




***ENVIRONMENTAL IMPACT ASSESSMENT
FOR THE CONSTRUCTION AND OPERATION
OF A 55 MEGAWATT PHOTOVOLTAIC
PLANT, INCLUDING STORAGE AND
OVERHEAD LINES, ON A PORTION OF THE
REMAINDER OF PORTION 2 OF FARM KLEIN
SPITSKOP NO. 153, //KHARAS REGION***

January 2022

App - 003415

Project Name:	<p align="center">ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION AND OPERATION OF A 55 MEGAWATT PHOTOVOLTAIC PLANT, INCLUDING STORAGE AND OVERHEAD LINES, ON A PORTION OF THE REMAINDER OF PORTION 2 OF FARM KLEIN SPITSKOP NO. 153, //KHARAS REGION</p>
The Proponent:	<p align="center">Solnam Energy (Pty) Ltd PO Box 90001 KLEIN WINDHOEK</p>
Prepared by:	<div data-bbox="574 907 1455 1245" style="border: 1px solid black; padding: 10px;">  <p>Green Earth ENVIRONMENTAL CONSULTANTS</p> <p>1st floor Bridgeview Offices & Apartments, No. 4 Dr Kwame Nkrumah Avenue, Klein Windhoek, Namibia PO Box 6871, Ausspannplatz, Windhoek</p> </div>
Release Date:	<p align="center">January 2022</p>
Consultant:	<p align="center">C. Du Toit C. Van Der Walt Cell: 081 127 3145 Email: charlie@greenearthnamibia.com</p>

EXECUTIVE SUMMARY

Green Earth Environmental Consultants have been appointed by Solnam Energy (Pty) Ltd to attend to and complete an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) in order to obtain an Environmental Clearance Certificate for the construction of a 55 Megawatt Photovoltaic Plant, Battery Storage Facilities and Overhead Power Lines on a Portion of Portion 2 of Farm Klein Spitskop No. 153, //Kharas Region as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012).

In accordance with the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) of the Environmental Management Act (No. 7 of 2007), the activities listed below, which forms part of the proposed operations, may not be undertaken without an Environmental Clearance:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

1. *The construction of facilities for -*
 - (a) *the generation of electricity.*
 - (b) *the transmission and supply of electricity.*

Other Acts, Regulations and Policies will also be consulted to ensure that the proposed project is in legal compliance.

The key characteristics/environmental impacts of the proposed project are as follows:

Activity	Impact
±125ha area must be cleared of small trees and bushes to accommodate the Photovoltaic Plant and transfer station.	Low impact – area already partly cleared in the past, mainly covered by intruder bush and impacted by human activities and grazing interference.
55-Megawatt PV Plant to be constructed. The plant will be constructed in phases.	Low impact – phasing improves the feasibility of the project.
PV modules to be fitted on aluminium/steel single axis solar tracker for optimized energy gain 1.2m above ground for reduced heat reflection.	Positive impact – improved efficiency of operation of the PV Plant.
PV Plant area to be fenced off with a security fence to prevent human and animal interference.	Low impact as fence does not interfere with animal, human or vehicular tracks.
±2,8km of overhead lines to be constructed to link PV Plant with existing substation.	Low impact – lines to be aligned with existing servitudes and roads.
Topography of the site require the minimum civil/groundworks and natural contours and surface drainage to be maintained.	Low impact – existing surface drainage system to be used.

Cable trenches 1m deep and be backfilled and compacted to standard to prevent erosion.	Low impact – soil erosion to be minimized.
Lines to be constructed by a combination of galvanized steel monopoles and timber poles, ±80m spacing, Wolf bare conductor, fitted in HLPCD staggered delta formation with a minimum of 9m ground clearance.	Low impact as animals roaming the area will be clear of the lines at this height.
Electricity storage with lithium-ion (Li-ion) batteries.	Low impact - Batteries to be enclosed on concrete basis.
Powerline bird interaction.	The lines will be visible (fitted with bird flight divertors) to prevent birds from flying into the lines.
Road and powerline crossings to allow for special clearance from the necessary authorities based on actual site survey data and profiling.	Low impact – to be done in accordance with specification and requirements with approval of affected authorities.
The PV Plant and transfer station area will be maintained and kept clean from bush/shrub/tree regrowth by application of environmentally friendly herbicides and hand clearing.	Low impact - a systemic, broad-spectrum glyphosate-based herbicide, glyphosate-based herbicides do have a significant risk for human or environmental health when the product label is not properly followed.
Renewable source of energy which will reduce operation costs.	Positive impact.
Less pressure on NamPower network.	Positive impact.

The environmental impacts during the operational phase of the proposed project:

IMPACTS DURING OPERATIONAL PHASE			
Aspect	Impact Type	Significance of impacts Unmitigated	Significance of impacts Mitigated
Ecology Impacts	-	M	L
Dust and Air Quality	-	L	L
Groundwater Contamination	-	L	L
Waste Generation	-	L	L
Failure of Reticulation Pipeline	-	L	L
Fires and Explosions	-	M	L
Safety and Security	-	L	L

IMPACT EVALUATION CRITERION (DEAT 2006):		
Criteria	Rating (Severity)	
Impact Type	+	Positive
	O	No Impact

	-	Negative
Significance of impacts	L	Low (Little or no impact)
	M	Medium (Manageable impacts)
	H	High (Adverse impact)

Some of the positive impacts associated with the proposed solar plant that is intended are the generation of energy, making use of a renewable source of energy and the creation of employment through the construction of infrastructure and operations.

The type of activities that will be carried out on the site will not negatively affect the amenity of the locality and the activities will not adversely affect the environmental quality of the area. None of the potential impacts identified are regarded as having a significant impact to the extent that the proposed project should not be allowed. However, the operational activities further on need to be controlled and monitored by the assigned managers and the proponent. Mitigation measures will be provided that can control the extent, intensity, and frequency of these named impacts in order not to have substantial negative effects or results.

It is believed that the overall cumulative impact on the biophysical environment will be low and there will be a positive impact on the socio-economic environment.

The Environmental Impact Assessment which follows upon this paragraph was conducted in accordance with the guidelines and stipulations of the Environmental Management Act (No 7 of 2007) meaning that all possible impacts have been considered and the details are presented in the report.

Based upon the conclusions and recommendations of the Environmental Impact Assessment Report and Environmental Management Plan, the Environmental Commissioner of the Ministry of Environment, Forestry and Tourism is herewith requested to:

1. Accept and approve the Environmental Impact Assessment.
2. Accept and approve the Environmental Management Plan.
3. Issue an Environmental Clearance for the proposed construction of a 55-Megawatt Photovoltaic Plant, Storage Facilities and Overhead Power Lines on a Portion of Portion 2 of Farm Klein Spitskop No. 153, //Kharas Region and for the following listed activities:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

1. *The construction of facilities for -*
 - (a) *the generation of electricity.*
 - (b) *the transmission and supply of electricity.*

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LIST OF ABBREVIATIONS

EC	Environmental Clearance
ECO	Environment Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
I&APs	Interested and Affected Parties
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism

1. INTRODUCTION

Green Earth Environmental Consultants have been appointed by the Proponent (Solnam Energy (Pty) Ltd) to attend to and complete an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) in order to obtain an Environmental Clearance Certificate for the proposed construction of a 55 Megawatt Photovoltaic Plant, Storage Facilities and Overhead Power Lines on a portion of Portion 2 of Farm Klein Spitskop No. 153, //Kharas Region as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012).

In accordance with the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) of the Environmental Management Act (No. 7 of 2007), the activities listed below, which forms part of the proposed operations, may not be undertaken without an Environmental Clearance:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

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 - (a) *the generation of electricity.*
 - (b) *the transmission and supply of electricity.*

The following Environmental Impact Assessment contains information on the project and the surrounding areas and activities.

2. TERMS OF REFERENCE

To be able to implement the project, an Environmental Impact Assessment and Environmental Clearance is required. For this environmental impact exercise, *Green Earth Environmental Consultants* followed the terms of reference as stipulated under the Environmental Management Act.

The aim of the environmental impact assessment is:

- To ascertain existing environmental conditions on the site to determine its environmental sensitivity.
- To inform I&APs and relevant authorities of the details of the proposed activities and to provide them with an opportunity to raise issues and concerns.
- To assess the significance of issues and concerns raised.
- To compile a report detailing all identified issues and possible impacts, stipulating the way forward and identify specialist investigations required.
- To outline management guidelines in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.
- To comply with Namibia's Environmental Management Act (2007) and its Regulations (2012).

The tasks that were undertaken for the Environmental Impact Assessment included the evaluation of the following: climate, water (hydrology), vegetation, geology, soils, social, cultural heritage, groundwater, sedimentation, erosion, biodiversity, sense of place, socio-economic environment, health, safety and traffic.

The EIA and EMP from the assessment will be submitted to the Environmental Commissioner for consideration. An Environmental Clearance will only be obtained (from the DEA) once the EIA and EMP has been examined and approved for the listed activities.

The public consultation process as per the guidelines of the Act has been followed. The methods that were used to assess the environmental issues and alternatives included the collection of data on the project site and area from the proponent and identified stakeholders. All other permits, licenses or certificates that are further on required for the operation of the proposed project still needs to be applied for by the proponent.

3. NEED AND DESIRABILITY

The characteristics of the Namibian Energy Sector is summarised in the paragraph below from information provided by USAID. In terms of this overview, the power sector in Namibia has undertaken several reforms aimed at attracting Independent Power Producers (IPPs) by providing a stable investment environment. Such reforms include the horizontal consolidation of more than 70 distributors into five regional electricity distribution companies (REDs) and the establishment of transparent tariff setting procedures, all overseen by the sector regulator, the Electricity Control Board (ECB). While the country's generation mix utilizes primarily hydropower, thermal power from burning coal and solar, most of the electricity is imported (about 60% of the total electrical energy requirement), primarily through bilateral contracts from South Africa's Eskom and to a lesser extent, the Southern Africa Power Pool (SAPP) (USAID, 2021).

The current generation capacity (18 November 2021, as per USAID) is summarized below:

GENERATION CAPACITY
• Installed Capacity (2): 680 MW
• Hydro: 347 MW
• Coal: 122 MW
• Wind: 7 MW
• Solar: 163 MW
• Thermal (Gas, HFO, Diesel): 41 MW

Need

President Hage Geingob introduced the second part of the Harambee Prosperity Plan (HPP II) on 18 March 2021, covering the period from 2021 to 2025. The plan aims at implementing policy programs which enhance service delivery, economic recovery such as inclusive growth and to strengthen Namibia in terms of socioeconomic challenges and preparing it for global opportunities in relation with the Covid-19 pandemic. The “Namibian Government’s Action Plan towards Prosperity for All” is based on five pillars which is summarised in the *Figure* below:

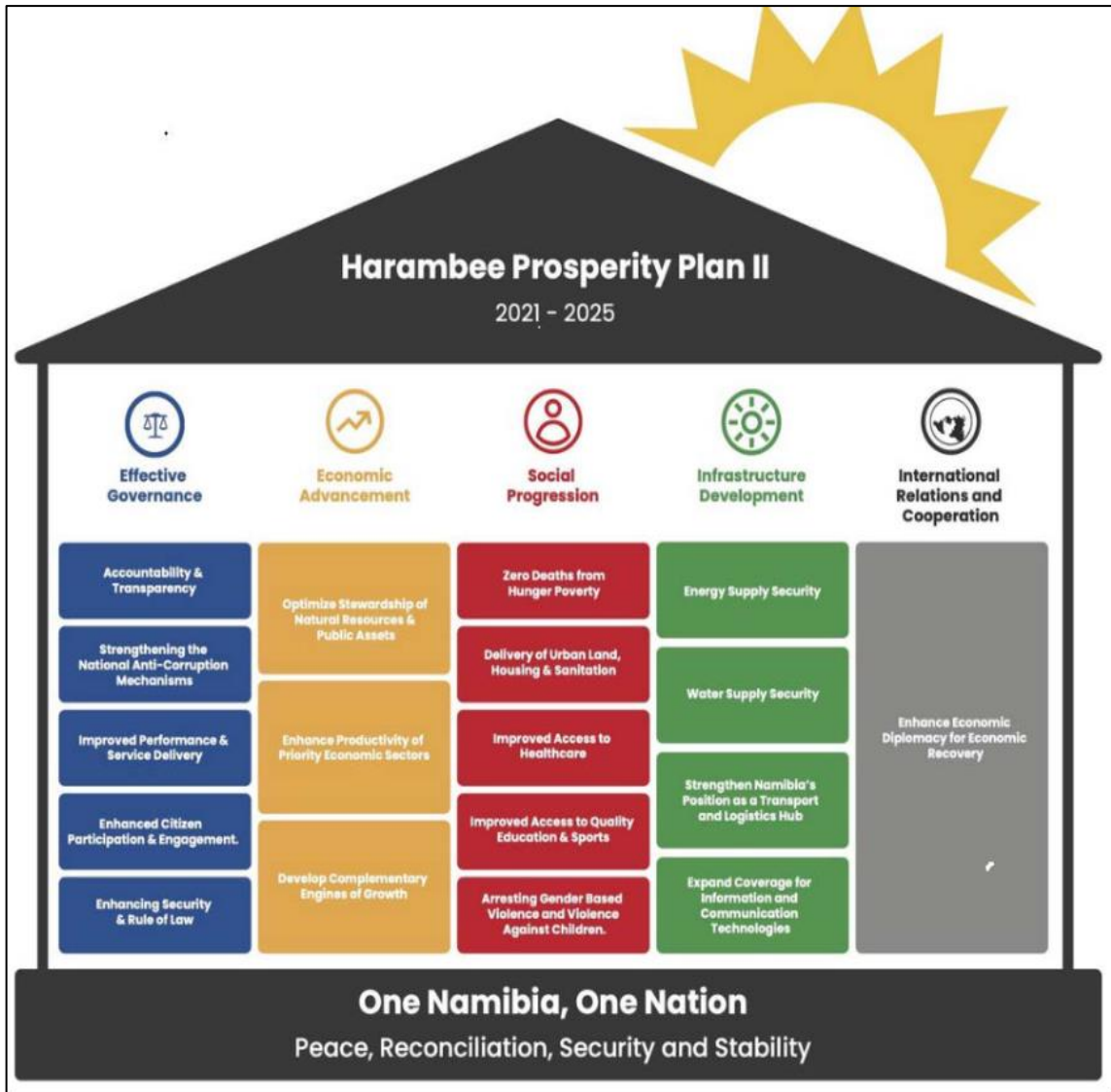


Figure 1: The Harambee Prosperity Plan II (2021-2025)

The fourth pillar (Infrastructure Development) identify the development of infrastructure as an important catalyst for economic growth, which will contribute to employment creation, attract investment, and will improve local and international trade and Namibia's global competitiveness. Energy supply security forms one of the four Goals of this pillar together with the strengthening of Namibia's position of a transport and logistics hub as well as the expansion coverage for information and communication technologies. The proposed Solnam PV Plant is thus in line with the priorities of the Harambee Prosperity Plan.

The fact that Namibia is importing about 60% of its electricity requirements is an indication that there is a need for additional Photovoltaic Plants.

Desirability

The construction and operation of more solar plants in Namibia is desirable because of the following reasons:

- Solar power is low emission. Solar panels produce no pollution, although it imposes environmental costs through manufacture and construction. These environmental tolls are negligible, however, when compared with the damage inflicted by conventional energy sources: the burning of fossil fuels releases roughly 21.3 billion metric tons of carbon dioxide into the atmosphere annually.
- Raw materials are renewable and unlimited. The amount of available solar energy is staggering - roughly 10,000 times that currently required by humans - and it's constantly replaced. A mere 0.02% of incoming sunlight, if captured correctly, would be sufficient to replace every other fuel source currently used.
- Solar power provides green jobs. Production of solar panels for domestic use is becoming a growing source of employment in research, manufacture, sales and installation.
- Solar panels contain no moving parts and thus produce no noise. Wind turbines, by contrast, require noisy gearboxes and blades. In the long run, solar power is economical. Solar panels and installation involve high initial expenses, but this cost is soon offset by savings on generation costs.
- Solar power conserves foreign energy expenditures. In many countries like Namibia, a large percentage of earnings is used to pay for imported electricity or coal for power generation.
- Solar power is suitable for remote areas that are not connected to energy grids.

From the above, it is concluded that there is a need for the construction of the proposed Solnam Photovoltaic plant and that the use of solar for electricity generation is desirable.

4. SITE INFORMATION AND PROJECT DESCRIPTION

4.1. LOCALITY, SIZE AND USE

The proposed Photovoltaic Plant (PV) will be located on a portion of Portion 2 of Farm Klein Spitskop No. 153, //Kharas Region, located ± 25 km to the northeast of Keetmanshoop. The locality of the Farm is shown on the *Maps* below:

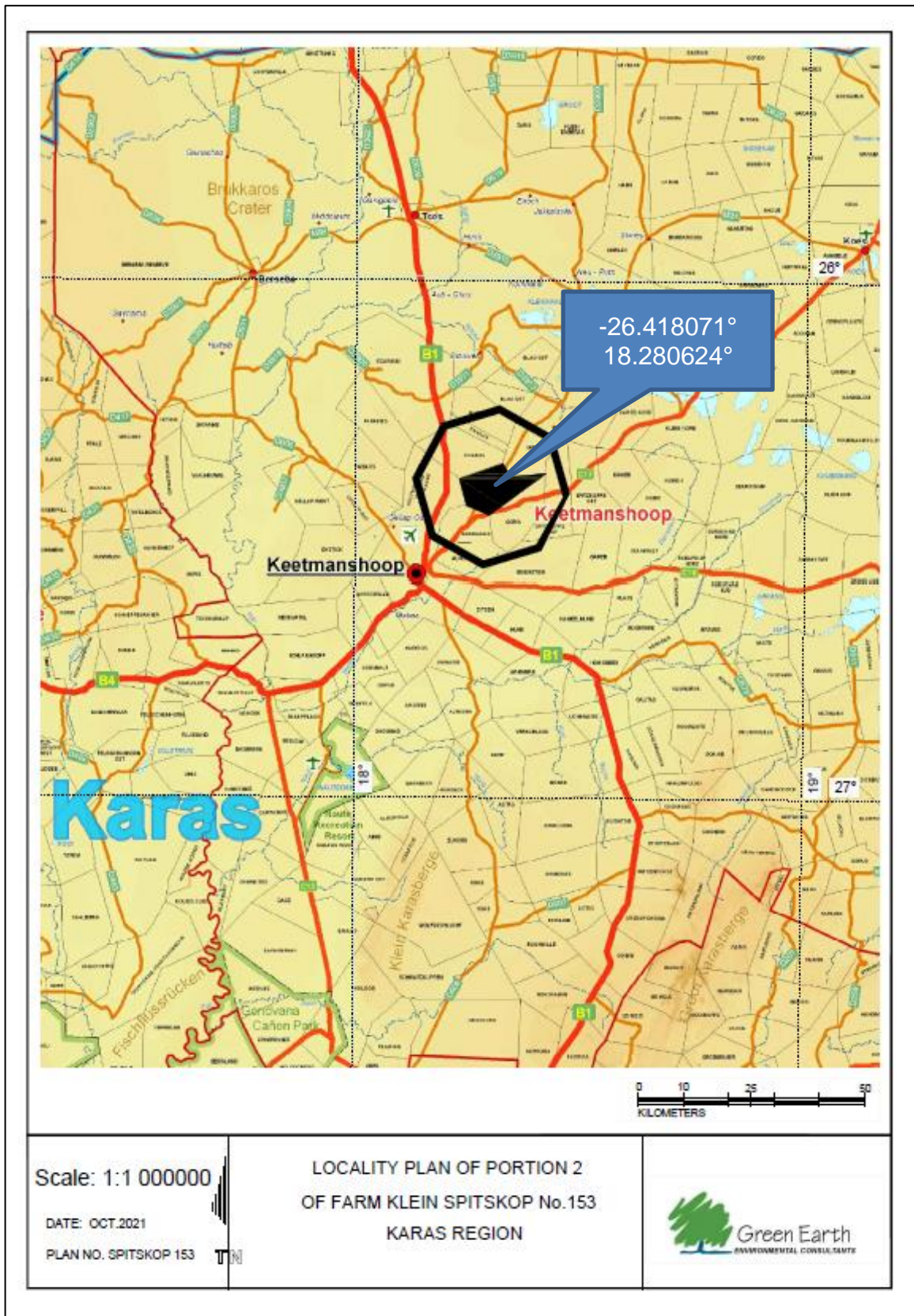


Figure 2: Locality Plan of Portion 2 of Farm Klein Spitskop No. 153

The NamPower Kokerboom Transmission Station is located on the Remainder of Farm Klein Spitskop No. 153 which is neighbouring Portion 2 of Farm Klein Spitskop No. 153 on which the proposed PV Plant will be located.



Figure 3: NamPower Kokerboom Transmitter Station (1)



Figure 4: NamPower Kokerboom Transmitter Station (2)

The proposed PV Plant will be positioned as close as possible to the NamPower Transmitter Station to reduce the distance and cost for the powerline which will link the PV Plant with the Transmitter Station as well as to ensure the optimum operational efficiencies. The *Figure* below shows the locality of the project site:

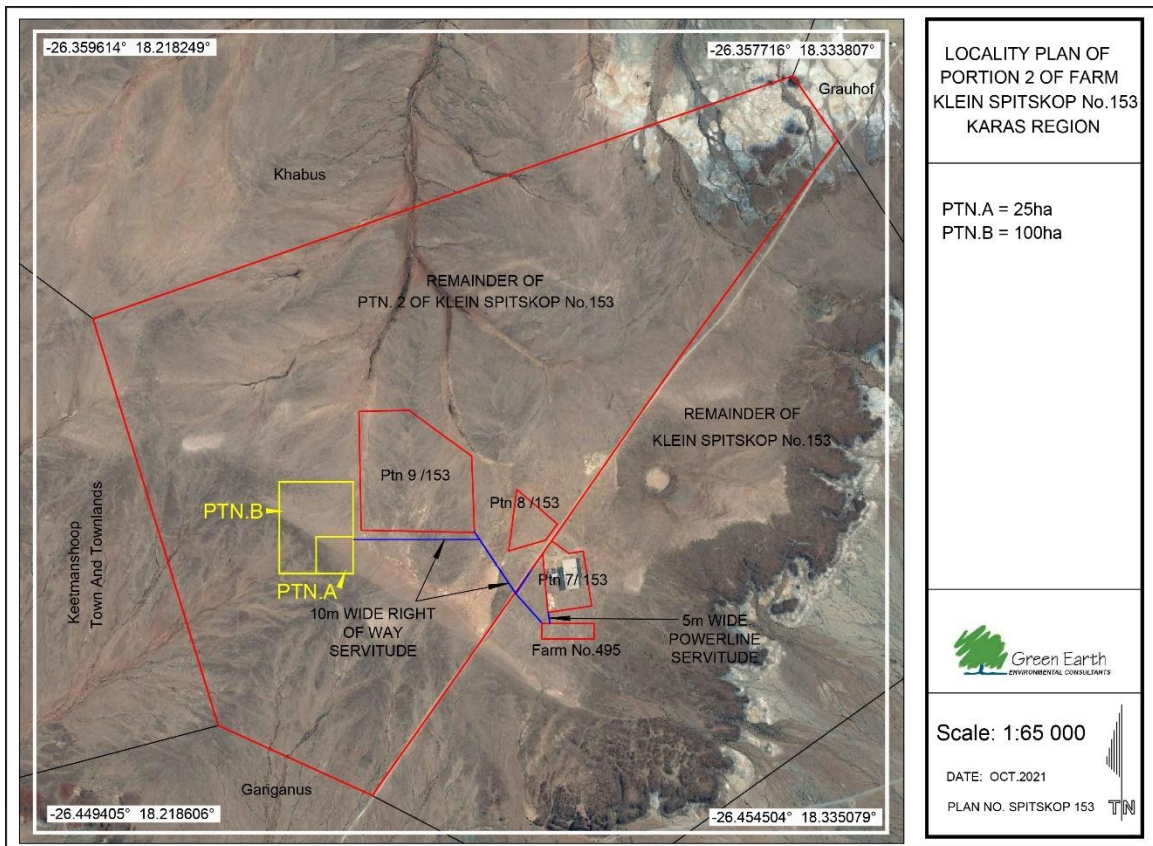


Figure 5: Locality of the project site

The Remainder of Portion 2 of Farm Spitskop No.153 is 5733,2793ha in extent. Two operational PV Plants are also located in proximity of the proposed new plant. Site 1 (Portion 8/152) is operated by GreeNam Electricity and Site 2 (Farm 495) by Momentus Solar. Portion 9 of Farm Spitskop No. 153 is leased by Alpha Namibia Industries Renewable Power Limited (ANIREP) who intends to construct a PV Plant soon. This plant will also be linked with the NamPower Transmitter Station (Portion 7/153). The locality of the two solar plants, ANIREP's site as well as the NamPower Kokerboom Transmitter Station is shown on the *Map* below:

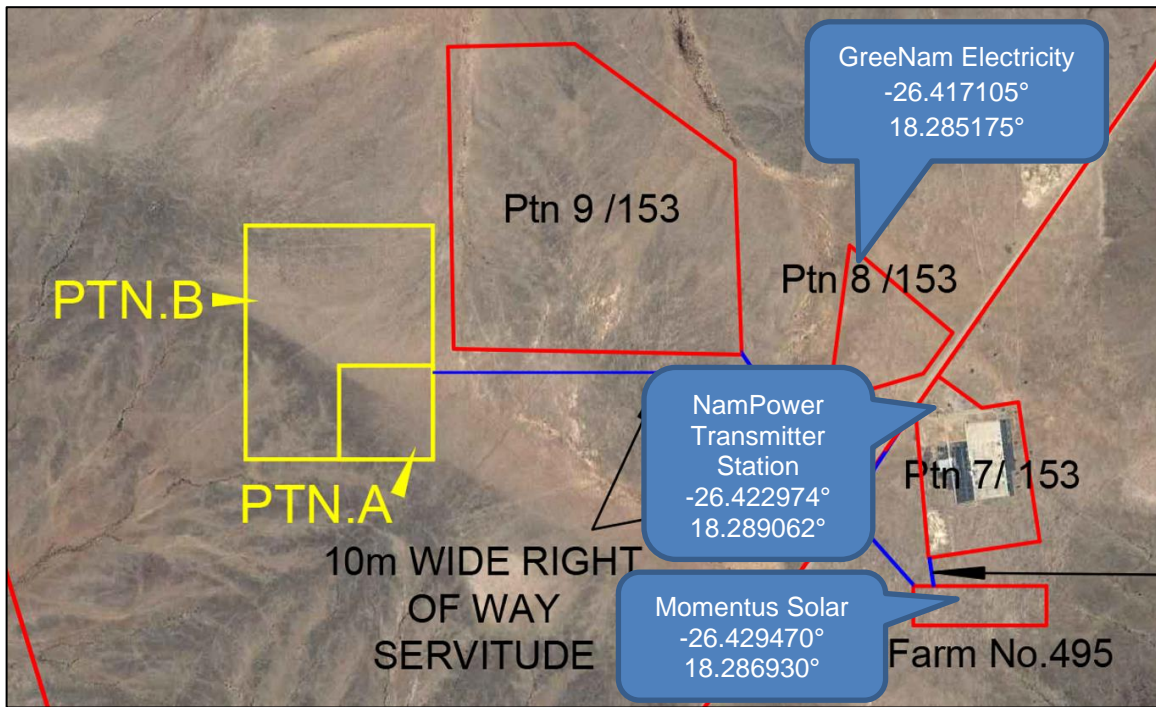


Figure 6: Location of Solar Plants



Figure 7: Photo showing existing solar plants and transmitter station

The proposed activity will fit in with the current activities in the immediate surroundings. The solar plants and transmitter station are fenced in and under 24-hour security surveillance. The rest of the farm is utilized for extensive livestock farming.

4.2. PROPOSED PROJECT

Solnam Energy (Pty) Ltd intends to construct and operate a photovoltaic plant with lithium-ion (Li-ion) batteries storage (LIB). The implementation of the PV Plant will be phased in over 3 – 5 years and will require ± 125 ha of land for the installation of all the phases. In Phase 1, ± 25 ha will be utilized for the installation of facilities for generation and storage of 13.2 MWp. Once fully developed, the project will have a Photovoltaic Generation Plant of 50 MW PV + 6.5 MW Storage Facilities via the lithium-ion (Li-ion) batteries. It is the intension to use AEG Panels with Ideematec trackers to ensure the optimum operation of the plant. Surplus electricity will be stored in the battery system to allow the availability of additional electricity during peak demand periods or at night. The proposed plant will be linked via the NamPower network and feed into the NamPower Kokerboom Transmitter Station.

Solar panels capture light energy from the sun to generate electricity through a process known as the PV effect, where light energy energize electrons to produce electricity. Conventional PV technology generates electricity by converting solar radiation energy into a direct current which needs to be converted to an alternating current to connect to the grid (*Origins of Solar Energy, 2012*).



Figure 8: Example of Solar Panels (*Electricity Distributers, 2018*)

A lithium-ion (Li-ion) battery is an advanced battery technology that uses lithium ions as a key component of its electrochemistry. During a discharge cycle, lithium atoms in the anode are ionized and separated from their electrons. The lithium ions move from the anode and pass through the electrolyte until they reach the cathode, where they recombine with their electrons and electrically neutralize. The lithium ions are small enough to be able to move through a micro-permeable separator between the anode and cathode. In part because of lithium's small size (third only to hydrogen and helium), Li-ion batteries have a very high voltage and charge storage per unit mass and unit volume (*Clean Energy Institute of the University of Washington*).

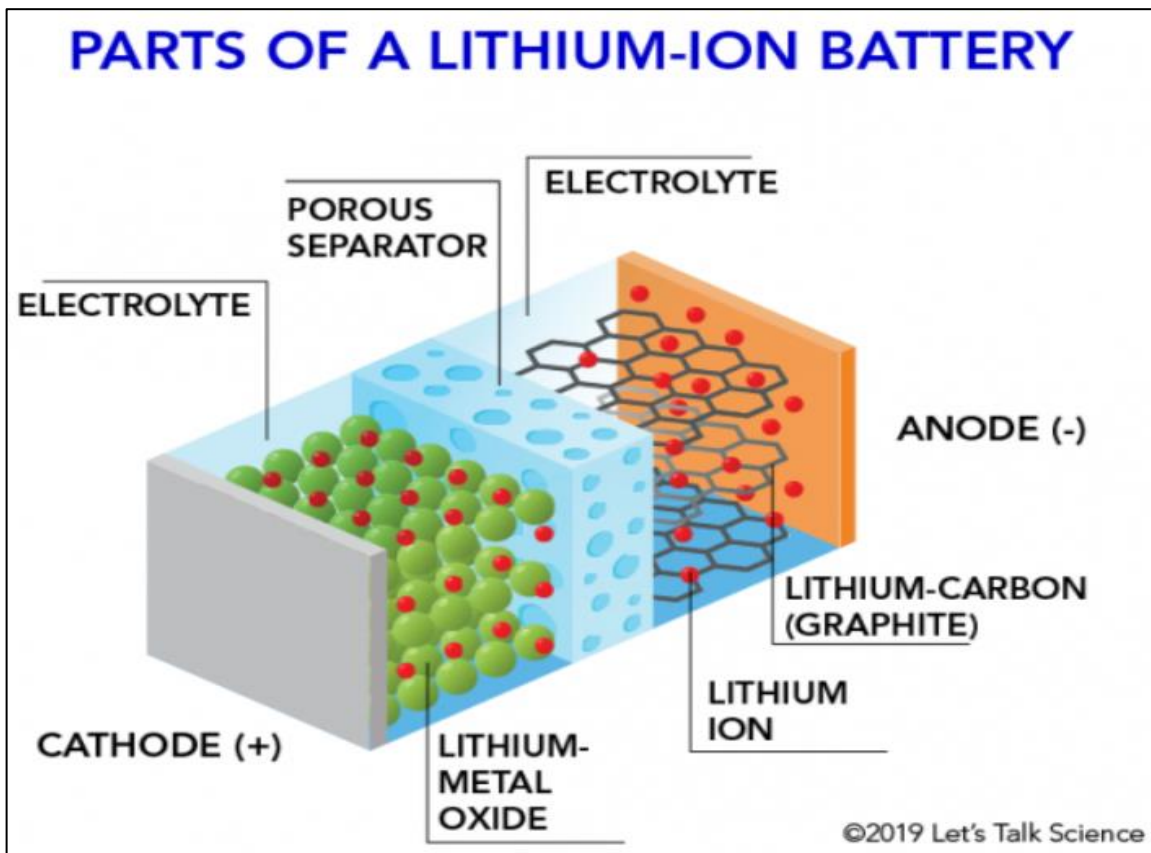


Figure 9: Battery Components (Let's Talk Science, 2019)

Surplus electricity is stored in a battery system for utilization in situations where demand is higher than supply and at night when light from the sun is not available.

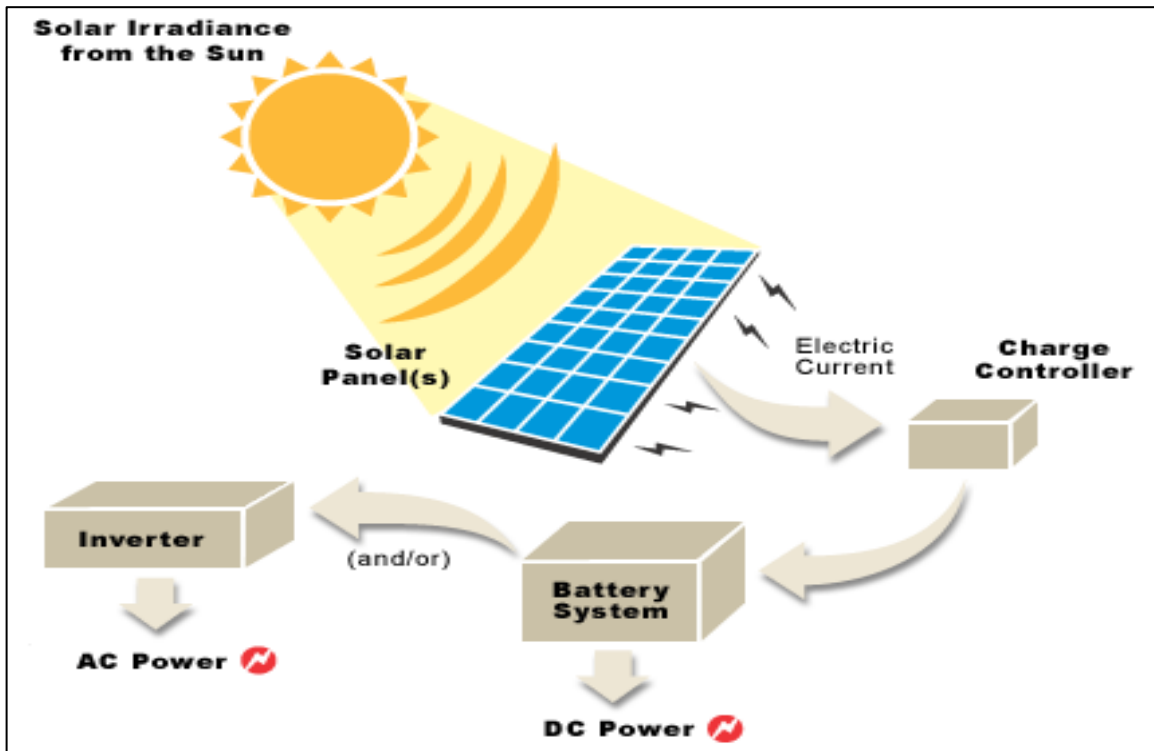


Figure 10: Illustration of Solar Panel to Energy (Origins of Solar Energy, 2012)

The proposed Solnam PV Plant will be located $\pm 2,8 - 3,5$ km north of the Kokerboom Transmitter Station. The PV Plant will be connected via a 220kV or 66kV power transmission line. The size of the line will be determined between Solnam and NamPower. This line will be constructed with galvanized steel monopoles consisting of several overhead structures. The length of the galvanized steel monopole structures will range between 20 and 26 m. Servitudes will be registered along the lines. The line will cover a distance of $\pm 2,8$ km meters from the Solnam Photovoltaic solar project site to the existing NamPower Substation, crossing the M29 road.

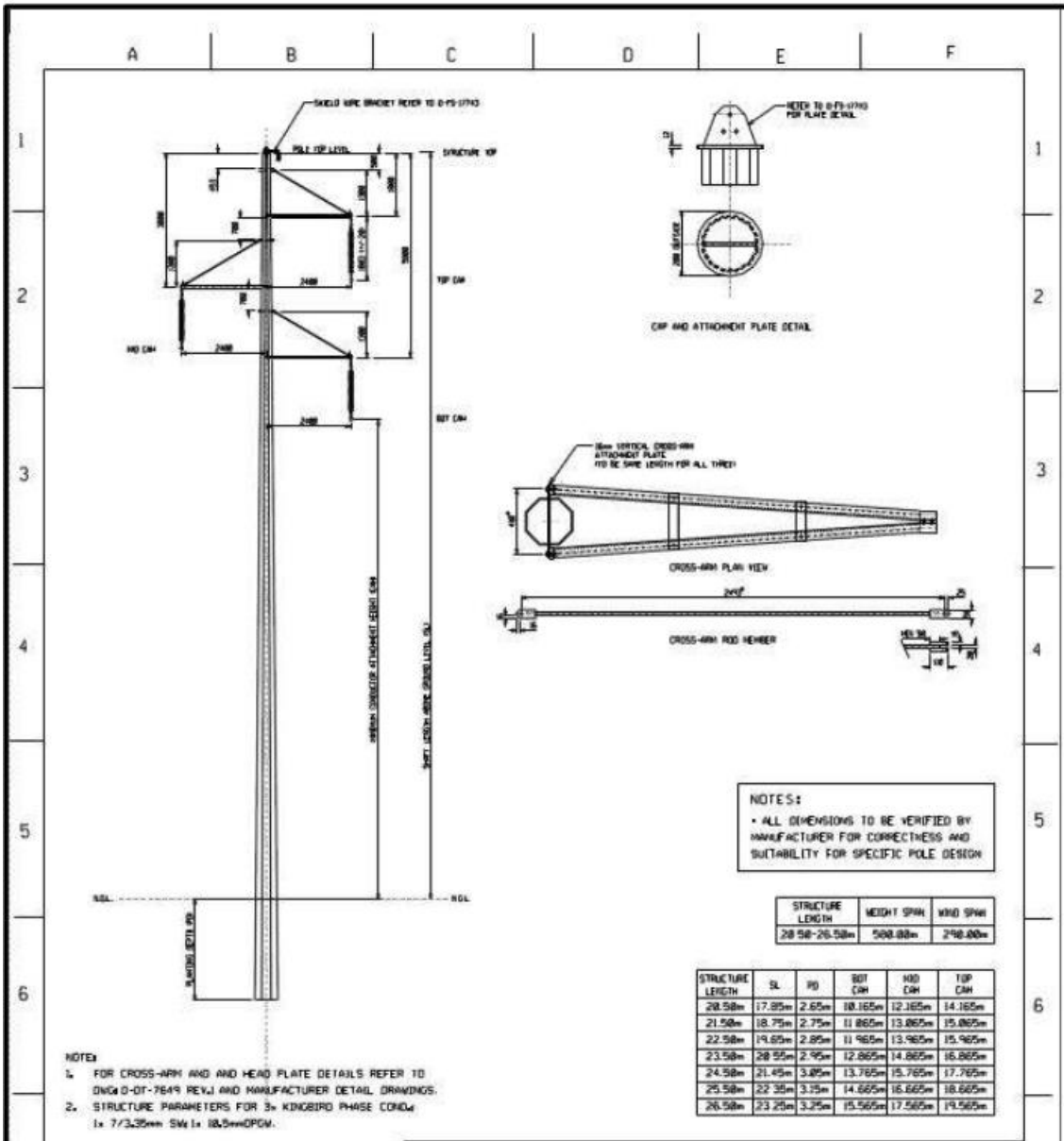


Figure 11: Transmission Line pole structure (G S Fainsinger and Associates)

Various power lines already exist in the proximity of the Kokerboom Transmitter Station. The line linking the Solnam PV Plant will have to cross some of these lines. The contractor must ensure that lines that cross are at the correct height requirements and line spacing. The visibility of the proposed new power line will be improved by fitting bird flight divertors in order to prevent birds from flying into the lines.

Minimum clearances between Electrical Lines crossing each other:				
Voltage	66 KV	132 KV	220 KV	400 KV
66 KV	2.4 Meter	3 Meter	4.5 Meter	5.4 Meter
132 KV	3 Meter	3 Meter	4.5 Meter	5.4 Meter
220 KV	4.5 Meter	4.5 Meter	4.5 Meter	5.4 Meter
400 KV	4.5 Meter	5.4 Meter	5.4 Meter	5.4 Meter

Permissible Min ground Clearance of Electrical Line:		
KV	Ground Clearance	Over National Highway
66 KV	6.1 Meter	8.0 Meter
132 KV	6.1 Meter	8.6 Meter
220 KV	7.0 Meter	9.8 Meter
400KV	8.8 Meter	10.8 Meter

Figure 12: Prescribed clearances for transmission lines (GS Fainsinger & Associates)



Figure 13: Various powerlines from and to the Transmitter Station

The powerline route is indicated on the Map below. The proposed line will cross Road M29 and therefore Solnam must obtain approval from the Roads Authority for crossing the road with the power transmission line.

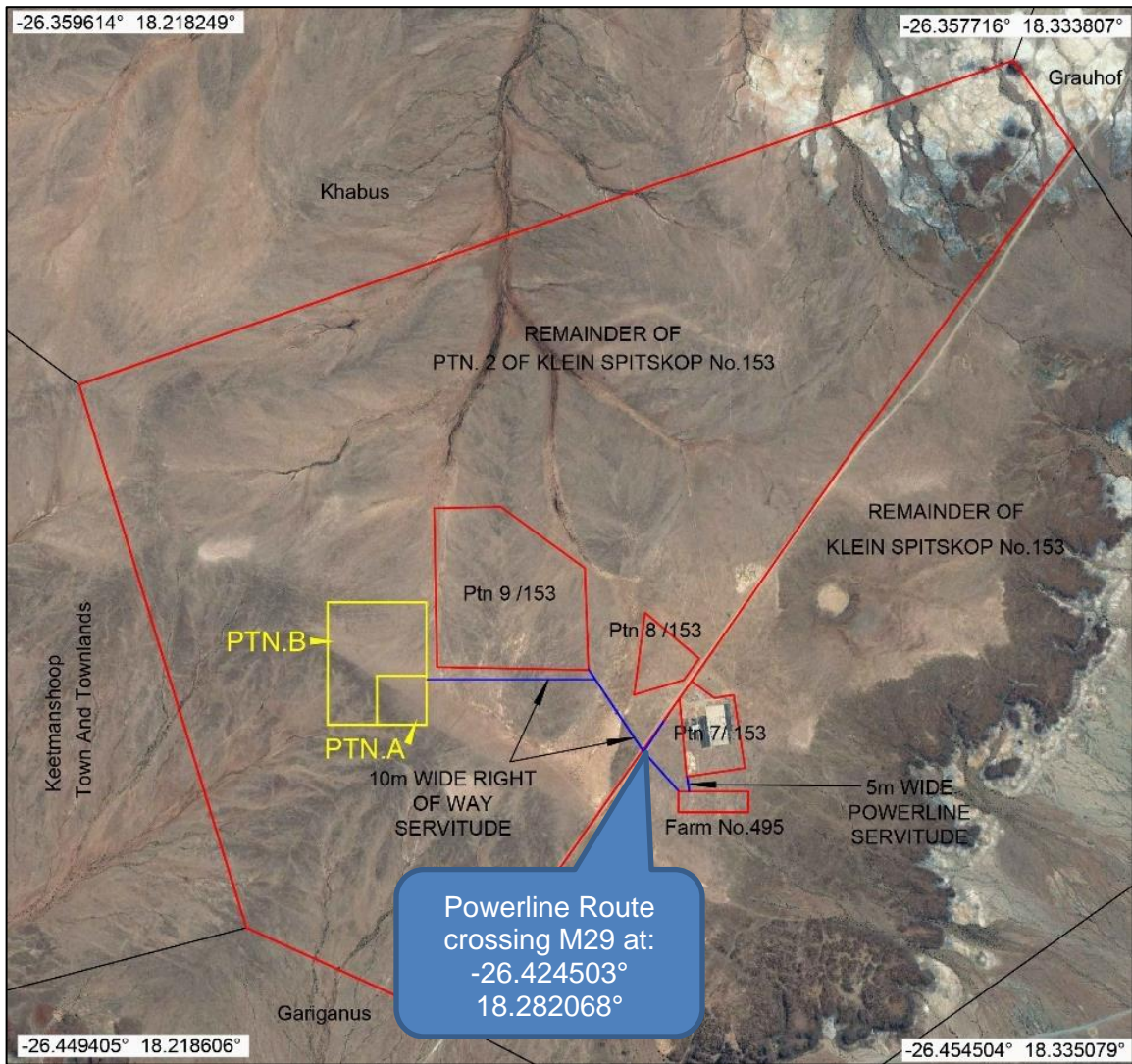


Figure 14: Powerline Route indicated in blue

5. OPTIONS/ALTERNATIVES CONSIDERED

The following options/alternatives were considered:

- The utilisation of an alternative site.
- The utilisation of a Portion of Farm Spitskop No. 153.
- The no-go option.

The utilisation of an alternative site

Various sites were considered for the project. A suitable site for the construction of a large photovoltaic plant must have the following characteristics:

- Ideally it must be in close range of a NamPower Transmitter Station to allow a short connection and the transmission of electricity into the national grid.
- The site must have limited or low vegetation to prevent the unnecessary destruction of vegetation to prepare the site.

- The site must not be in the way of a migration route of large animals.
- The site should have a relatively level topography.
- Ideally no surface drainage systems should go over or through the site.
- The site should be in an area with a high number of cloudless days.
- The site should be located on privately owned land as it simplifies negotiations and formalising the lease agreement.
- The site must have enough vacant land to allow for the future expansion of the plant.
- The site must have good access.

From the various sites investigated, the site identified on the Remainder of Portion 2 of Farm Spitskop No. 153 was selected.

The utilisation of a portion of the Remainder of Portion 2 of Farm Spitskop No. 153

The site selected by the Proponent which is located on the Remainder of Portion 2 of Farm Spitskop No. 153 is ideal for the construction and operation of the proposed plant. It is within 2,8km from the NamPower Kokerboom Transmission Station, it is surrounded by existing similar plants which are already in operation, it has good access from Road M29, has low growing, sparse vegetation, is topographically suited and is large enough to allow for future expansion. The owner also agreed to leasing the land to the Proponent.

The proposed site is thus preferred due to the above reasons.

The no-go option

Under the no-go option, the project will not be implemented. This is not an option as the investment in green energy facilities is supported under the Harambee Prosperity Plan and because Namibia is still a net importer of electricity. The feasibility study undertaken by the Proponent indicated that the project is technically and financially feasible. There is also a need for the project, and it is desirable to have it in Namibia on this specific site. It was therefore decided to implement the project subject to obtaining an ECC from the MEFT as well as all the other permits and approvals.

6. EXPECTED ENVIRONMENTAL IMPACTS

From previous experience with developments of this nature and comments received from Affected Parties, a solar plant and associated transmission lines might have the following key impacts on the receiving environment:

Socio-economic impacts:

- Additional employment will be created during construction and operation
- Green energy will be generated
- Namibia's reliance on imported electricity will be lowered
- Stock theft and illegal hunting might increase during construction
- Noise and dust pollution from construction operations

- Community health issues - transmission of diseases from construction team and support staff to local community
- Increase in criminal activities
- Cultural/heritage impacts
- Increase of traffic on nearby roads

Biophysical impacts:

- Surface drainage and stormwater impacts including sedimentation and erosion (flow of surface draining systems might be disturbed)
- Impact on surface water resources
- Possibility of air pollution (dust during construction)
- Possibility of noise pollution
- Visually the site might be unpleasing
- Effect on natural and general ambiance of the area and surroundings
- Effect on vegetation (grass, shrubs and trees directly in areas to be cleared for construction of infrastructure)
- Impact on agricultural resources
- Effect on movement of animals
- Effect on birds (the overhead powerlines)
- Concerns if the area can be restored / rehabilitated to an acceptable status once the infrastructure have been constructed and / or removed
- Impact of construction waste on the environment
- Storage of hazardous substances on site
- Disposal of end-of-life solar panels / batteries

Although it is generally accepted that a photovoltaic plant with lithium-ion (Li-ion) battery storage is one of the most environmentally friendly ways of generating and storing electricity there are concerns on what happens once the solar panels or batteries reach the end of its efficient production life. In general, solar panels have an efficient lifespan of 20 – 30 years whereafter it must be replaced to ensure efficient generation of electricity. The expected efficient lifespan of lithium-ion (Li-ion) batteries are ± 5 years whereafter it must be replaced.

Solar panels are recyclable, although infrastructure to collect, process, and repurpose the equipment is lacking in Namibia. The end-of-life panels are crushed and the different materials – glass, aluminium frames, connection housing, cables – are separated. These materials are then sorted extremely precisely and reused in other industrial sectors: for example, the glass is recovered as clean cullet for glass manufacturing and the plastic becomes recovered fuel for cement works. **In total, 94% of panel components are recovered, the remaining 6%, in the form of dust, is captured by filters and sometimes used as a substitute for sand in the construction industry.** Other types of panel technology (such as cadmium telluride panels, which account for about 30% of volume) are sent to other specialist treatment plants. It is expected that facilities for the recycling of solar panels will be developed in Namibia over time as the use of solar panels increase.

Lithium-ion (Li-ion) batteries (LIB) is also recyclable once its end of life is reached. Normally spent LIBs is broken up in the different components – iron, aluminium, plastic, copper, electrode materials plus organic toxicants. These products are then directly and indirectly used for the manufacturing of new LIBs. See *Figure* below explaining the recycling process:

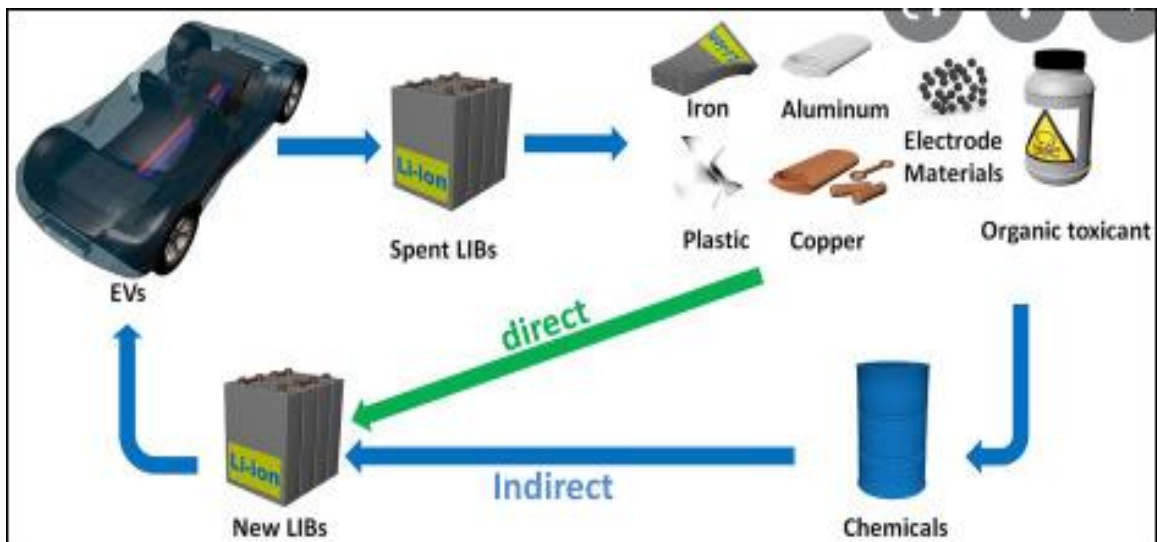


Figure 15: Recycling of LIBs

The above-named aspects will be covered in the Environmental Management Plan to be mitigated.

These impacts and others which was identified during the environmental scoping procedures and the engagement with the interested and affected parties will be evaluated to determine the significance of impact and if and how these impacts can be mitigated.

7. APPROACH TO THE STUDY

The assessment included the following activities:

a) Desktop sensitivity assessment

Literature, legislation, and guidance documents related to the natural environment and land use activities available on the area in general were reviewed to determine potential environmental issues and concerns.

b) Site assessment (site visit)

The proposed project site and the immediate area and surrounding area were assessed through several site visits to investigate the environmental parameters on site to enable further understanding of the potential impacts on site.

c) Scoping

Based on the desk top study, site visit and public participation, the environmental impacts were determined in five categories: nature of project, expected duration of impact, geographical extent of the event, probability of occurring and the expected intensity. The findings of the scoping have been incorporated in the environmental impact assessment report below.

8. PUBLIC PARTICIPATION

Public notices informing the public of the proposed project and inviting Interested and Affected Parties to provide comments on the proposed activities appeared in the New Era and the Republikein of 20 and 27 October 2021. See copies attached. Notices were also displayed on the Notice Board of Keetmanshoop Municipality and at the project site. The final date for comments/inputs/registration was 12 November 2021.

9. BULK SERVICES AND INFRASTRUCTURE PROVISION

The site is supported by the following services:

9.1. ACCESS ROAD

The Project Site will get access from a 10m wide Right of Way Servitude to be registered from the site over Portion 2 of Farm Klein Spitskop to link up with Road M29 which links up with the B1 National Road.

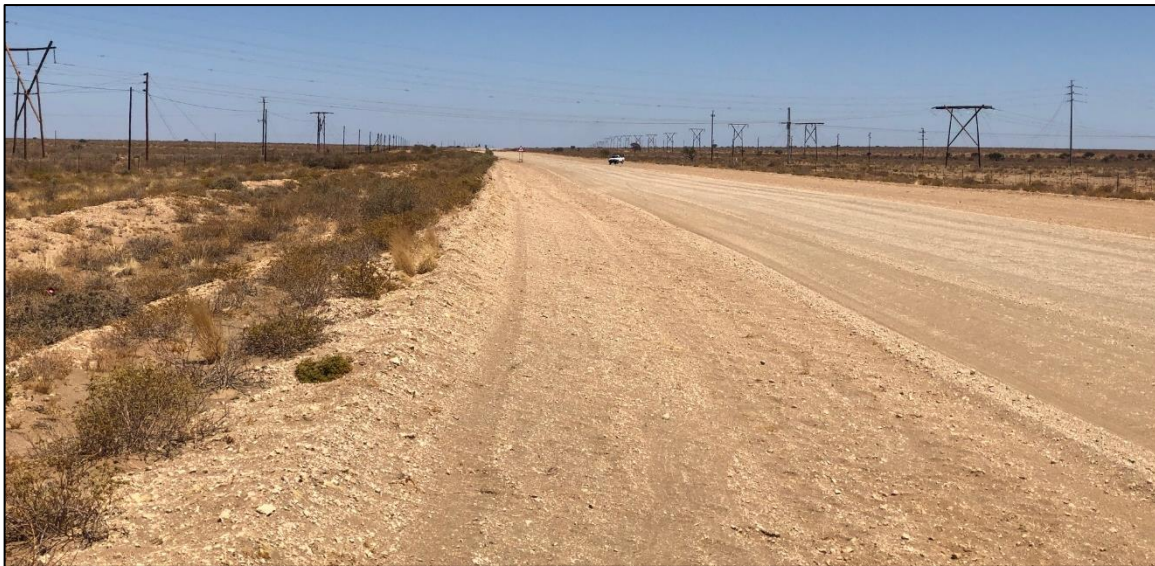


Figure 16: Road M26

9.2. WATER SUPPLY

The Project Site will obtain water from an existing borehole located on the Farm.

9.3. ELECTRICITY RETICULATION

The site will generate its own electricity and will be connected to the NamPower electricity network.

9.4. SEWAGE DISPOSAL

Only household sewer will be generated on site from the ablution facilities for the staff. A French drain and percolation ditch will be installed to accommodate and break down the sewer.

9.5. SOLID WASTE DISPOSAL/REFUSE REMOVAL

The solid waste generated on the site will be stored in a proper place, to prevent it from being blown away or accessed by scavengers/animals, to be disposed of at an approved landfill site. It is proposed that the Proponent signs an agreement with Keetmanshoop Municipality to allow them to dispose the solid waste at the Municipal site.

9.6. FIRE PROTECTION

The Proponent will put in the necessary fire protection equipment with an emergency plan in case of a fire on site.

10. ASSUMPTIONS AND LIMITATIONS

It is assumed that the information provided by Solnam Energy (Pty) Ltd is accurate. The proposed site was chosen due to the availability of vacant/undeveloped land, the proximity to the town and the availability of supporting bulk services and structures. The assessment is based on the prevailing environmental conditions and not on future happenings on the site. However, it is assumed that there will be no significant changes to the proposed project, and the environment will not adversely be affected between the compilation of the assessment and the implementation of the proposed construction activities.

11. ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programs and policies deemed to have adverse impacts on the environment require an EIA according to Namibian legislation. The administrative, legal and policy requirements to be considered during the Environmental Assessment for the proposed project are the following:

- The Namibian Constitution
- The Environmental Management Act (No. 7 of 2007)
- The Electricity Act (No. 4 of 2007)
- Other Laws, Acts, Regulations and Policies

THE NAMIBIAN CONSTITUTION

Article 95 of Namibia's constitution provides that:

"The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

Management of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory." This article recommends that a relatively high level of environmental protection is called for in respect of pollution control and waste management.

Article 144 of the Namibian Constitution deals with environmental law and it states:

"Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia". This article incorporates international law, if it conforms to the Constitution, automatically as "law of the land". These include international agreements, conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements (*Ruppel & Ruppel-Schlichting, 2013*).

CONCLUSION AND IMPACT

In considering the environmental rights, Solnam Energy (Pty) Ltd should consider the following in devising an action plan in response to the articles:

- Implement a "zero-harm" policy that would guide decisions.
- Ensure that no management practice or decision result in the degradation of future natural resources.
- Take a decision on how this part of the Constitution will be implemented as part of Solnam Energy (Pty) Ltd's Environmental Control System (ECS).

ENVIRONMENTAL MANAGEMENT ACT (NO. 7 OF 2007)

The Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) of the Environmental Management Act (No. 7 of 2007) that came into effect in 2012 requires/recommends that an Environmental Impact Assessment and an Environmental Management Plan (EMP) be conducted for the following listed activities to obtain an Environmental Clearance Certificate:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

1. *The construction of facilities for -*
 - (a) *the generation of electricity.*

(b) the transmission and supply of electricity.

Cumulative impacts associated with the development must be included as well as public consultation. The Act further requires all major industries to prepare waste management plans and present these to the local authorities for approval.

The Act, Regulations, Procedures and Guidelines have integrated the following sustainability principles. They need to be given due consideration, particularly to achieve proper waste management and pollution control:

Cradle to Grave Responsibility

This principle provides that those who handle or manufacture potentially harmful products must be liable for their safe production, use and disposal and that those who initiate potentially polluting activities must be liable for their commissioning, operation and decommissioning.

Precautionary Principle

If there is any doubt about the effects of a potentially polluting activity, a cautious approach must be adopted.

The Polluter Pays Principle

A person who generates waste or causes pollution must, in theory, pay the full costs of its treatment or of the harm, which it causes to the environment.

Public Participation and Access to Information

In the context of environmental management, citizens must have access to information and the right to participate in decisions making.

CONCLUSION AND IMPACT

The proposed construction and operation on the project site have been assessed in terms of the Environmental Management Act (No. 7 of 2007) and the Regulations (2012). From the assessment, it can be concluded that the activities will have impacts on the prevailing environment but that the negative impacts can be sufficiently mitigated and managed by following the Environmental Management Plan which is part of this document.

THE ELECTRICITY ACT (NO. 4 OF 2007)

The Electricity Act (No. 4 of 2007) provides information on the requirements for electricity generation, trading, transmission, supply, distribution, importation and export. The Electricity Control Board (under the Ministry of Mines and Energy) exercises control over the provision, use and consumption of electricity in Namibia; ensures efficiency and

security of electricity provision; ensures a competitive environment in the electricity industry in Namibia; and promotes private sector investment in the electricity industry.

The board provides for the requirements and conditions for obtaining licenses for the provision of electricity and to provide for other incidental matters.

CONCLUSION AND IMPACT

As the proposed project involves the generation and transmission of electricity, Solnam needs to apply to the ECB for the relevant license (for electricity generation and transmission).

Table 1: Other laws, acts, regulations and policies

Laws, Acts, Regulations & Policies consulted:		
Electricity Act (No. 4 of 2007)	In accordance with the Electricity Act (No. 4 of 2007) which provides for the establishment of the Electricity Control Board and provide for its powers and functions; to provide for the requirements and conditions for obtaining licenses for the provision of electricity; to provide for the powers and obligations of licenses; and to provide for incidental matters: the necessary permits and licenses will be obtained.	The Proponent must abide to the Electricity Act.
Pollution Control and Waste Management Bill (guideline only)	The Pollution Control and Waste Management Bill is currently in preparation and is therefore included as a guideline only. Of reference to the mining, Parts 2, 7 and 8 apply. Part 2 provides that no person shall discharge or cause to be discharged, any pollutant to the air from a process except under and in accordance with the provisions of an air pollution license issued under section 23. Part 2 also further provides for procedures to be followed in license application, fees to be paid and required terms of conditions for air pollution licenses. Part 7 states that any person who sells, stores, transports or uses any hazardous substances or products	The Proponent must adhere to the Pollution Control and Waste Management Bill.

	<p>containing hazardous substances shall notify the competent authority, in accordance with subsection (2), of the presence and quantity of those substances. The competent authority for the purposes of section 74 shall maintain a register of substances notified in accordance with that section and the register shall be maintained in accordance with the provisions. Part 8 provides for emergency preparedness by the person handling hazardous substances, through emergency response plans.</p>	
<p>Water Resources Management Act</p>	<p>The Water Resources Management Act (No. 11 of 2013) stipulates conditions that ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner.</p>	<p>The Act must be consulted. Fresh water abstraction and waste-water discharge permits should be obtained when required.</p>
<p>Solid and Hazardous Waste Management Regulations: Local Authorities 1992</p>	<p>Provides for management and handling of industrial, business and domestic waste.</p>	<p>The Proponent must abide to the solid waste management provisions.</p>
<p>Hazardous Substances Ordinance (No. 14 of 1974)</p>	<p>The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.</p>	<p>The Proponent must abide to the Ordinance's provisions.</p>
<p>Atmospheric Pollution</p>	<p>Part 2 of the Ordinance governs the control of noxious or offensive</p>	<p>The proponent should adhere to the stipulations of the</p>

<p>Prevention Ordinance of Namibia (No. 11 of 1976)</p>	<p>gases. The Ordinance prohibits anyone from carrying on a scheduled process without a registration certificate in a controlled area. The registration certificate must be issued if it can be demonstrated that the best practical means are being adopted for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.</p>	<p>Atmospheric Pollution Prevention Ordinance.</p>
<p>Nature Conservation Ordinance</p>	<p>The Nature Conservation Ordinance (No. 4 of 1975) covers game parks and nature reserves, the hunting and protection of wild animals, problem animals, fish and indigenous plant species. The Ministry of Environment, Forestry and Tourism (MEFT) administer it and provides for the establishment of the Nature Conservation Board.</p>	<p>The proposed project implementation is not located in a demarcated conservation area, national park or unique environments.</p>
<p>Forestry Act</p>	<p>The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license.</p>	<p>No removal of protected tree species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required.</p>
<p>EU Timber Regulation: FSC (2013)</p>	<p>Forest Stewardship Council (FSC) came into effect in March 2013, with the aim of preventing sales of illegal timber and timber products in the EU market. Now, any actor who places timber or timber products on the market for the first time must ensure that the timber used has been legally harvested and, where applicable, exported legally from the country of harvest.</p>	<p>The Proponent is advised to adhere to the regulation.</p>

Labour Act	The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Regulations relating to the Health and Safety of Employees at Work are promulgated in terms of the Labour Act 6 of 1992 (GN156, GG1617 of 1 August 1997).	The proponent and contractor should adhere to the Labour Act.
Communal Land Rights	Communal land is land that belongs to the State and is held in trust for the benefit of the traditional communities living in those areas. Communal land cannot be bought or sold, but one can be given a customary land right or right of leasehold to a part of communal land in accordance with the provisions of the Communal Land Reform Act (No. 5 of 2002) and Communal Land Reform Amendment Act (No. 13 of 2013) . The Communal Land Reform Act provide for the allocation of rights in respect of communal land to establish Communal Land Boards to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land and to make provision for incidental matters. Consent and access to land for the proposed project should be requested from the relevant traditional authority through the Regional Council and Regional Communal Land Boards.	Consent should be obtained from Traditional Authorities, Communal Boards, Chiefs, Kings, Queens etc. if required.
Traditional Authorities Act (No. 17 of 1995)	The Traditional Authorities Act (No. 17 of 1995) provide for the establishment of traditional authorities, the designation and recognition of traditional leaders; to define their functions, duties and	Traditional Authorities should be consulted when required.

	powers; and to provide for matters incidental thereto.	
Public and Environmental Health Act	The Public and Environmental Health Act (No. 1 of 2015) provides with respect to matters of public health in Namibia. The objects of this Act are to: (a) promote public health and wellbeing; (b) prevent injuries, diseases and disabilities; (c) protect individuals and communities from public health risks; (d) encourage community participation in order to create a healthy environment; and (e) provide for early detection of diseases and public health risks.	The proponent and contractor should adhere to the Public and Environmental Health Act.
Coronavirus (Covid-19) Pandemic	The current global Coronavirus (Covid-19) pandemic and the associated State of Emergency and health restrictions globally may result in some delays and logistic disruptions. The pandemic might have an impact on obtaining equipment, specialist workforce mobilisation and implementation of the project. The health restrictions may have an impact on campsite set-up, traveling of personal/workers and building of the infrastructure. The proponent, contractor and subcontractors should adhere to all the international, regional and local Covid-19 health restrictions and protocols.	The proponent, contractor and workforce should adhere to the restrictions and regulations.
National Heritage Act (No. 27 of 2004)	All protected heritage resources discovered need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before it may be relocated. This should be applied from the NHC.	The National Heritage Council should be consulted when required.
National Monuments Act of Namibia (No. 28 of 1969) as	No person shall destroy, damage, excavate, alter, remove from its original site or export from Namibia: (a) any meteorite or fossil; or	The proposed site for development is not within any known monument site both movable or immovable as specified in the Act, however in such an instance that any

<p>amended until 1979</p>	<p>(b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any people who inhabited or visited Namibia before the year 1900 AD; or (c) any implement, ornament or structure known or commonly believed to have been used as a mace, used or erected by people referred to in paragraph; or (d) the anthropological or archaeological contents of graves, caves, rock shelters, middens, shell mounds or other sites used by such people; or (e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit issued under this section.</p>	<p>material or sites or archeologic importance are identified, it will be the responsibility of the developer to take the required route and notify the relevant commission.</p>
<p>Public Health Act (No. 36 of 1919)</p>	<p>Under this act, in section 119: “No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”</p>	<p>The proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected and will be included in the EMP. Relevant protective equipment shall be provided for employees in construction. The development shall follow requirements and specifications in relation to water supply and sewerage handling and solid waste management so as not to threaten public health of future residents on this piece of land.</p>
<p>Soil Conservation Act (No. 76 of 1969)</p>	<p>The objectives of this Act are to: Make provisions for the combating and prevention of soil erosion; Promote the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic;</p>	<p>Only the area required for the operations should be cleared from vegetation to ensure the minimum impact on the soil through clearance for construction.</p>

Air Quality Act (NO. 39 of 2004)	The Air Quality Act (No. 39 of 2004) intends to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.	The proponent and contractor should adhere to the Air Quality Act.
Vision 2030 and National Development Plans	Namibia's overall development ambitions are articulated in the Nation's Vision 2030. At the operational level, five-yearly national development plans (NDP's) are prepared in extensive consultations led by the National Planning Commission in the Office of the President. Currently the Government has so far launched a 4th NDP which pursues three overarching goals for the Namibian nation: high and sustained economic growth; increased income equality; and employment creation.	The proposed project is an important element in employment creation.

CONCLUSION AND IMPACT

It is believed the above administrative, legal and policy requirements which specifically guide and governs development will be followed and complied with in the planning, implementation and operations of the activity.

A flowchart indicating the entire EIA process is shown in the *Figure* below:

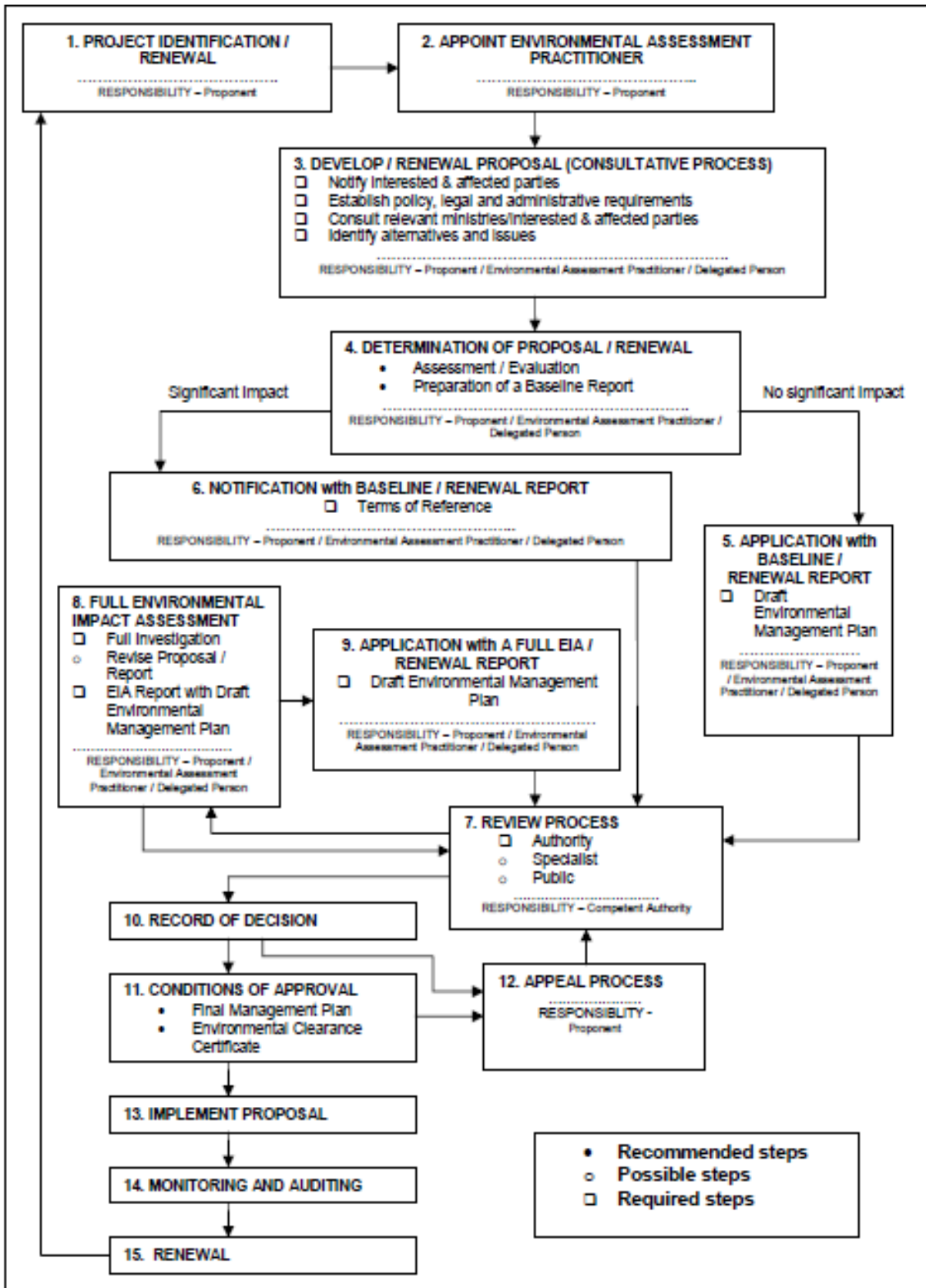


Figure 17: Flowchart of the assessment Process

12. OTHER APPROVALS TO BE OBTAINED

To be able to construct and operate the PV Plant, the following approvals must be obtained:

- A generation licence must be obtained from the Electricity Control Board (ECB). An application was submitted to the ECB and the approval thereof is subject to obtaining the Environmental Clearance.
- Consent must be obtained from the Ministry of Agriculture, Water and Land Reform to register a long-term lease on a portion of 125ha of the Remainder of Farm Spitskop No. 153 – the Proponent appointed Du Toit Town and Regional Planning Consultants to obtain the consent approval. This consent approval is also subject to obtaining the Environmental Clearance.
- The lease area must be surveyed, and the survey diagram must be approved by the Surveyor General's Office to enable the registration of the lease agreement.
- A supply and distribution agreement must be signed with NamPower.
- Approval must be obtained from the Roads Authority for access to Solnam's site.

The above approvals are subject to obtaining the Environmental Clearance for the proposed activities.

13. AFFECTED NATURAL AND SOCIAL ENVIRONMENT

13.1. CLIMATE

No specific climate data is available for the project site. Keetmanshoop and surroundings in general is characterized with a semi-arid highland savannah climate typified as very hot in summer and moderate dry in winter. The highest temperatures are measured in December with an average daily temperature of maximum 31°C and a minimum of 17°C. The coldest temperatures, conversely, are measured in July with an average daily maximum of 20°C and minimum 6°C (*Weather - the Climate in Namibia, 1998 – 2012*). The area therefore has low frost potential.

Rainfall in the form of thunderstorms is experienced in the area during the summer months between October and April. The annual average rainfall for the area is 124mm however the average evaporation rate is 3 400mm a year (*Weather - the Climate in Namibia, 1998 – 2012*). Over 70% of the rainfall occurs in the summer months' period between November and March. Rainfall in the area is typically sporadic and unpredictable however the average highest rainfall months are January to March.

Wind is expected to prevent the spread of any nuisance namely noise and smell. The predominant wind in the region is easterly with westerly winds from September to December (*Weather - the Climate in Namibia, 1998 – 2012*). Extreme winds are experienced in the months of August and September and thus significant wind erosion on disturbed areas is visible.

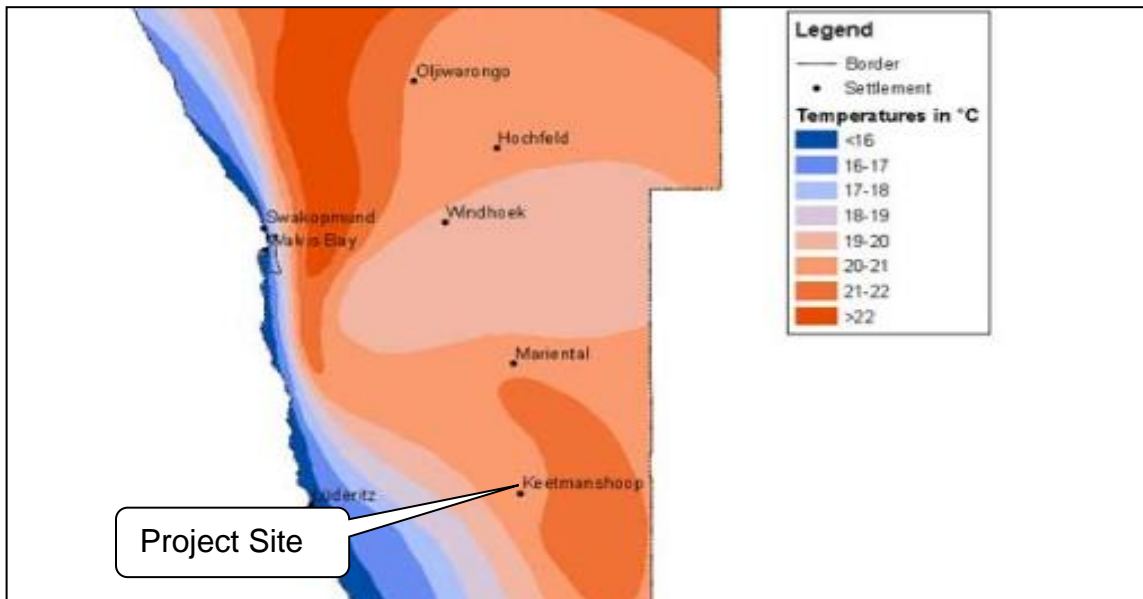


Figure 18: Temperatures in Namibia (Atlas of Namibia Project, 2002)

CONCLUSION AND IMPACT

The project will not have a negative impact on the climate.

13.2. GEOLOGY AND SOILS

The site for the proposed solar plant project is in the //Khomas Trough on a geological area classified as Karoo Supergroup. See map below:

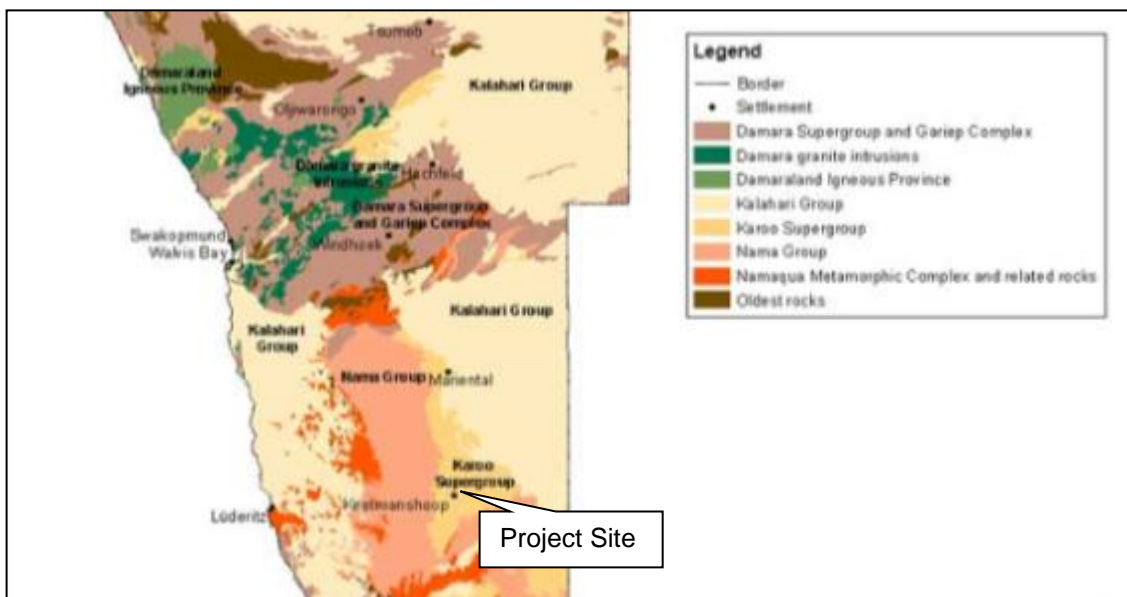


Figure 19: Geology of Namibia (Atlas of Namibia Project, 2002)

The soils in and surrounding the project site are characterised by eutric leptosol soils (ISRIC Classification) having poor structure and little to no distinct layering, and soil texture is fine and sandy, with very low moisture content. The soils of the project site are shallow (between 10cm and 60cm), with very shallow topsoil (less than 10cm), the latter only distinguishable by its higher organic material content. The dry, apedal and stoney characteristics of the soil, together with its high calcium content and low water holding capacity result in the soil having a low soil fertility and associated agricultural carrying capacity. This relates to a very low stocking density of 0 to 19 animals per km² and a cattle density of 0 to 4 head per km² noted for the area.

CONCLUSION AND IMPACT

The project will not impact on the geology, soils and geohydrology of the area. The surface drainage canals will be kept open in order that water can flow through.

13.3. BIODIVERSITY AND VEGETATION

The vegetation in Keetmanshoop and surroundings where the solar plant and transmission line will be constructed and operated forms part of the Nama Karoo Biome. The vegetation type in the area is that of Karas Dwarf Shrubland. On the plains, an open tall shrubland, with a relatively high grass cover, is found. The total number of species is estimated to be around 259. Shrubs such as *Catophractes alexandri*, *Boscia foetida*, *Parkinsonia africana* and *Rhigozum trichotomum* dominate the vegetation. On the dolerite outcrops the vegetation is characterized by a short open woodland formed by the distinctive *Aloe dichotoma* (Quiver Tree). It is however noted that no such outcrops are situated within or in close proximity to the project site.

The project site is showing evidence of human inference, informal tracks are present on some areas of the site and a few gravel roads are present and some vegetation was cleared.

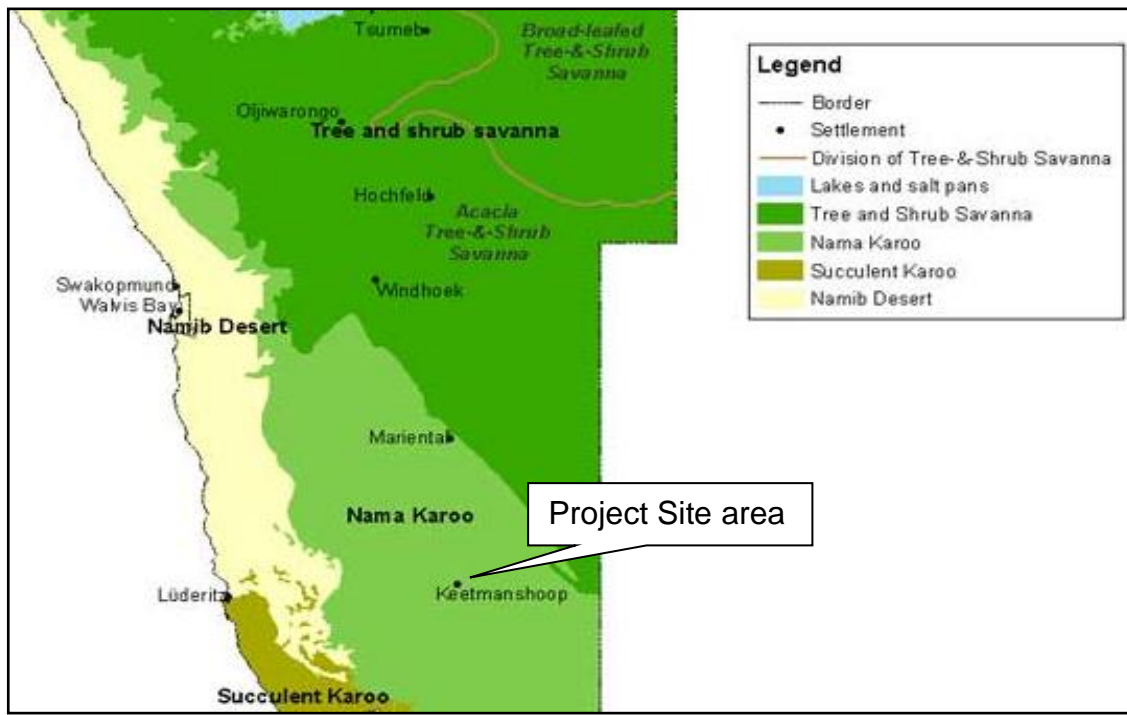


Figure 20: Biomes of Namibia (Atlas of Namibia, 2002)

Common mammalian species expected to occur at and around the project site include Cape ground squirrel (*Xerus inauris*), Springbok (*Antidorcas marsupialis*), Jackal (*Canis mesomelas*), Kudu (*Tragelaphus strepsiceros*), Steenbok (*Raphicerus campestris*), African Caracal (*Caracal caracal*) and Cape ground squirrel (*Xerus inauris*).

The overall reptile diversity in the Keetmanshoop area is estimated at between 41 to 50 species (Mendelsohn et al. 2002). The most important reptiles in the general Keetmanshoop area are viewed as those classified as vulnerable and protected game under Namibian legislation, these being the Leopard tortoise (*Stigmochelys pardalis*), Kalahari tent tortoise (*Psammobates oculiferus*), Bushmanland tent tortoise (*Psammobates tentorius verroxii*), Southern African python (*Python natalensis*) and Rock Monitor (*Varanus albigularis*).

The amphibian diversity at the project site will be restricted by the lack of suitable habitat: the project area is characterised by low rainfall and limited catchments with which water could remain stored for extended periods of time

Limited bird activities were observed during the site visit. There are 10 Endemic and 26 Near Endemic resident species occupying the Quarter Degree Square within which the site is located. The residents have 4 listed species, these being two (2) Near Threatened, and two (2) Vulnerable. The Vulnerable species identified within the area are the Kori Bustard (*Ardeotis kori*) and Martial Eagle (*Polemaetus bellicosus*).

Power lines are one of the major causes of unnatural deaths for birds. Electricity transmission lines, conductors and towers causes injury and death to bird species. The risks should be minimized in the short and long term to prevent bird populations to be

reduced. The visibility of the proposed new power line will be improved by fitting bird flight divertors in order to prevent birds from flying into the lines.

Solar plants are relatively new and its effects on biodiversity have been scarcely documented. Impacts are associated with the habitat transformation and wildlife mortality. Wildlife can be destructive, and it is advisable to protect the solar plant with electrical fences to keep the animals away. The proposed Solnam Photovoltaic Plant and Transfer Station to be constructed on the site will be fenced in with a stockproof fence which will also have electrical wires to keep farm and wild animals out of the plant's area. Only controlled access of people will be allowed to the plant's site.



Figure 21: Vegetation on Project Site (1)



Figure 22: Vegetation on Project Site (2)

±125m² is required for the proposed solar plant, only the area needed will be cleared for the construction activity. The natural characteristics of the project site namely the vegetation clearance and the destruction of habitats is expected to further on have a low impact on the environment before the mitigation measures are taken and after the mitigation measures are taken, the impact will be very low. Vegetation on the site should not be removed if not required.

CONCLUSION AND IMPACT

The vegetation within and surrounding the proposed project site has been severely impacted upon by grazing activities. The site seems to be overgrazed and large areas of bare soils were present. Powerlines have a negative impact on bird life, but the impact can be reduced by installing bird flight diverters to keep birds from flying into the lines. The solar plant and transmitter lines will have a low impact on biodiversity and vegetation of the area.

13.4. GEOHYDROLOGICAL CHARACTERISTICS OF THE SITE

The surroundings of Keetmanshoop in southern Namibia are characterized by the bizarre rock formations of the Keetmanshoop Dolerite Complex, which is allied to the incipient break-up of the Gondwana supercontinent that united the landmasses of the southern hemisphere. Interspersed with sedimentary rocks of the Karoo Supergroup, which demonstrate a major climate change from glacial to subtropical, the dolerite covers an area of more than 18 000km, verging on the Kalahari sandveld (*Ministry of Mines and Energy*).

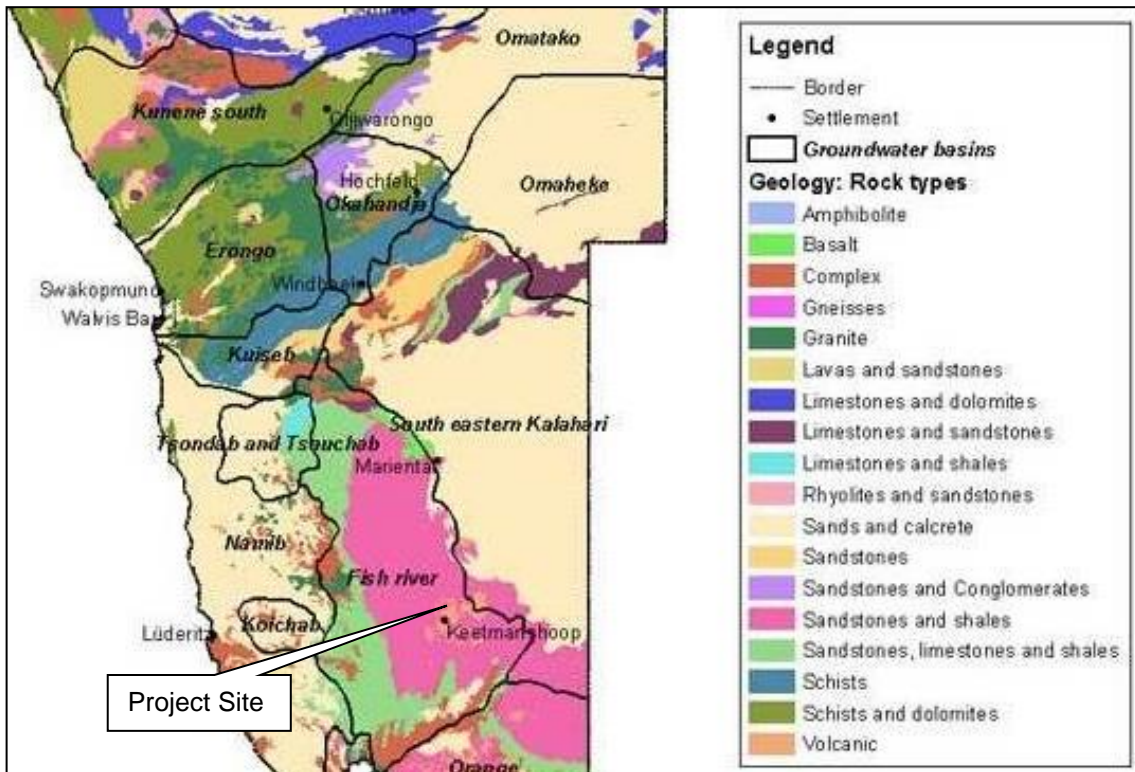


Figure 23: Groundwater basins and rock types (Atlas of Namibia Project, 2002)

The information suggests that the area in general has poor groundwater potential and the predominant geology in the area results in very little risk of groundwater contamination, *unless* pollutants end up in geological structures acting as preferential groundwater flow paths (faults or open joints) or along the river courses where groundwater flow in the alluvial sediments will be higher. Under such conditions the transmissivity is higher; therefore, the potential to easily transmit pollutants can also be moderate to high.

Groundwater pollution can have a negative effect on the receiving environment as well as on the surrounding areas. Soil, geological and geo-hydrological characteristics of the site indicate that the potential significance that water resources will be damaged is very small. For ground water to be contaminated, large amounts of oil or fuel will have to seep through the soil over a period. The Water Resource Management Act (No. 24 of 2004) stipulates that even the potential source of pollution still requires attention namely planning, controlling and managing the possible pollution of the receiving environment as the cumulative impact of many environmentally harmful incidents will in the long run have a detrimental impact on the downstream water sources, resources and users. With precautionary measures that are in place, groundwater contamination is easily prevented, and the proposed operations are not expected to have a detrimental impact on water resources in the area.

The Hydrogeological Map of Namibia shows that the study area falls in a zone of rock bodies with little groundwater potential (generally low; locally moderate potential) in an area of metamorphic rocks.

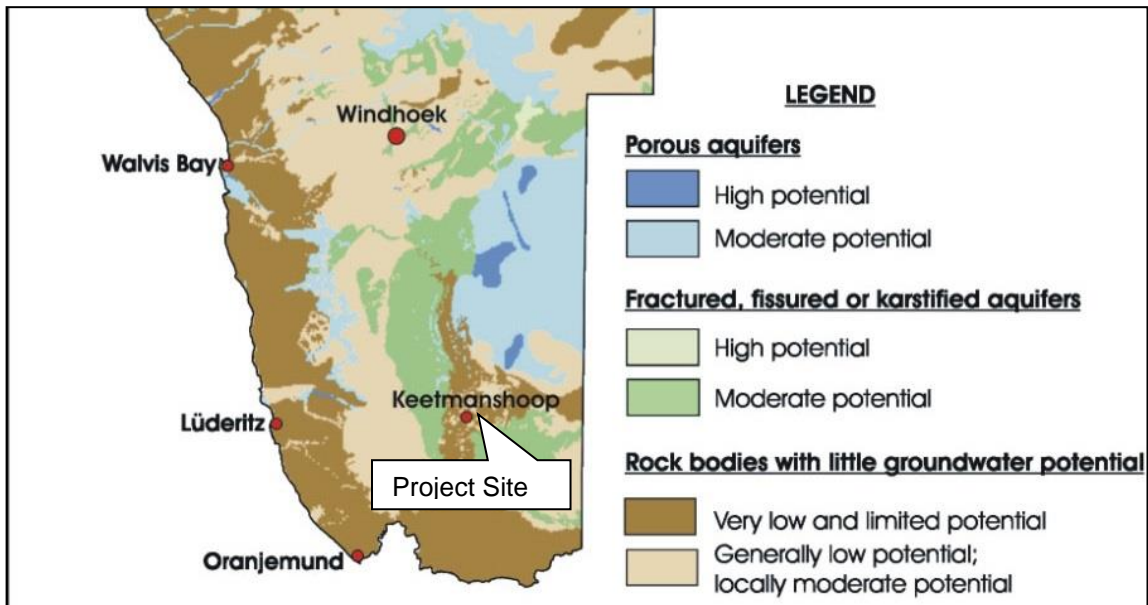


Figure 24: Hydrogeological Map of Namibia (Geological Survey of Namibia, 2015)

CONCLUSION AND IMPACT

It can therefore be concluded that the geological and geohydrological settings limit the flux of groundwater between different groundwater bodies or aquifers in the bedrock, thus limiting the movement of potential pollutants within this rock type; limit the probability that groundwater utilisation in one area will adversely affect groundwater availability in surrounding areas and could result in higher flux within homogenous layers (Geological Survey of Namibia, 2015).

13.5. SURFACE WATER

Surface water flow in a catchment is largely determined by rainfall (quantity and intensity), potential evapotranspiration and catchment relief. A drainage system comprises all the elements of the landscape through which or over which water travels within that drainage basin. These elements include the soil, vegetation growing on it, geological materials underlying the soil, stream channels carrying surface water and the zones where water is held in the soil and moves below the surface. It also includes constructed elements such as pipes and culverts, cleared and compacted land surfaces, and pavement and other impervious surfaces unable to absorb water. The hydrology of a region is thus characterised by the collection, movement and storage of water through a drainage basin.

Alteration of a natural drainage basin through for instance urbanisation can impose dramatic changes in the movement and storage of water. These changes can have negative impacts on other parties that use water for industrial, domestic and livestock watering purposes in the immediate vicinity or downstream.

Increased storm water and run-off due to vegetation removal during construction can cause pollution. Potential pollution can also be due to storage, handling or spillage of

hazardous substances and chemicals, potential pollution due to transportation and due to sewage disposal and storm water.

Erosion and sedimentation could result from soils that are being exposed during the clearing of land, grading and the installation of underground utilities namely water pipes or related infrastructure, etc. Erosion and sedimentation could further result in the degradation of habitats in the rainy season. Severe impacts may occur if erosion and sedimentation impacts are not taken into consideration namely loss of valuable topsoil, vegetation and habitat.

CONCLUSION AND IMPACT

The infrastructure that will be constructed on the site is believed to have a limited impact on erosion and sedimentation since drainage channels will be kept open and will be incorporated in the operations.

13.6. SOCIAL-ECONOMIC COMPONENT

The proposed solar plant will have a positive impact on the socio-economic environment because of employment creation and the provision of energy. Apart from the proponent's intention to make a profit out of the proposed activities, advantages to the area are numerous. The proposed operations will create the need for more business activities such as building maintenance, vehicle maintenance and additional support for existing businesses etc.

CONCLUSION AND IMPACT

The proposed project will create semi-permanent and permanent employment. Since most land use in and around the area is characterised by farming activities, the operations will not have a negative impact on the neighbours or the surrounding areas.

13.7. CULTURAL HERITAGE

The proposed project site is not known to have any historical significance prior to or after Independence in 1990. The specific area does not have any National Monuments and the specific site has no record of any cultural or historical importance or on-site resemblance of any nature. No graveyard or related article was found on the site.

CONCLUSION AND IMPACT

No heritage resources or graveyards were observed on the site or in the area.

13.8. SENSE OF PLACE

The immediate surrounding area of the Kokerboom Transmitter Station is characterised by a concentration of transmitter lines going to the existing operational PV Plants as well as connections with the rest of the NamPower National Network. The proposed solar plant and associated infrastructure will not have a large/negative impact on the sense of place in the area. An untidy or badly managed site can detract from the ecological well-being and individuality of the area. Unnecessary disturbance to the surroundings could be caused by poorly planned or poorly managed operational activities. The site should be kept neat and clean where possible. Vegetation should not be removed or harmed if not necessary since it covers topsoil which prevents erosion. Noise and dust should be limited in the operational phase.

CONCLUSION AND IMPACT

The impact on the sense of place will be low.

13.9. HEALTH

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). A health and safety officer should be employed to manage, coordinate and monitor risk and hazard and report all health and safety related issues in the workplace. The introduction of external workers into the area is sometimes accompanied with criminal activities posing security risks for neighbours. However, the proponent will take certain measures to prevent any activity of this sort. The welfare and quality of life of the neighbours and workforce needs to be considered for the project to be a success on its environmental performance.

CONCLUSION AND IMPACT

The proposed solar plant will have a low impact on the health of the affected community.

13.10. ROAD INFRASTRUCTURE

Development is usually associated with an increase in vehicles to and from the site since worker busses, delivery vehicles and trucks are needed for construction and operations. It is important that all vehicle drivers be informed of their potential impact on the environment and on the roads, and that the necessary measures should be taken to prevent any accidents because of increased traffic.

CONCLUSION AND IMPACT

The proposed solar plant will have a low impact on the road infrastructure.

14. INCOMPLETE OR UNAVAILABLE INFORMATION

The number of people that will be employed on the site in the construction and operational phases will depend on the type and scope of the construction and operational activities. Currently no exact figures are available.

15. IMPACT ASSESSMENT AND EVALUATION

The Environmental Impact Assessment sets out potential positive and negative environmental impacts associated with the project site. The following assessment methodology will be used to examine each impact identified, see *Table* below:

Table 2: Impact Evaluation Criterion (DEAT 2006)

Criteria	Rating (Severity)	
Impact Type	+	Positive
	O	No Impact
	-	Negative
Significance of impact being either	L	Low (Little or no impact)
	M	Medium (Manageable impacts)
	H	High (Adverse impact)

Probability:	Duration:
5 – Definite/don't know	5 - Permanent
4 – Highly probable	4 – Long-term (impact ceases)
3 – Medium probability	3 – Medium term (5 – 15 years)
2 – Low probability	2 – Short-term (0 – 5 years)
1 – Improbable	1 - Immediate
0 - None	
Scale:	Magnitude:
5 – International	10 – Very high/don't know

4 – National	8 - High
3 – Regional	6 - Moderate
2 – Local	4 - Low
1 – Site only	2 - Minor
	0 - None

The impacts on the receiving environment are discussed in the paragraphs below:

15.1. IMPACTS DURING CONSTRUCTION

Some of the impacts that the project will have on the environment includes water will be used for the construction and operation activities, electricity will be used, a sewer system will be constructed and wastewater will be produced on the site that will have to be handled.

15.1.1. WATER USAGE

Water is a scarce resource in Namibia and therefore water usage should be monitored and limited in order to prevent unnecessary wastage. The proposed project will make use of water in its construction phase.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Water	-	2	2	4	2	L	L

15.1.2. ECOLOGICAL IMPACTS

The project will be constructed in a disturbed natural area which is home to little vegetation. Therefore, the impact on fauna and flora will be minimal. Disturbance of areas outside the designated working zone is not allowed.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Ecology	-	1	1	2	1	L	L

15.1.3. DUST POLLUTION AND AIR QUALITY

Dust generated during the transportation of building materials; construction and installation of bulk services, and problems thereof are expected to be low. Dust is expected to be worse during the winter months when strong winds occur. Release of various particulates from the site during the construction phase and exhaust fumes from vehicles and machinery related to the construction of bulk services are also expected to take place. Dust is regarded as a nuisance as it reduces visibility, affects the human health and retards plant growth. It is recommended that regular dust suppression be included in the construction activities when dust becomes an issue.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	4	3	M	L

15.1.4. NOISE IMPACT

An increase of ambient noise levels at the proposed site is expected due to the construction and operation activities. Noise pollution due to heavy-duty equipment and machinery might be generated.

Ensure all mufflers on vehicles are in full operational order; and any audio equipment should not be played at levels considered intrusive by others. The construction staff should be equipped with ear protection equipment.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Noise	-	2	2	4	2	M	L

15.1.5. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and general public are of great importance. Workers should be orientated with the maintenance of safety and health procedures, and they should be provided with PPE (Personal Protective Equipment). A health and safety officer should be employed to manage, coordinate and monitor risk and hazard and report all health and safety related issues in the workplace.

Safety issues could arise from the earthmoving equipment and tools that will be used on site during the construction phase. This increases the possibility of injuries and the contractor must ensure that all staff members are made aware of the potential risks of injuries on site. The presence of equipment lying around on site may also encourage criminal activities (theft).

Sensitize operators of earthmoving equipment and tools to switch off engines of vehicles or machinery not being used. The contractor is advised to ensure that the team is equipped with first aid kits and that they are available on site, at all times. Workers should be equipped with adequate personal protective gear and properly trained in first aid and safety awareness.

No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises. Proper barricading and/or fencing around the site especially trenches for pipes and drains should be erected to avoid entrance of animals and/or unauthorized persons. Safety regulatory signs should be placed at strategic locations to ensure awareness. Adequate lighting within and around the construction locations should be erected, when visibility becomes an issue.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	M	L

15.1.6. CONTAMINATION OF GROUNDWATER

Care must be taken to avoid contamination of soil and groundwater. Use drip trays when doing maintenance on machinery. Maintenance should be done on dedicated areas with linings or concrete flooring. The risk can be lowered further through proper training of staff. All spills must be cleaned up immediately. Excavations should be backfilled and sealed with appropriate material, if it is not to be used further.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Groundwater	-	2	2	4	2	M	L

15.1.7. SEDIMENTATION AND EROSION

The area/project site is sparsely covered by vegetation. The proposed construction and operational activities will not increase the number of impermeable surfaces. The amount of storm water during rainfall events could increase erosion. Proper storm water management measures should be implemented.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Erosion and Sedimentation	-	1	1	2	1	M	L

15.1.8. GENERATION OF WASTE

This can be in the form of rubble, cement bags, pipe and electrical wire cuttings. The waste should be gathered and stored in enclosed containers to prevent it from being blown away by the wind. Contaminated soil due to oil leakages, lubricants and grease from the construction equipment and machinery may also be generated during the construction phase.

The oil leakages, lubricants and grease must be addressed. Contaminated soil must be removed and disposed of at a hazardous waste landfill. The contractor must provide containers on-site, to store any hazardous waste produced. Regular inspection and housekeeping procedure monitoring should be maintained by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Waste	-	2	2	4	2	M	L

15.1.9. CONTAMINATION OF SURFACE WATER

Contamination of surface water might occur through oil leakages, lubricants and grease from the equipment and machinery during the installation, construction and maintenance of bulk services at the site.

Machinery should not be serviced at the construction site to avoid spills. All spills should be cleaned up as soon as possible. Hydrocarbon contaminated clothing or equipment should not be washed within 25m of any surface water body.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Surface water	-	2	2	4	2	M	L

15.1.10. TRAFFIC AND ROAD SAFETY

All drivers of delivery vehicles and construction machinery should have the necessary driver's licenses and documents to operate these machines. Speed limit warning signs must be erected to minimise accidents. Heavy-duty vehicles and machinery must be tagged with reflective signs or tapes to maximize visibility and avoid accidents.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Traffic	-	2	2	4	2	M	L

15.1.11. FIRES

There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Fires	-	2	2	4	2	M	L

15.1.12. SENSE OF PLACE

The placement, design and construction of the proposed infrastructure should be as such as to have the least possible impact on the natural environment. The proposed activities will not have a large/negative impact on the sense of place in the area since it will be constructed in a manner that will not affect the neighbouring land and it will not be visually displeasing.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Nuisance Pollution	-	1	2	2	2	M	L

15.2. IMPACTS DURING THE OPERATIONAL PHASE

15.2.1. ECOLOGICAL IMPACTS

Staff and visitors should only make use of walkways and existing roads to minimise the impact on vegetation. Minimise the area of disturbance by restricting movement to the designated working areas during maintenance.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Ecology Impacts	-	2	2	4	2	M	L

15.2.2. DUST POLLUTION AND AIR QUALITY

Vehicles transporting goods and staff will contribute to the release of hydrocarbon vapours, carbon monoxide and sulphur oxides into the air. Possible release of sewer odour, due to sewer system failure of maintenance might also occur. All maintenance of bulk services and infrastructure at the project site has to be designed to enable environmental protection.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	4	3	L	L

15.2.3. CONTAMINATION OF GROUNDWATER

Spillages might also occur during maintenance. This could have impacts on groundwater especially in cases of large sewer spills. Proper containment should be used in cases of sewerage system maintenance. Oil and chemical spillages may have a health impact on groundwater users. Potential impact on the natural environment from possible polluted groundwater also exists.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Groundwater contamination	-	2	2	4	2	L	L

15.2.4. GENERATION OF WASTE

Household waste from the activities at the site and from the staff working at the site will be generated. The waste will be collected, sorted to be recycled and stored in on site for transportation and disposal at an approved landfill site.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Waste Generation	-	1	2	2	2	L	L

15.2.5. FAILURE IN RETICULATION PIPELINES

There may be a potential release of sewage, stormwater or water into the environment due to pipeline/system failure. As a result, the spillage could be released into the

environment and could potentially be a health hazard to surface and groundwater. Proper reticulation pipelines and drainage systems should be installed. Regular bulk services infrastructure and system inspection should be conducted.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Failure of Reticulation Pipeline	-	2	2	4	2	L	L

15.2.6. FIRES

Food will be prepared on gas fired stoves. There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Fires	-	2	2	4	2	M	L

15.2.7. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	L	L

15.3.CUMULATIVE IMPACTS

These are impacts on the environment, which results from the incremental impacts of the construction and operation of the project when added to other past, present, and reasonably foreseeable future actions regardless of which person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant

actions taking place over a period of time. In relation to an activity, it means the impact of an activity that in it may not become significant when added to the existing and potential impacts resulting from similar or diverse activities or undertakings in the area.

Possible cumulative impacts associated with the proposed construction include sewer damages/maintenance, uncontrolled traffic and destruction of the vegetation or the environment. These impacts could become significant especially if it is not properly supervised and controlled. This could collectively impact on the environmental conditions in the area. Cumulative impacts could occur in both the operational and the construction phase.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Cumulative Impacts	-	2	3	4	2	L	L

16. CONCLUSION

In line with the Environmental Management Act (No 7 of 2007), *Green Earth Environmental Consultants* have been appointed to conduct an Environmental Impact Assessment for the proposed construction of a 55 Megawatt Photovoltaic Plant, Storage Facilities and Overhead Power Lines on a Portion of Portion 2 of Farm Klein Spitskop No. 153, //Kharas Region. It is believed that the proposed project can largely benefit the employment, electricity and economical needs of the area. The land is suitable for the intended project.

Negative impacts that can be associated with construction in the area are most likely to include production of solid and liquid waste, dust emissions, atmospheric emissions, noise pollution, movement of soils, increased wastewater generation and the disruption of groundwater from the foundation or other structures. The negative environmental impacts that may be visible in the operational phase of the project include increases in solid waste generation for example increased stress on waste disposal facilities, increase in water consumption and waste water generation, can result in an increase in traffic on the nearby roads and there can be an impact on the occupational health and safety of workers. However, this project is believed to be an asset to this area. Facilities, employment and electricity will be made available for which there is a need.

After assessing all information available on this project, *Green Earth Environmental Consultants* believe that the project is required.

17. RECOMMENDATION

It is therefore recommended that the Ministry of Environment, Forestry and Tourism through the Environmental Commissioner support and approve the Environmental Clearance for the proposed construction of a 55 Megawatt Photovoltaic Plant, Storage

Facilities and Overhead Power Lines on a Portion of Portion 2 of Farm Klein Spitskop No. 153, //Kharas Region and for the following listed activities:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

1. The construction of facilities for -

(a) the generation of electricity.

(b) the transmission and supply of electricity.

LIST OF REFERENCES

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Namibian Environmental Assessment Policy, 1995. *Ministry of Environment, Forestry and Tourism*. Windhoek. Namibia, pp. 3 – 7.

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Soil Conservation Act, 1969. *Office of the Prime Minister*. Windhoek. Namibia, pp. 1 – 14.

Water Resource Management Act, 2004. *Office of the Prime Minister*. Windhoek. Namibia, pp. 6 – 67.

APPENDIX A: CURRICULUM VITAE OF CHARLIE DU TOIT

1. **Position:** Environmental Practitioner
2. **Name/Surname:** Charl du Toit
3. **Date of Birth:** 29 October 1960
4. **Nationality:** Namibian

5. **Education:**

Name of Institution	University of Stellenbosch, South Africa		
Degree/Qualification	Hons B (B + A) in Business Administration and Management		
Date Obtained	1985-1987		
Name of Institution	University of Stellenbosch, South Africa		
Degree/Qualification	BSc Agric Hons (Chemistry, Agronomy and Soil Science)		
Date Obtained	1979-1982		
Name of Institution	Boland Agricultural High School, Paarl, South Africa		
Degree/Qualification	Grade 12		
Date Obtained	1974-1978		

6. **Membership of Professional Association:** EAPAN Member (Membership Number: 112)

7. **Languages:**

	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. **Employment Record:**

<u>From</u>	<u>To</u>	<u>Employer</u>	<u>Position(s) held</u>
2009	Present	Green Earth Environmental Consultants	Environmental Practitioner
2005	2008	Elmarie Du Toit Town Planning Consultants	Manager
2003	2005	Pupkewitz Megabuild	General Manager
1995	2003	Agra Cooperative Limited	Manager Trade
1989	1995		Chief Agricultural Consultant

		Namibia	
		Development	Agricultural
1985	1988	Corporation	Researcher
		Ministry of	
		Agriculture	

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



Charl du Toit

APPENDIX B: CURRICULUM VITAE OF CARIEN VAN DER WALT

1. **Position:** Environmental Consultant
2. **Name/Surname:** Carien van der Walt
3. **Date of Birth:** 6 August 1990
4. **Nationality:** Namibian

5. **Education:**

Institution	Degree/Diploma	Years
University of Stellenbosch	B.A. (Degree) Environment and Development	2009 to 2011
University of South Africa	B.A. (Honours) Environmental Management	2012 to 2013

6. **Membership of Professional Associations:**

EAPAN Member (Membership Number: 113)

7. **Languages:**

Language	Speaking	Reading	Writing
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. **Employment Record:**

From	To	Employer	Positions Held
07/2013	Present	Green Earth Environmental Consultants	Environmental Consultant
06/2012	03/2013	Enviro Management Consultants Namibia	Environmental Consultant
12/2011	05/2012	Green Earth Environmental Consultants	Environmental Consultant

9. **Detailed Tasks Assigned:**

Conducting the Environmental Impact Assessment, Environmental Management Plan, Public Participation, Environmental Compliance and Environmental Control Officer

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engage.

Carien van der Walt

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ONE ON ONE PROPERTIES: WESTVALE: 3 Bedroom townhouse with 2 bathrooms. All on one level, next to Westlane Spar. The unit is on the Southern side of the complex.

Regskenisgewings Legal Notices

IN THE High Court of Namibia (Main Division) Case No: HC-MD-CIV-ACT-CON-2020/05132

Regskenisgewings Legal Notices

CALL FOR PUBLIC PARTICIPATION/COMMENTS ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF A 55 MEGAWATT PHOTOVOLTAIC PLANT, INCLUDING STORAGE AND OVERHEAD LINES.

TE KOOP

SKOON ROLLE WIT KOERANTPAPIER VIR VELE GEBRUIKE. PANELLOPPERS, NYWERHEDE, RESTAURANTE, SKOLE, VERPAKKINGSMATERIAAL per kg

Diere Animals

BABA GREAT DANES TE KOOP: Sal gered wees om te verhuis 19 Oktober. Indien j'y belangtel skakel Matheien by 081-8724246.

Regskenisgewings Legal Notices

CASE NO: 45/2021 In the matter of ANGER FINANCIAL SERVICES CC, 1st Execution Creditor.

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Regskenisgewings Legal Notices

IN THE High Court of Namibia (Main Division) Case No: HC-MD-CIV-ACT-CON-2020/05132

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Acknowledging that the production of reliable, timely statistics and indicators of countries' progress is indispensable for informed policy decisions and monitoring implementation of the Millennium Development Goals, the General Assembly adopted on 3 June 2010 Resolution A/64/267, which officially designated 20 October 2010 as the first ever World Statistics Day.

Spesiale dienste Services

PTR TRANSPORT: Trokke te huur binne en buite Windhoek. Ons vervoer alles. Dryver ingesluit. Skakel vir bekostigbare pryse. PW 081-4834893.

To hour To Let

AUASHILLS RETIREMENT: Bedroom flat, only for persons 50 years and older. B/c, spacious bathroom. Parking bay for own vehicle. N\$4 500 per month.

Huise to koop Residential Prop. to Buy

DUNAMITE PROPERTIES is urgently looking for a farm for their client between Oijjwarongo and Tsumeb. 081-2070434.

Regskenisgewings Legal Notices

IN THE High Court of Namibia (Main Division) Case No: HC-MD-CIV-ACT-CON-2020/05132

Regskenisgewings Legal Notices

CALL FOR PUBLIC PARTICIPATION/COMMENTS ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF A 55 MEGAWATT PHOTOVOLTAIC PLANT, INCLUDING STORAGE AND OVERHEAD LINES.

HAPPY 16th PUB & DAY. Enjoy!! Ruben. 20 October 2021. Image of a man holding a drink.

CLASSIFIEDS

Tel: (061) 2080844 Fax: (061) 220584 Email: Classifieds@nepc.com.na

Services	Notices	Notices	Notices	Notices	Notices	Notices
Offered	Legal Notice	Legal Notice	Legal Notice	Legal Notice	Legal Notice	Legal Notice

CLASSIFIEDS

Rules and Deadlines

- To avoid disappointment of an advertisement not appearing on the date you wish, please book promptly.
- Classifieds small and notices: 12:00, no writing days prior to placing.
- Advertisements and notices: 16:00, two days before date of publication in writing only.

Notice (VAT Inclusive)

Legal Notice NS46200
Land Lease The NS46250
Liquor Licenses NS47250
Name Change NS47250
Birthdays from NS20300
Death Notices from NS20300
Tombstone Engraving from NS20300

Thank You Messages from NS20300
Terms and Conditions Apply

Property

For Sale / Rent

FLAT TO RENT

Pioniers Park

One bedroom bachelors for R\$ 4000.00
Water and Electricity included.

Contact: 0612203096

FOR SALE: ROCKY CREST

3 BEDROOM DUPLEX
Townhouse, Adorn Court
Alarm, automated garage,
2 bedrooms, courtyard
= Best!

R\$ 1290 000
Contact: 061 126 6783

Employment

Offered

Vacancy for a Commercial Helicopter Pilot

Namibia Helicopter Services is looking for a commercial helicopter pilot with

1. Current valid CPL license;
2. Minimum of 300 hours turbine time;
3. Current Class 1 medical certificate;
4. Current AOT operating;
5. Current 206 operating;
6. Current Dangerous Goods certificate;
7. Salary - open-ended related.

Closing date: 05 November 2021
Only shortlisted candidates will be contacted.
Email CV to: ops@nhs.na

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALIZATION AND TRADE, LIQUOR ACT, 1986
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1986
Regulations 14, 28 & 32

Notice is given that an application in terms of the Liquor Act, 1986, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OSHAKATI

1. Name and postal address of applicant: **NYAMA PETERUS PO BOX 271, OKAVANGO**
2. Name of business or proposed business to which applicant relates: **TULASHI SHISBEN**
3. Address/location of premises to which application relates: **ETARA, OKAVANGA REGION, OKAVANGO CONSTITUENCY**
4. Nature and details of application: **SIBBEN LIQUOR LICENCE**
5. Clerk of the court with whom application will be lodged: **OUTAP MAGISTRATE COURT**
6. Date on which application will be lodged: **18-31 OCTOBER 2021**
7. Date of meeting of Committee at which application will be heard: **8 DECEMBER 2021**

Any application or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 33 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALIZATION AND TRADE, LIQUOR ACT, 1986
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1986
Regulations 14, 28 & 32

Notice is given that an application in terms of the Liquor Act, 1986, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: KARAS

1. Name and postal address of applicant: **MR. ANGELO S. SHANZ PO BOX 12, KARASBURG, NAMIBIA**
2. Name of business or proposed business to which applicant relates: **MARRY ME LOUNGE**
3. Address/location of premises to which application relates: **DRIF BA WESTERDORP, KARASBURG, KARAS**
4. Nature and details of application: **SPECIAL LIQUOR LICENCE**
5. Clerk of the court with whom application will be lodged: **KARASBURG MAGISTRATE COURT**
6. Date on which application will be lodged: **27 OCTOBER 2021**
7. Date of meeting of Committee at which application will be heard: **8 DECEMBER 2021**

Any application or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 33 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALIZATION AND TRADE, LIQUOR ACT, 1986
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1986
Regulations 14, 28 & 32

Notice is given that an application in terms of the Liquor Act, 1986, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OSHAKATI

1. Name and postal address of applicant: **MUZANABA PHILLUS PO BOX 271, OKAVANGO**
2. Name of business or proposed business to which applicant relates: **KALLA SHISBEN**
3. Address/location of premises to which application relates: **OKAVANGA, OKAVANGO CONSTITUENCY**
4. Nature and details of application: **SIBBEN LIQUOR LICENCE**
5. Clerk of the court with whom application will be lodged: **OUTAP MAGISTRATE COURT**
6. Date on which application will be lodged: **18-31 OCTOBER 2021**
7. Date of meeting of Committee at which application will be heard: **8 DECEMBER 2021**

Any application or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 33 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALIZATION AND TRADE, LIQUOR ACT, 1986
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1986
Regulations 14, 28 & 32

Notice is given that an application in terms of the Liquor Act, 1986, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OSHAKATI

1. Name and postal address of applicant: **NYAMA PETERUS PO BOX 271, OKAVANGO**
2. Name of business or proposed business to which applicant relates: **OKAVANGA SWAGONGA**
3. Address/location of premises to which application relates: **OKAVANGA, OKAVANGO CONSTITUENCY**
4. Nature and details of application: **SIBBEN LIQUOR LICENCE**
5. Clerk of the court with whom application will be lodged: **OUTAP MAGISTRATE COURT**
6. Date on which application will be lodged: **18-31 OCTOBER 2021**
7. Date of meeting of Committee at which application will be heard: **8 DECEMBER 2021**

Any application or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 33 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALIZATION AND TRADE, LIQUOR ACT, 1986
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1986
Regulations 14, 28 & 32

Notice is given that an application in terms of the Liquor Act, 1986, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OSHAKATI

1. Name and postal address of applicant: **SHIVUTE JASON MTSHELI PO BOX 9834, SWAKOPOLD, NAMIBIA**
2. Name of business or proposed business to which applicant relates: **JASE VILLAGE MARKET**
3. Address/location of premises to which application relates: **OSHANAYA OKAVANGA, OKAVANGO CONSTITUENCY**
4. Nature and details of application: **GROCERY LIQUOR LICENCE**
5. Clerk of the court with whom application will be lodged: **OUTAP MAGISTRATE COURT**
6. Date on which application will be lodged: **18-31 OCTOBER 2021**
7. Date of meeting of Committee at which application will be heard: **8 DECEMBER 2021**

Any application or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 33 days before the date of the meeting of the Committee at which the application will be heard.

Paw-Line

Help a paw and sms SPCA to 5005.

All proceeds donated to the SPCA.

Every Paw Print Counts!

IN THE HIGH COURT OF NAMIBIA, NORTHERN LOCAL DIVISION HELD AT OSHAKATI

CASE NO: HC-NLD-CIV-ACT-CON-201900245

In the matter between: **OSHAKATI TOWN COUNCIL PLAINTIFF** AND **LABAN KANDUME DEFENDANT**

NOTICE OF SALE IN EXECUTION

IN THE EXECUTION OF a Judgment of the above Honourable Court, the following goods will be sold by Public Auction at, **211 INDEPENDENCE AVENUE, at 09H30 on the 5th day of NOVEMBER 2021.**

1X POWERSTAR WATER TANKER REG NO. N136-555W (NO KEY-HOT WIRE)

1 X 51 SEATER BUS-TEMPORARY REG NO. NW0815P (NO KEY-HOT WIRE-EXPIRED PAPERS)

1 X MIBENE TRUCK TRACTOR REG NO: N202-205W (NO KEY)

1X POWERSTAR TIPPER TRUCK REG NO: N168-49W

CONDITIONS OF SALE: "VOETSTOOTS" - CASH TO THE HIGHEST BIDDER

Dated and signed at OSHAKATI on the 1st day of OCTOBER 2021

GREYLING & ASSOCIATES
ERF 849 ROBERT MUGAGE STREET
PRIVATE BAG 5552
OSHAKATI
TEL. 065 2218178 OR FAX 221819
REF. JGR/W062008

Employment Offered

ZAMBEZI PRIVATE SCHOOL

VACANCIES 2021

ZPS is looking for the following teachers Experienced, Energetic, Enthusiastic, Multitasked Team players with a love for children

- Sports Co-ordinator: Cricket and Rugby including tennis, basketball and volleyball expertise.
- Grade 0 Afrikaans speaking Class teacher
- Afrikaans Teacher Grade 4-7

Closing date for applications: 30 November 2021
zps@zps.na

NOTICE

Take notice that PLAN AFRICA CONSULTING CC, TOWN AND REGIONAL PLANNERS, on behalf of the owner of the respective erf intends to apply to the Rehoboth Town Council for:

- CONSENT TO USE erf 324 REHOBOTH, BLOCK G KUDU STREET FOR THE PURPOSE OF A VETERINARY CLINIC

Erf 324 is 981m² residential zoned "single residential" with a density of 1:300m². The intention of the lessee is to use the existing house for the clinic therefore, no additional dwellings will be constructed.

A veterinary clinic resort under the definition of an institution, which is a consent use on a "single residential" zoned erf.

Further take notice that the plan of the erf lies for inspection on the town planning notice board at the Rehoboth Town Council and at Plan Africa Consulting CC, No 8 Delius Street, Windhoek West.

Further take notice that any person objecting to the proposed use of the land set out above may lodge such objection together with the grounds thereof, with the Town Council and with the applicant (Plan Africa Consulting CC) in writing within 14 days of the last publication of this notice (that date for objectors is 10 November 2021).

PLAN AFRICA CONSULTING CC
TOWN AND REGIONAL PLANNERS
P. O. Box 4114, 8 Delius Street, Windhoek (West)
Tel: (061) 212096
Cell: 0812718189
Fax: (061) 213051
Email: peh@plan.africa.na

Employment Offered

ZAMBEZI PRIVATE SCHOOL

VACANCIES 2021

ZPS is looking for the following teachers Experienced, Energetic, Enthusiastic, Multitasked Team players with a love for children

- Sports Co-ordinator: Cricket and Rugby including tennis, basketball and volleyball expertise.
- Grade 0 Afrikaans speaking Class teacher
- Afrikaans Teacher Grade 4-7

Closing date for applications: 30 November 2021
zps@zps.na

Green Earth Environmental Consultants

CALL FOR PUBLIC PARTICIPATION/ COMMENTS

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION OF FACILITIES AND STORAGE AND HANDLING OF PETROLEUM FUEL PRODUCTS ON A PORTION OF erf 775, GOBABE, OMAHEKE REGION

Green Earth Environmental Consultants have been appointed to attend to and complete an Environmental Impact Assessment and Environmental Management Plan (EMP) in order to obtain an Environmental Clearance Certificate as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4078 of 5 February 2012) for the construction of facilities and storage and handling of petroleum fuel products on a Portion of Erf 775, Gobabis, Omaheke Region.

Name of proponent: Extreme Bulk Fuel Services (Pty) Ltd

Project location and description: It is the intention of the proponent to construct and operate facilities for the storage and handling of petroleum fuel products on a Portion of Erf 775, Gobabis, Erf 775, Gobabis belongs to Trans Namib and accommodates the Gobabis railway station. A lease agreement has been signed between Trans Namib and the Proponent to lease a portion of Erf 775, Gobabis for the proposed fuel handling and storage facility. Above ground steel tanks with bund walls will be installed with a 500 000-litre capacity. A locality plan of the site is displayed on the Notice Board of Gobabis Municipality and is available at the office of Green Earth Environmental Consultants at Bridgewater Office, No. 4 Dr. Neneke Numeke Avenue, Klein Windhoek.

Interested and affected parties are hereby invited to register in terms of the assessment process to give input, comments and opinions regarding the proposed project. A Background Information Document is available to the ISAPs who registered. A public meeting will be held only if there is enough public interest. Only ISAPs that registered will be notified of the possible public meeting to be held.

The last date for comments and/or registration is 12 November 2021.

Contact details for registration and further information:
Green Earth Environmental Consultants
Contact Person: Charlie Du Toit/Carlen van der Walt
Tel: 0611273145
E-mail: ccharlie@greenearthnamb.com and carlen@greenearthnamb.com

Green Earth Environmental Consultants

CALL FOR PUBLIC PARTICIPATION/ COMMENTS

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF A 55 MEGAWATT PHOTOVOLTAIC PLANT, INCLUDING STORAGE AND OVERHEAD LINES, ON A PORTION OF PORTION 2 OF FARM KLEIN SPITSKOP NO. 153, KHARAS REGION

Green Earth Environmental Consultants have been appointed to attend to and complete an Environmental Impact Assessment and Environmental Management Plan (EMP) in order to obtain an Environmental Clearance Certificate as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4078 of 5 February 2012) for the proposed construction of a 55 Megawatt Photovoltaic Plant, Storage Facilities and Overhead Power Lines on a Portion of Portion 2 of Farm Klein Spitskop No. 153, (Kharas Region).

Name of proponent: Solven Energy (Pty) Ltd

Project location and description: The Photovoltaic Plant (PV) will be located on a portion of Portion 2 of Farm Klein Spitskop No. 153, Kharas Region, located 425km to the northeast of Keetmanshoop. The implementation of the PV Plant will be phased in over 3 – 5 years and will require 475ha of land. Once fully developed it will include a Photovoltaic Generation Plant of 50 MW PV + 6.5 MW Storage Facilities. The proposed plant will be linked via the NamPower network and feed into the NamPower Kokerboom Transformer Station. A locality plan of the site is available at the office of Green Earth Environmental Consultants at Bridgewater Office, No. 4 Dr. Neneke Numeke Avenue, Klein Windhoek.

Interested and affected parties are hereby invited to register in terms of the assessment process to give input, comments and opinions regarding the proposed project. A Background Information Document is available to the ISAPs who registered. A public meeting will be held only if there is enough public interest. ISAPs who registered will be notified on the date and venue of the public meeting.

The last date for comments and/or registration is 12 November 2021.
Contact details for registration and further information:
Green Earth Environmental Consultants
Contact Person: Charlie Du Toit/Carlen van der Walt
Tel: 0611273145
E-mail: ccharlie@greenearthnamb.com and carlen@greenearthnamb.com

Green Earth Environmental Consultants

CALL FOR PUBLIC PARTICIPATION/ COMMENTS

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF A 55 MEGAWATT PHOTOVOLTAIC PLANT, INCLUDING STORAGE AND OVERHEAD LINES, ON A PORTION OF PORTION 2 OF FARM KLEIN SPITSKOP NO. 153, KHARAS REGION

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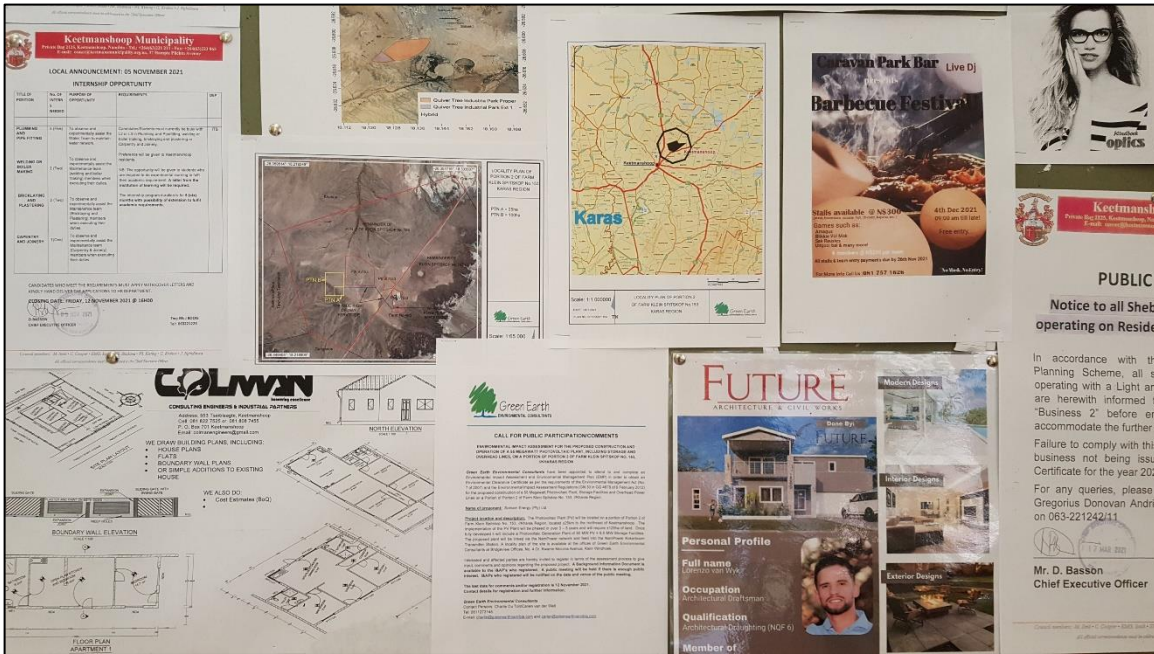
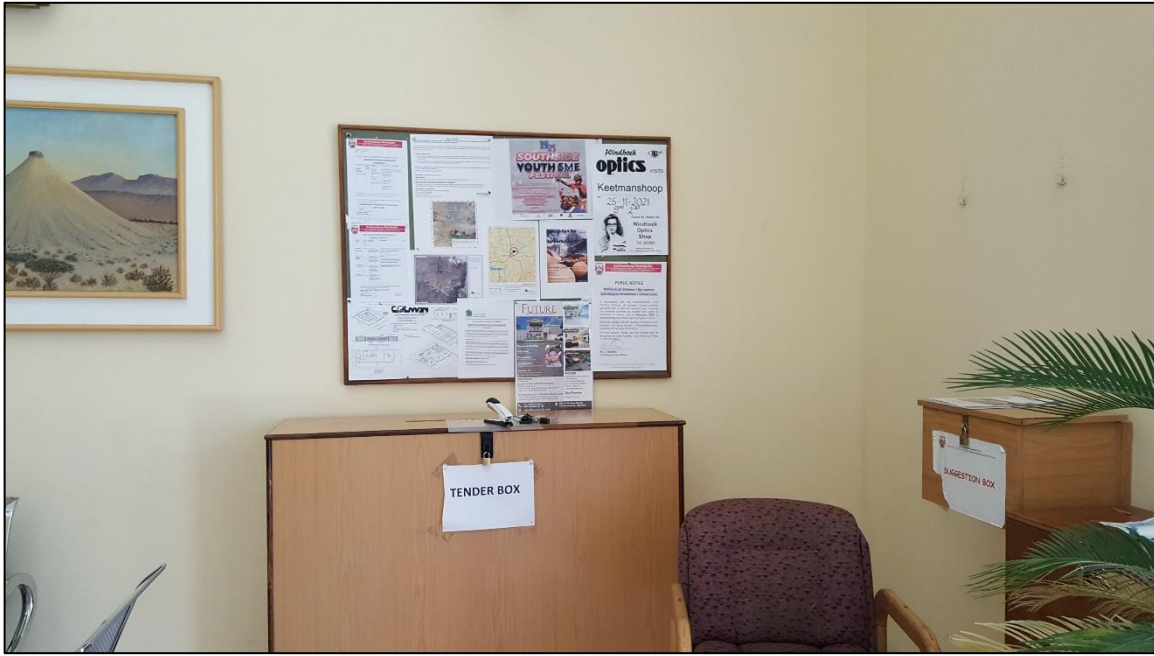
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The last date for comments and/or registration is 12 November 2021.
Contact details for registration and further information:
Green Earth Environmental Consultants
Contact Person: Charlie Du Toit/Carlen van der Walt
Tel: 0611273145
E-mail: ccharlie@greenearthnamb.com and carlen@greenearthnamb.com

APPENDIX D: NOTICES ON NOTICE BOARD



APPENDIX E: ENVIRONMENTAL MANAGEMENT PLAN