operation of anything the country that is the scheme and the consent for the land as the scheme and the scheme and the scheme and the included in the scheme and the termination that the custom land of the scheme and the scheme a The specialists of publication is a the manual programme of the manual programme of the submitted of the submitted of the Seatement of the submitted of the Seatement of the Sea

6. Date on which application with bringer 20 - 29 AMSONT 2024 Il Date of meeting of Concentrate a which application will be heard 09 OCTOBER 2024 And Concentration of the property of the pro



20 JFRIDAY 23 AUGUST 2024

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#### ADVERTS

NOTICE OF ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (BUA) FOR THE PROPOSES SMALL AGULE PROSPECTING AND MINING OF BASE AND SAPE MITTALS ON MINING CLAIM NO. 78479 AND 78490 ON TAYAM MISOPOTAMIA NO.504, DICKERAS DESTRICT, KUNINE REGION.



Name: Consulting Services CC hereby give notice to interested and affected parties under section 30 of the Foreironwestal Management Act [No. 7 of 2007) and listed schrifts of FIA Regulation (Ser 26 of 2017) that as application will be submisted to the Provincemental Commissions or the environmental cleanors settlicate (ECC) for the proposed prospecting and mining activities on mining claims No. 70479 and 70480.

Brief Project Description: The Proponent (Mr. Gerhardt Sarlinel) intends to undertake prospecting and subsequent intelligent contents are the two mining dates (TARTS and TARCS) content on form the exposuration. So of its inchronic Sarliner of insuence legions. The activities will inches proposetting activities involving diagrig and definity of identified seas on the noting client to determine are best seas. More Training and at exposuration services are supported to the place of the first of inchinal grants. More Training and at exposuration services are supported to the place of the first of inchinal grants of the services of the services

Date	Versus	Time
29 August 2024	Chorbox Town Council Chamber	33400

Public Participation and commenting period is valid to the 30 August 2004.

Registration requests and comments should be forwarded to the contact details below: Think numbers on the Should com.

Tel: + 354 81494488 (Teodel/ 354 856949740 (Othero)

### CALL FOR PUBLIC PARTICIPATION

Environmental Impact Assessment for a Seiar Pewer Plant in the vicinity of Re-Harday Region, Namibia

This notice serves to inform all interested and affected parties that an application for the servicemental discussors perfects will be learned with the Environmental Commissioner in terms of the Environmental Management Act (No. 7 of 2007) and the Environmental Regulations (ON Dio of 2007).

Preject. The effected salar power plant area in located north of Dehabeth, in the Furnisp Ingles. The applied area covers an one of 30 fee. The prepared field plant area is acceptable slong acceptable via in Hermal present read. The preparent intends to construct a salar power plant the Preparent ANC Brong (PM) List.

All interestsed and effective parties are hereby invited to register and submit their comments reporting the prepassed prescion are hereby 0x0000000. Centect details for registration and further intermediate.

Aught Printermental Concusting

Dr. Kingqueshi Organization

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NOTICE OF ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED SMALL-SCALE PROSPECTING AND MINING OF BASE AND RAFE METALS ON MINING CALMIN NO. 37479 AND 73480 ON FARM MESOPOTAMIA NO.504, KHORIXAS DISTRICT, KUNENE REGION.



Namib Consulting Services CC hereby give notice to interested and affected parties under section 32 of the Environmental Management Act (No. 7 of 2007) and listed activities of Ela Regulation (GN 29. of 2012), that an application will be submitted to the Environmental Commissioner for an environmental correct certificate (ECC) for the proposed prospecting and mining activities on mining claims No. 73479 and 73480.

Proponent: Mr. Gerhardt Kariseb of Kariseb and Sons (Pty) Ltd Environmental Consultant: Namib Consulting Services CC

Brief Project Description: The Proponent (Mr. Gerhardt Karlseb) Intends to undertake prospecting and subsequent mining of base and rare metals on the two mining claims (73479 and 73480) located on farm Mesopotamia No. 504 in khoriaa District of Kunnen Region. The activities will involve, prospecting activities involving digging and drilling of identified area on the mining claims to determine one bearing areas. Minor invasive and non-invasive activities are expected to take place in the form of minimal vegetation clearance, drilling and extraction of the targeted ore-bearing rooks as well as limited movement of machinery, vehicles and personnel, to, onsite and from the project site upon issuance of an ECC.

Date	Venue	Time
29 August 2024	Khorixas Town Council Chamber	10h00

Public Participation and commenting period is valid to the 30 August 2024.

Registration requests and comments should be forwarded to the contact details below: Email: numboonsultine:@email.com; Tel: = 254.814994488 (Tendie)/ 264.856949740 (Othero)

OSHAKATI EXTENSION 2 FROM SINGLE RESIDENTIAL TO BUSINESS, OSHANA REGION Notice is hereby given to all potential interested and Affected Parties (ISAPs) and relevant stakeholders, but an application for an Environmental Clearance Certificate will be submitted to the Ministry of Environment, Forestry, and Tourism (MEFT) for the following activities.

Project title: Rezoning of Ert 354 & 357, Oshakat Extension 2, from Single Residential to Business

Project Location: Oshakati Extension 2, Oshana Region

Proponent: Mrs. Martha Nashidengo

Description: The proponent intends to apply for the Rezoning of Erf 354 & 357 from Single Residential to Business. In terms of the Environmental Management Act (Act No. 67 of 2007), ber Rezoning of land from "Residential" to Commercial, cannot be underfalsen without an Environmental Clearance Certificate being obtained.

I&APs are hereby invited to register, request the Background information Document (BID), and submit input to info@greengain.com.no. The last day to submit input is on 11 September 2024.

The need for a public meeting will be determined after the concurtation and com all registered ISAPs.

For more information: Email eapthgreengain.com.na or itondjatigmail.com Celt: +264 811422927 or 0813380114

### CALL FOR PUBLIC PARTICIPATION

tal Impact Assessment for a Selar Power Plant in the vicinity of Rundu, Kavange East Region,

Project: The allocated safer preser plant area is located east of Runda, in the local Kevenge East region. The applied one score as a rese of 10 km. The propend Safer plant area is accessible along the 30 terms treed them above Danda or Divunda and white the remaining resets praise in accessible date in the district and the propending provided and the propending provided provided and without a safer peace plant that will generate up to 20 MW of peace. Propending Danda Energy (Phy) List









FIREDAY 16 AUGUST 2024

### NATIONAL



### Criminal case filed against Nawatiseb and his wife

HERTTA-MARIA AMUTENJA

Fing Nawafisch, the former deputy minister of information and communication technology and his wife are facing eriminal charges in connection with the sale of a property in Windhoek. The Makambi family initiated the case, bringing to light the allegations of misconduct and the pursuit of just one in the property.

question. However, the transaction soon became a point of contention. In a letter dated 10 August 2024, Boniface Makumbi, on behalf of his bother Godfrey Makumbi,

outlined their concerns regarding

outlined their concerns regarding the sale.

"The sale agree ment contains discrepancies that warrant further investigation," the letter stated. The Matsimbl brothers claim that the Navarishes did not after to the conditions of the sale agreement. The property was allegedly indewated, and the Matsimbl brothers believe the sale was not conducted according to the terms agreed upon.

alle gations of misconduct and the pursuit of just one in the property sale by Navatise and his wife Lina Navatises.

According to court documents filed in May 2023, Godfrey Matumbi cuttered into a sale agreement width the Navatise has for the property in expension, and the sale agreement, which has correspondence. The Navatische side not a direct decision, and a letter dated 10 August 2024. In a letter dated 10 August 2024, and the Matumbi, on behalf of the mate of content side.

were filled on 5 August 2024.

### AR inquires about unpaid wages at Goreangab housing project

HERTTA-MARIA AMUTENJA

Staff Writer

The Affirmative Repositioning movement (AR) has raised concerns over alleged non-payment of workers of salaries at the 113 House Construction Project at 113 House Construction Project at 1 In a feeter dated 13 August, AR Khoman Rigoland Chairperson, Sem Davide called on the ministeer of subant Control of the Control of t urgently.

David commended the government's

David commended the poverenments and the City of Windhoed's effective for an office City of Windhoed's effective for an objective for the completing the 113 houses, but the highlighted use notive of source.

"A total of 25 employees two riting for Capital City Construction, women for March Tongott City Construction, women for the Capital City Construction of March 12024," he stated. Workers have also complained of a lake of employment construct as not unquiled salar for, despite agreements to conseporate for over time and public holiday worst.

reimbursing workers.
David said one worker is owed
N\$14 380, with the payment still

Sem David

outstanding
A prior cover apondence on 3 April highlighted smillsr issues.
AR now seeks inter the most or comment of the most of the most



constituction of 113 houses in March 2024 through the Ministry of Urban and Rural Development. The project aims to improve living standards in informal ættlements, standards in informal ir etfements, with a foots on eliminating shades. Bue yn i Nawa nee-Taryste, the deput maintaire, reposted of that the program has provided 694 affordable houses ince 20021 and noted the time sains direct most. So apply the sains of the sains

### CALL FOR PUBLIC PARTICIPATION

Environmental Impact Assessment for a Selar Power Plant in the vicinity of Rehabots, Hardap Region, Namibia

All interested and effected parties are hereby invited to register and outself tour comments importing the prepared project an or before 04/06/0004. Certail details for registrian ear further efferencies: Augis Environmental Consulting Dr. K Fanguestin Strategies (Consultation) Consultation (Consultation)







### **Traditional Authority Letter**

### Vega Star Energy

Mr. Osho Itope ANO Energy (Pty) Ltd P.O. Box 27 Windhoek, Namibia

Dear Sir,



### LEASE AGREEMENT FOR 45 HA SOLAR POWER PLANT DEVELOPMENT

Following our consideration of your proposal to develop, construct, and operate a 20MW solar power plant for a duration of 25 years, we hereby accept your proposal and its terms.

#### Terms:

- 1. The developer (ANO Energy (Pty) Ltd) will offer the Landlord a five percent (5%) stake in the project company.
- 2. The developer will offer the Landlord ten percent (10%) of the construction works of the Construction Contract for the power plant.
- 3. The developer will offer the Landlord some of the procurement on the power plant.

We have received the draft Lease Agreement and will execute and deliver it to you as soon as possible. Please consider this letter as our approval, allowing you to commence any other processes required to advance the project, such as obtaining Environmental Impact Assessment certificates, and other necessary procedures.

Regards,

081 604 4416



### **Curriculum Vitae of EAP**



# DR KAUKURAUEE KANGUEEHI ENVIRONMENTAL SCIENTIST

### BIO

I am a qualified and professional environmental scientist with experience in environmental geochemistry and biogeochemisty. Strong scientific report writing and data analysis skills. Team player with an eye for detail.

### EXPERIENCE

### SENIOR RESEARCHER & EXPLORATION GEOLOGIST

Arcadia Minerals

### 01 October 2021 - Present

- · Exploration geological activities
- · Hydrogeology
- · Drilling supervision & management
- Geological mapping
- · Geochemical sampling
- · Environmental impacts assessments monitoring
- · Quarterly report writing for EPL renewals
- EIA & EMP reports
- · Identifying new geological targets
- · Geotechnical & structural core logging
- · Financial & budget planning
- · Market monitoring & evaluation
- · Report writing & research
- · Data analysis, interpretation & presentations

+264 81 706 9027/ +264 81 291 0670

kkangueehi0@gmail.com

Windhoek, Namibia

LinkedIn: Kaukurauee Ismael Kangueehi

### EDUCATION

### DOCTOR OF PHILOSOPHY (PHD) | EARTH SCIENCES

University of Stellenbosch

2018 - 2021

# MASTER OF SCIENCE | EARTH SCIENCES

University of Stellenbosch

2016 - 2017

# BACHELOR OF SCIENCE (Honors)

University of Stellenbosch

2015

### BACHELOR OF SCIENCE

University of Namibia

2010



#### FOUNDER & DIRECTOR

Augite Environmental Consultants cc

#### 01 December 2022 - Present

- · Environmental Management Reports
- · Environmental Impact Assessment Reports
- · Public Consultation
- · Evaluation and Monitoring
- · Over Eight (8) EIA's completed to date
- · Environmental Research
- · Stakeholder Engagement
- · Ensuring Environmental Compliance

#### STUDENT DEMONSTRATOR/TUTOR

University of Stellenbosch

### 01 February 2015 - 15 December 2020

Taught 2nd & 3rd year students the following subjects whilst pursuing my Masters & PhD on a full-time basis:

- · Geo-Environmental Science
- · Introduction to Environmental Geochemistry
- Economic Geology
- · Field skills & Engineering Geology

### **EXPLORATION GEOLOGIST**

Sabre Resources Namibia

### 01 March 2010 - 31 October 2013

- · Exploration geological activities
- Hydrogeology
- Drilling supervision
- · Geological mapping
- · Geochemical sampling
- · Environmental impacts assessments monitoring
- · Quarterly report writing for EPL renewals
- · Geotechnical and structural core logging

Reason for leaving: To pursue Postgraduate studies on a full-time basis.

### SKILLS

- · Scientific report writing
- · Data analysis & interpretation
- · Proficient in MS Office Package

### SOFTWARE

- GIS
- BenMap
- . R & Python Programming
- · Hysplit Modeling Software
- Micromme & GeoSoft 3D
   Modelling

### LANGUAGES

- English
- Otjiherero
- Afrikaans



### REFERENCES

Professor Susanne Fietz Professor | University of Stellenbosch

Masters & PhD Supervisor Contact number: +27 79 369 4250

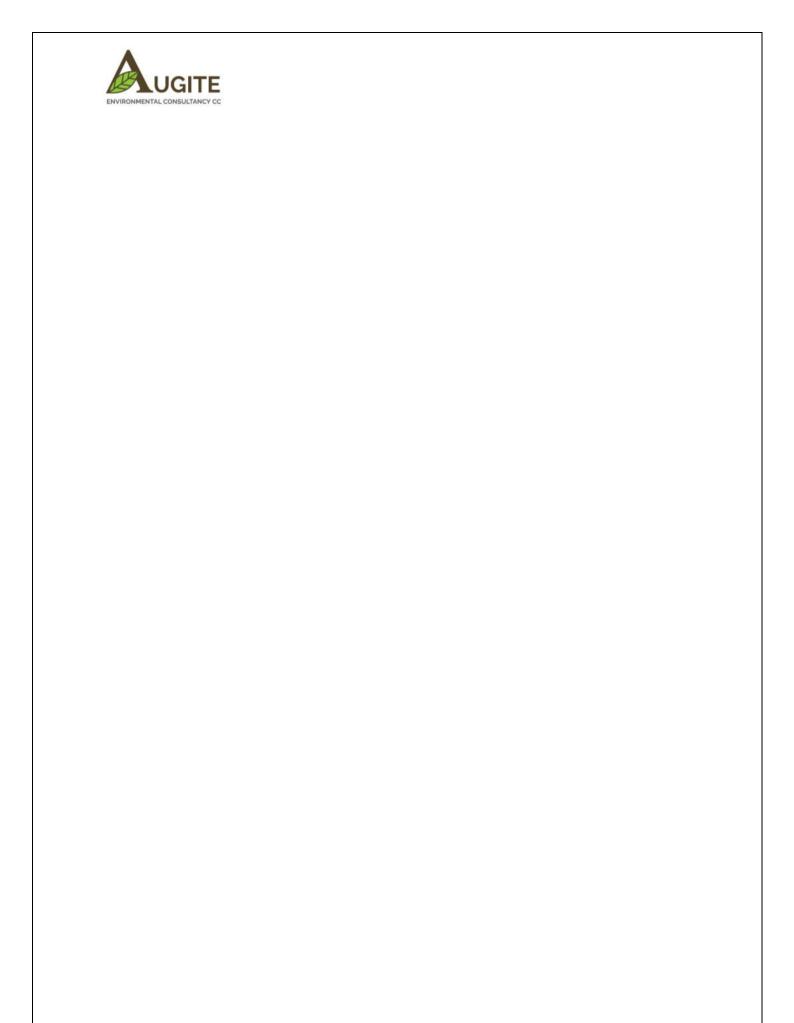
Email: sfietz@sun.ac.za

Professor Frank Eckardt Professor | University of Cape Town

Masters & PhD Co-Supervisor Contact number: +27 21 650 4117 Email: frank.eckardt@uct.ac.za Mr Lisias Pius Country Manager | Arcadia Minerals

Contact number: +264 81 275 6367

Email: lisias@lexrox.co.za





Government Gazette 6 February 2012

25

Form 2

No. 4878

#### REPUBLIC OF NAMIBIA

### ENVIRONMENTAL MANAGEMENT ACT, 2007

(Section 39)

### APPLICATION FOR AMENDMENT OF CONDITIONS OF ENVIRONMENTAL

#### CLEARANCE CERTIFICATE



### A. PARTICULARS OF APPLICANT

Name of Applicant: ANO Energy (Pty) Ltd

Address: P O Box 27 Windhoek, Namibia

Telephone Number: +264817069027

Cell phone Number: +264817069027

Fax Number: +264817069027

E-mail Address: kkangueehi0@gmail.com

Name of Contact Person: Ismael Kangueehi

Telephone Number:

Cell phone Number:

Fax Number:

E-mail Address:

### B. PARTICULARS OF CURRENT ENVIRONMENTAL CLEARANCE CERTIFICATE

- 1. Name of current holder of Environmental Clearance Certificate:
- 2. Date of Issue of current Environmental Clearance Certificate:



26

Government Gazette 6 February 2012

No. 4878

### PART C PROPOSED AMENDMENTS TO THE CONDITIONS IN CURRENT

- 1. Condition(s) on the Current Environmental Clearance Certificate:
- 2. Proposed Amendment(s):
- 3. Reason for Amendment(s):
- Describe the environmental changes arising from the proposed amendment(s): 4.
- Describe how the environment and the community might be affected by the proposed 5. amendment(s):
- 6. Describe how and to what extent the environmental performance requirements set out in the assessment report previously approved or activity profile previously submitted for this activity may be affected:
- Describe any additional measures proposed to eliminate, reduce or control any adverse 7. environmental effect arising from the proposed amendment(s):

### PART D DECLARATION BY APPLICANT

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any information given above is false, misleading, wrong or incomplete.

Full Name in Block Letters Position

on behalf of ANO ENERGY (Pty) Ltd \_\_\_\_\_\_ 17/09/2024