

APP: 006521

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (SCOPING) REPORT

PROPOSED ODULA GREEN HYDROGEN AND OXYGEN PROJECT

SWAKOPMUND MUNICIPAL AREA (UNDEVELOPED LIGHT INDUSTRIAL ZONE), ERONGO REGION, NAMIBIA

PROPONENT: ODULA HYDROGEN (PTY) LTD



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This Environmental and Social Impact Assessment (ESIA) Scoping Report for the proposed Odula Green Hydrogen and Oxygen Project in Swakopmund, has been prepared in accordance with the Environmental Management Act, 2007 (Act No.7 of 2007), Environmental Impact Assessment Regulations of February 2012. Further, the assessment also attempted to incorporate an alignment with the International Finance Corporation (IFC) Performance Standards and or World Bank Environmental and Social Framework.

Table of Contents

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (SCOPING) REPORT	0
NON TECHNICAL SUMMARY	4
ACRONYMS AND ABBREVIATIONS.....	6
1. INTRODUCTION.....	7
1.1 Proponent.....	7
1.2 Environmental Assessment Practitioner (EAP)	7
2. PROJECT DESCRIPTION	9
Process 1: Energy Production.....	10
Process 2: Hydrogen and Oxygen Production.....	10
Process 3: Products Packaging and Storage	11
Process 4: Products dispensing for use or transportation	12
3. PROJECT LOCATION	14
4. NEED AND DESIRABILITY OF THE PROJECT	16
5. ALTERNATIVES CONSIDERED	16
6. DESCRIPTIONS OF AFFECTED ENVIRONMENT (BASELINE ENVIRONMENT).....	19
6.1 Biophysical Environment.....	20
6.1.1 Climate	20
6.1.2 Geology, soil, and topography	21
6.1.3 Hydrology	22
6.1.4 Terrestrial and coastal ecology (Flora and Fauna).....	23
6.2 Socio-Economic Environment.....	33
6.2.1 Economic Land use and human settlements.....	33
6.2.2 Demographics, economy, employment opportunities, and services.....	36
6.2.3 Community health, safety, and security aspects.....	37
6.2.4 Cultural heritage sites and historical resources	37
7. LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK	37
7.1 General Environmental and Planning.....	38
7.2 Water Abstraction, Treatment, Use and Wastewater disposal	39
7.3 Energy and Power Generation.....	40
7.4 National Economic Visions, Policies and Strategies.....	41
7.5 International policies, conventions and administrative frameworks	41
8. STAKEHOLDER ENGAGEMENT AND/ PUBLIC CONSULTATION PROCESS.....	44

8.1	Objectives:	44
8.2	Steps taken to notify and invite stakeholders	44
8.3	List of registered interested and affected parties	45
8.4	Summary of issues raised by interested and affected parties	47
8.4.1	Environmental Biophysical Ecological Issues	47
8.4.2	Social-Economic Issues	47
8.4.3	Public and Occupational Safety and Health Issues	47
8.4.4	Cultural and Heritage Issues	47
8.4.5	Institutional and Regulatory Issues	48
9.	IDENTIFICATION OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS	48
9.1	Impact Theme: Environmental Biophysical Ecological Impacts	48
9.2	Impact Theme: Socio-Economic Impacts	50
9.3	Impact Theme: Public and Occupational Health and Safety	52
9.4	Impact Theme: Cultural and Heritage	53
9.5	Impact Theme: institutional and regulatory	54
9.6	Cumulative environmental and socio-economic impacts	55
10.	ASSESSMENT METHODOLOGY: CRITERIA AND IMPACT SIGNIFICANCE	55
10.1	Impact Assessment Criteria	56
10.2	Assessment of Impact Significance	56
11.	PROPOSED SPECIALIST STUDIES AND TERMS OF REFERENCE	65
12.	DRAFT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN	66
12.1	Mitigation hierarchy: Avoid, Minimize, Restore and/or Offset	66
12.2	The need and principle of Environmental and Social Management Plan (ESMP)	67
13.	CONCLUSIONS AND RECOMMENDED WAYFORWARD	67
14.	REFERENCES	69
15.	ANNEXURES	69
	Annexure A: Project Site Layout and Location Map and Site Photo	70
	Annexure B: Issue and Response Report (IRR)	72
	Annexure C: Draft Environmental and Social Management Plan	73
	Annexure D: Terms of References – 3 x Specialist Studies	74
	Annexure E: Curriculum Vitae – Environmental Assessment Practitioner	75

NON TECHNICAL SUMMARY

The ESIA process was initiated firstly to comply to the provision of the Namibian Environmental Management Act and secondly to support the application for purchasing of the municipal land from the Swakopmund Municipal Council, a land application which has been on hold since November 2024 pending the finalization of ESIA process.

The proposed Odula Green Hydrogen Project within Swakopmund municipal light industrial zone, presents significant socio-economic and environmental benefits while identified negative impacts are all manageable. The project further supports Namibia effort to drive her National Green Hydrogen Strategy; and contribute to National Vision 2030 with National Development Plan 6 as the current implementing tool. The project also contributes to Namibia global commitments on climate change under the UNFCCC as well as UN SDGs on clean energy and climate action.

This comprehensive ESIA Scoping report has identified a total of 28 specific environmental and social impacts comprising both negative and positive impacts which were further assessed for significance rating. A total of four negative impacts were assessed and rated Highly significant, of which two of the impacts are being subjected to in-depth study and these relates to impacts of seawater abstraction infrastructures on both birds conservation area and marine coastal ecology. The second impact is also to be subjected to an in-depth risk assessment (HAZOP), due to the hazardous nature of bulk storage of compressed hydrogen and oxygen; however this is recommended to be completed during or prior to the construction phase as it require finalization of construction designs and actual land allocation – hence recommended to be attached to the conditions of the license.

All the other negative impacts were rated moderately significant and which once the recommended mitigations actions are appropriately implemented, would be reduced to low significance rating (*see ESMP in Annexure C*).

The proposed project site is within a municipal land currently zoned as light-industrial area, alternatively Zone-M of Swakopmund Municipality Structure Plan 2020-2040 which is currently undeveloped. The site is found to be suitable due to availability of solar and reasonable safe proximity to the sea which allows smooth sourcing of seawater for desalination component of the plant. The fact that the site is currently undeveloped, this create flexibility for creation of

buffer zones around the plant and relation to adjacent land uses – enhances capacity to manage hydrogen related hazards and risks. The suitability was also influenced by the high-level assessment outcome of alternative site which fall within Dorob National Park which was regarded as a more comparative sensitive area.

Therefore, this ESIA Scoping report is found to be comprehensive and adequate at this stage, therefore it is further recommended the required ESIA process be allowed to conclude with the finalisation of the specialist study on marine ecology and coastal birds' habitats which focus on impact of seawater pipeline (linear infrastructure) from the sea to the project site.

ACRONYMS AND ABBREVIATIONS

EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EIA/ESIA	Environmental Impact Assessment / Environmental and Social Impact Assessment
EMP	Environmental Management Plan
EPL	Exploration and Prospecting License
H ₂	Hydrogen gas
Ha	Hectare
HAZOP	Hazard and Operability study
IFC PS	International Finance Corporation Performance Standard
IPP	Independent Power Producer
IUCN	International Union for Conservation of Nature
LC	Least Concern
LOX	Liquid Oxygen
m ³	Cubic meter
ML	Mineral License
MT	Metric Ton
MW/h	Mega Watts per hour
O ₂	Oxygen gas
PV	Photovoltaic
RO	Reverse Osmosis
UN SDGs	United Nation Sustainable Development Goals
UNFCCC	United Nation Framework Convention on Climate Change

1. INTRODUCTION

The ESIA Scoping report presents the initial phase of the Environmental and Social Impact Assessment (ESIA) for the proposed **Odula Green Hydrogen and Oxygen Project** which is to be located within the **Swakopmund Municipal Area**, Erongo Region, Namibia. The significance of the proposed project is that it aims to support Namibia's clean energy transition, promote local industrialization, and contribute to the global low-carbon economy.

This report has been prepared in compliance with the Namibian **Environmental Management Act (No.7 of 2007)** and the **Environmental Impact Assessment Regulations of February 2012**. Further, the report preparation approach is aligned with **IFC Performance Standards (2012)** and or the **World Bank Environmental and Social Framework (ESF, 2018)** as adopted additional best practice but also indirectly to meet international funding requirements.

1.1 Proponent

Odula Hydrogen (Pty) Ltd is a Namibian registered company (BIPA Registration Number: **2024/0113**) and with special interest in contribution to Namibian effort toward full realization of the green hydrogen development agenda. Therefore, this entity is the sole proponent of this proposed Odula Green Hydrogen and Oxygen Project.

1.2 Environmental Assessment Practitioner (EAP)

Togreen Consulting CC – Environmental Management Specialists is an appointed EAP to manage the required environmental assessment process for the proposed Odula Hydrogen and Oxygen Project.

Mr. Abraham Kanime is a lead consultant for the project. Abraham holds a Master degree in Environmental Engineering which covers study areas of groundwater pollution and prevention, water pollution control engineering, waste management, environmental layout and management as well as environmental assessment among others. This academic background is further complimented by a Bachelor of Science in Fisheries and Aquatic Sciences.

His working experience cover both public and private sector, having worked for Ministry of Education as teacher, Ministry of Fisheries and Marine Resource at its Research Center in

Swakopmund (i.e. National Marine Research and Information Centre – NatMIRC) as Assistant Fisheries Biologist, Ministry of Environment and Tourism as Environmental Engineer and Senior Conservation Scientist; which further offered an opportunity to coordinate project activities involving collaboration with Ministry of Agriculture, Water and Land Reform (water sampling and quality assessment), Ministry of Health and Social Service (public environmental health), Ministry of Mines and Energy (soil contamination assessment) and Ministry of Labour (occupational health and safety aspects). Further and in particular at the Ministry of Environment and Tourism, Abraham was responsible for technical review of EIA/ESIA reports (i.e. applications of environmental clearance certificates) and also has conducted project site inspections across the country covering various listed activities.

In private sector, Abraham has over 9 years of working experience in the mining and smelting sector and with roles specifically for establishing site environmental management processes and procedures including waste management from project planning/design through to construction, operation, monitoring and closure including after care. Abraham served in roles such as Waste Management Superintendent as well as Superintendent Environmental Assurance and Compliance, the latter portfolio which was responsible for HSE licensing and permitting and including coordinating of ESIA processes, application for licensing, and regulatory reporting. Therefore, Abraham is a seasoned environmental practitioner and well suited to lead and manage the ESIA process for the proposed Odula Green Hydrogen and Oxygen Project. *See attached Curriculum Vitae in Annexure E.*

Other team members:

Dr. P. Kainge - Seasoned marine scientist with PhD in Marine Science and Fisheries Management and provide advisory service on impacts of seawater abstraction on marine ecology.

Mr. Lucky Bengela (Certified Health and Safety Assessor & Moderator (SADI, NTA, SAMTRAC with NOSA and AIA)) – provided specialist support with impacts assessment related to public and occupational health & safety including traffic management”.

Dr. Dietlide Nakwaya-Jacobus (Her PhD is based on published papers on performance, procedural effectiveness, governance quality of Namibia's Environmental Impact Assessment system) – provides support for ESIA reports peer review / EIA Process Analyst.

2. PROJECT DESCRIPTION

The project involves establishment of a green hydrogen and oxygen production plant within the current undeveloped light industrial zone of Swakopmund Municipal Area. The proposed Odula Green Hydrogen and Oxygen Plant is mainly a four-process plant and comprises of **Energy Production; Green Hydrogen and Oxygen (including Ammonia, metal urea, minerals and solid salt) Production; Packaging and Storage, and products Dispensing.**

Figure 1 below presents an overall schematic illustration of the proposed Odula Green Hydrogen and Oxygen Plant - process flow:

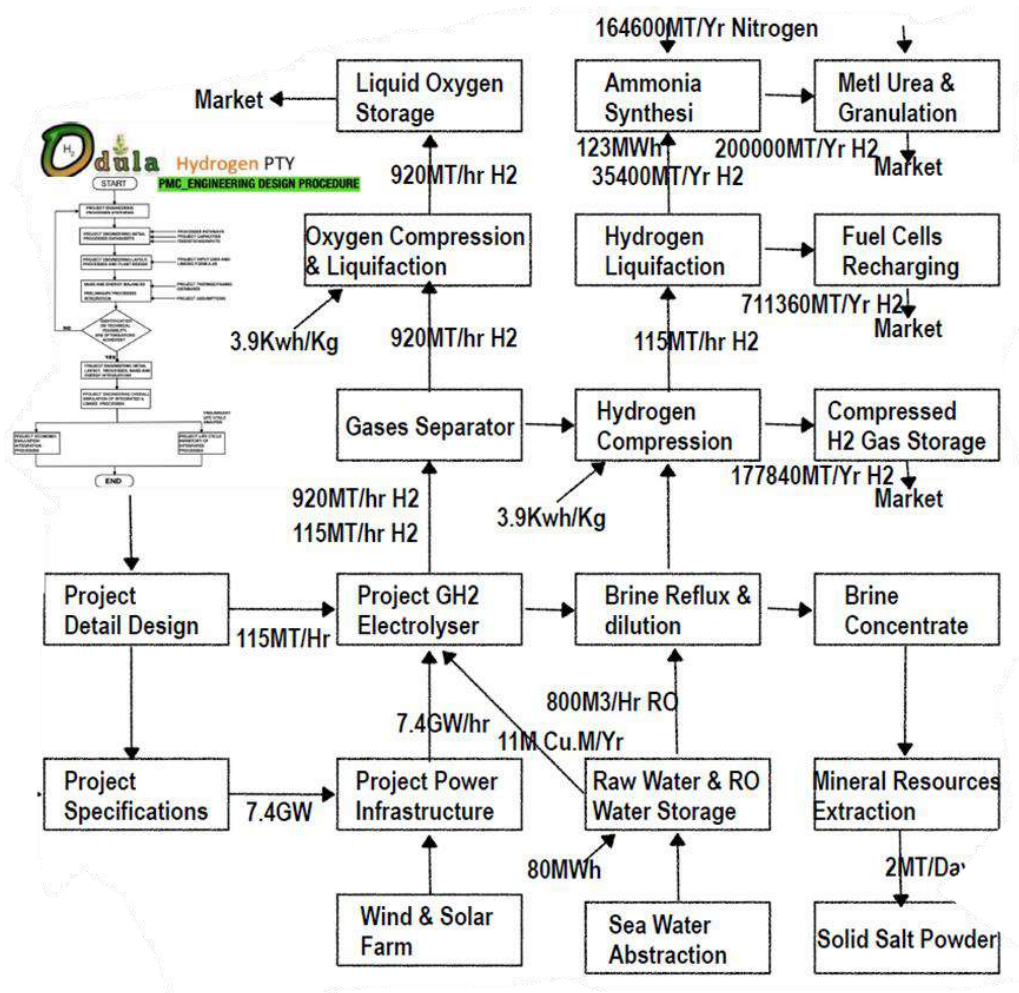


Figure 1: Overall schematic illustration of the proposed Odula Green Hydrogen and Oxygen Plant (Source: Odula Prefeasibility Study Report 2024)

The above process flow and the four components are further explained for easy grasp and clear understanding:

Process 1: Energy Production

Green hydrogen production is always associated with green energy or as is usually termed renewable energy. This is the reason why it is called green hydrogen to differentiate this production method from the traditional methods of hydrogen production such as blue hydrogen, brown hydrogen and grey hydrogen; both which are not recognised as environmental friendly methods. Therefore the green hydrogen production always harnesses the power of clean, renewable electricity, and hence thereby inherently minimizing carbon emissions – environmental friendliness production process.

The proposed green hydrogen and oxygen plant is designed to rely on PV Solar as source of energy utilising solar energy conversion technology with tested capability to work efficiently in the coastal weather conditions. Hence there will be a solar farm component of the project. Further, a vertical wind power generation is also considered in the design concept but this is to be considered as optional. The PV Solar farm incorporated in this project concept (supporting infrastructure) has maximum power output capacity of **7.4 Gigawatts**, which implies that this is a potential maximum energy generation capacity from this renewal energy source given the available technology which was proven elsewhere in the world.

Process 2: Hydrogen and Oxygen Production

Production of hydrogen and oxygen basically involve the splitting of water compound (the H_2O) into hydrogen gas and oxygen gas. The production of hydrogen (H_2) and Oxygen (O_2) is further explained by the following steps and sub-processes:

Abstraction and filtration of seawater: seawater is the primary raw material for the production of hydrogen and oxygen gases; therefore the proposed project has linear supporting infrastructure of seawater pipeline covering between 3.9 km to 7 km distance from the sea to the project site water storage reservoir. The abstraction rate of seawater is 11 Million m^3 per annum for operation of Alkaline Electrolysis (i.e. production of hydrogen and oxygen).

The proposed splitting technology is Alkaline Electrolysis method which is widely tested and proven to use seawater directly. However, a desalination plant is also incorporated into

the plant design and to be operated with a reverse osmosis technology as part of the proposed supporting infrastructure to purify seawater for in-house processes use and onsite domestic consumption. Reverse Osmosis (RO) require additional 800 m³/hour of seawater (i.e. additional 7 Million m³ per annum of seawater). This means that the proposed Odula Green Hydrogen and Oxygen Plant will require over 18 Million m³/annum of sea water.

Actual hydrogen and oxygen production: the proposed plant utilises the method of alkaline electrolysis which uses seawater, various alkaline solutions, and electricity from renewable energy as main inputs to the production of hydrogen and oxygen gases.

Alkaline Electrolysis technique literally separates water into its constituent elements: hydrogen and oxygen however in the form of gases. The process involves passing an electric current through water, resulting in the water molecules (H₂O) splits into hydrogen ions (H⁺) and hydroxide ions (OH⁻). The hydrogen ions are then attracted to the cathode (positive terminal), where they combine to form hydrogen gas (H₂); while oxygen gas (O₂) is released at the anode (negative side). High-purity hydrogen and oxygen is therefore produced in this manner.

The proposed plant is also designed with incorporated internal beneficiation processes which include trapping of Nitrogen from atmosphere (at rate of 164,600 MT/annum) and use some of the produced hydrogen for the Ammonia synthesis process to produce Ammonia and/or Metal Urea as a product. Anticipated production of Ammonia and/ metal urea is about 200,000 MT/annum. Other beneficiation process involves extraction of useful metals (e.g. rare earth metals) from the brines generated by the desalination plant and thereafter the remaining solid salts is processed into solid white salt also as final products with estimated daily production of 2 MT.

The overall design and operation concept has inherent objective to achieve green and clean production of these products, hence this is a sustainable delivery project which eliminate process waste through concentrated brine treatment, mineral resources extraction from brine and ultimately solid waste conversions.

Process 3: Products Packaging and Storage

Produced hydrogen and oxygen gases require compression (i.e. reduced volume and increased pressure) for efficient storage and bulk handling such as during transportation or

distribution. High-pressure storage vessels for hydrogen (up to 700 bar) and oxygen (up to 200 bar), along with cryogenic LOX tanks will be set up on the project site. This step ensures that hydrogen can be stored and transported in a safe manner.

There are various storage methods for hydrogen and oxygen, however for proposed plant; compressed gas and liquefied gas (liquid state) are the preferred storage methods. Although each method has its own advantages and disadvantages, the ultimate goal is to have a storage provision and strategy that is both safe and cost-effective for the product.

The storage and packaging of the other products such as metal urea, potential rare earth metals and solid white salts will be packaged and stored using available conventional methods. Focus will be on safe package for both storage and transportation.

Process 4: Products dispensing for use or transportation

The last process is the products dispatch to the market. Hydrogen products in a form of compressed hydrogen gas and hydrogen fuel cells rechargers can be dispensed to the market. Oxygen will be dispensed in a liquefied form to the market. Other products such as Ammonia/metal urea, potential minerals and white salts, will follow conventional dispensing and transportation methods also to the market.

The proposed Green Hydrogen Plant is not a “first of its kind” in the world especially in municipal areas; similar plants have been designed, constructed and successfully operated in other parts of the world. Figure 2, 3, and 4 presents example of similar green hydrogen plants else in the world and with similar design concept which will be applied to the proposed Odula Green Hydrogen and Oxygen Plant:



Figure 2: Larsen & Toubro Green Hydrogen Plant in India



Figure 3: MOL Group - Danube Green Hydrogen Plant, Százhalombatta Hungary, commissioned in 2024



Figure 4: Fukushima Hydrogen Energy Research Field (FH2R), Namie town, Fukushima – Japan, commissioned in 2020

3. PROJECT LOCATION

The proposed site is located along the Swakopmund - Henties Bay Road (C34) and within the proclaimed municipal land of Swakopmund and further falling within the undeveloped light industrial zone (GPS Coordinates: 22°03'33" S; 14°03'47" E at masl of 20 m). The proposed project will be accommodated on a 200-ha land within Zone-M as per Swakopmund Structure Plan 2020-2040.

Figure 5 on the next page presents the area covered by Zone-M (location of the proposed project site), the three potential routes (marked as X, Y, Z) of the proposed seawater pipeline to the project site from sea, existing road infrastructure as well as other land uses in vicinity of project site (including salt company operation site, Namwater bulk pipeline and a Satellite Tracking Station).

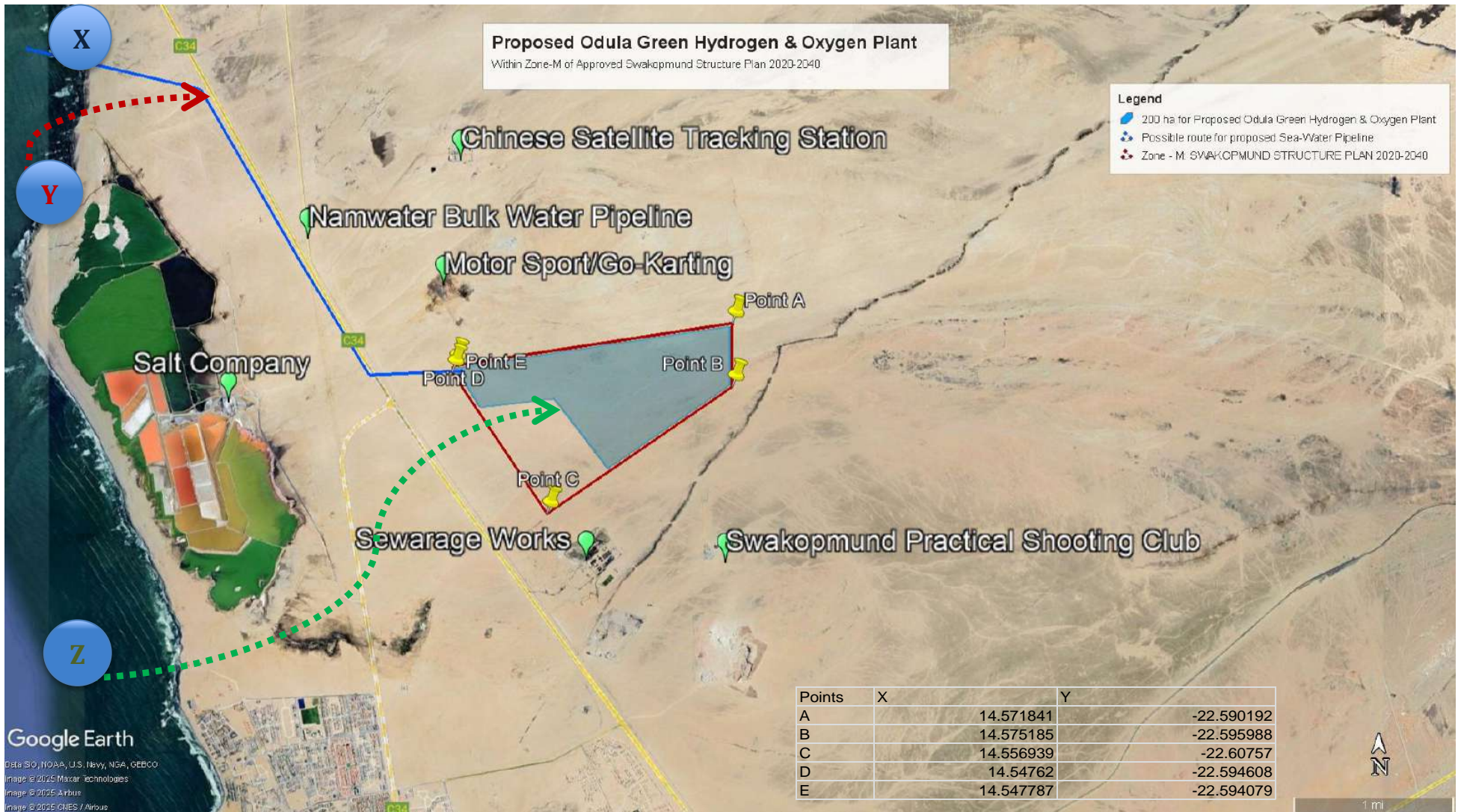


Figure 5: Preliminary Site layout of the Proposed Odula Green Hydrogen and Oxygen, depicting Zone-M of Swakopmund Structure Plan 2020-2040, proposed 200 ha within Zone-M, existing road C34, Namwater bulk pipeline and land uses in the vicinity of the propose site.

4. NEED AND DESIRABILITY OF THE PROJECT

Namibian government has created a platform to attract investors in hydrogen economy, to utilize the available abundant solar and wind resources which are key drivers for global green hydrogen economy. In particular, the Namibian National Green Hydrogen Strategy 2022 articulates a bold ambition for Namibia to become a continental leader in hydrogen production with a target of over 300,000 metric tons annually by year 2040. This strategy also aligns with the National Vision 2030, National Development Plan 6 as well as Harambee Prosperity Plan (aim to speed up the realization of Vision 2030); both which aims to make Namibia an economic promising nation with well-established industrialization for the meaningful participation in the global economy and in return for the betterment of the livelihood of society. The mission is to achieve industrialization through cleaner and greener technological innovation.

The project supports Namibia's energy diversification and sustainable industrialization objectives. It aligns with national priorities for climate-resilient growth, supports job creation, and attracts international investment. It will contribute to national and global efforts toward decarbonisation.

Lastly, Odula Hydrogen (Pty) Ltd who is the proponent of the project was registered as a company in Namibia specifically with a core focus to establish and operate the proposed Odula Green Hydrogen and Oxygen Plant. Therefore, if project is given a green light to commence, this also means the existence of Odula Hydrogen (Pty) Ltd as a company in Namibia will materialise and all associated positive impacts (local, regional and national economic investment; job creation, skill transfer etc.) will automatically be maintained and fully realised. Further, the potential revenue for Municipality of Swakopmund through the sale of land, which is currently pending final approval upon completion of ESIA process and granting of Environmental Clearance Certificate (ECC); will also be achieved. The project is indeed a necessity for Namibian economy and livelihoods.

5. ALTERNATIVES CONSIDERED

The four (4) alternatives options considered include alternative site, alternative renewable energy supply, alternative routes for seawater pipeline and a total "No-Go" option.

Alternative project site: a site was identified on the North of Swakopmund along the C-34 tarred road to Henties Bay and was subjected to a high-level assessment as alternative site.

Facts of the site is that the site is completely out of the jurisdiction of Swakopmund Municipality and fall at the border of Dorob National Park and Swakopmund Municipal Area as depicted in the Swakopmund Municipality Structure Plan 2020-2040, however more into the national park. This site would be suitable for the project in terms of closeness to the sea. However, the high-level assessment findings indicate the following potential significant implications with this alternative site:

- A Right of Leasehold is a form of license which will be required for the purpose of access and use of land; which is to be granted by Erongo Communal Land Board with consent from Directorate of Wildlife and National Parks as custodian of the Dorob National Park.
- The inherent implication of the above is that the Right of Leasehold for a State land does not provide 100% ownership of land for the purpose of funding requirement and land security. Hence the proponent may struggle to secure funding with this form of land ownership. This is a potential project stopper!
- The required space of land (i.e. 200 ha) for the proposed project would have more detrimental impacts on biodiversity, pristine landscape for tourist attraction and original conservation objective of the Dorob National Park.
- The site would be suitable if it was within the future expansion zone of municipal land, and even if this process can be lodged, it has its own further implications which can delay the implementation of the project:
 - Lengthy process to expand the municipal boundary.
 - Lengthy process with inherent “defeat of conservation purpose” to shift the boundary of the Dorob National Park.

Based on the above, it is the opinion of the Environmental Assessment Practitioner that the original proposed project site within Zone-M of Swakopmund Municipality Structure Plan 2020-2040 still serve as a suitable option for the proposed green hydrogen and oxygen plant. The suitability lies on the fact that the Zone-M is surrounded by eco-zone (zone-P) on the East, municipal utilities/waste management (zone-K) on the south, active recreation and motor sport (zone-O) to the north and allotment garden/urban agriculture (Zone-L) to the west as immediate adjacent land uses which can potential co-exist with the proposed green hydrogen and oxygen project.

Alternative option for renewable energy supply: the proponent considered in the feasibility study of the proposed project, the option of procuring alternative power through an agreement with an independent power producer (IPP). The usual mechanism is that power generation facility of the IPP can be located anywhere in the country. However the purchased power would be fed into the national power grid which is managed and operated by Nampower with extension of mandate to the REDS – Regional Electricity Distributors.

This alternative option was also subjected to high-level assessment for its suitability before detail assessment can be decided. Here are the high-level findings and implications:

- There will be a need for erecting linear infrastructure for power supply from outside the project site. This has potential to create additional environmental and administrative negative impacts unlike when power is to be generated directly on the project site by a PV Solar farm.
- In the current legislative framework with regards to purchasing of power from IPP, there is a limitation of only up to 30% of purchased power is allowed to be fed into the national power grid. This has potential to create under supply of renewable energy, which may force the proponent to resort to purchasing the balance directly from Nampower or Swakopmund Municipality, of which power was generated from other sources, hence results in a question of whether the proposed hydrogen plant will still be regarded as green hydrogen production.

Based on the above, it is the opinion of the Environmental Assessment Practitioner that while this option can be considered as supplementary option should the proposed solar farm fail meet the demand of power for the proposed green hydrogen and oxygen plant; but it cannot be considered as stand-alone power option. Therefore, a PV solar farm to be established on the project site still serve as suitable option for power supply to the production of hydrogen and oxygen.

Alternative routes for seawater pipeline: the primary route for construction of seawater pipeline from the sea to the project site is the route labelled “X” while routes labelled “Y” and “Z” serving alternative routes as shown in Figure 2. For this purpose, routes “Y” and “Z” were subjected to high-level assessment and below are the findings:

- “Y” route aims to align the pipeline to the existing abstraction point for the Salt Company. While this option can achieve better management of cumulative impact,

however this require further discussion and agreement with pertaining to permission for servitude.

- “Z” route offer a shorter distance to the abstraction point however it has potential to impact on the declared bird conservation area around the Salt Company, as well as the need for servitude through the existing mining license area. Further, the potential positive consideration is that there is another green hydrogen project being proposed which is likely to use the area between bird conservation area and residential area as route for their seawater pipeline; hence to manage cumulative impact, this route may serve as suitable option with adjusted shift out of the mining area and bird conservation area – as this then will only pass through Zone L (urban agriculture), Zone H3 (High Density Residential) , Zone P (Eco zone borders) and Zone A1 (low density residential) both which are currently undeveloped future land uses according to the structure plan.

In conclusion, route Y and Z are being further assessed as suitable routes for the construction of seawater pipeline whereas route X can be regarded as optional.

A “No-Go” Option: this option means the proposed project must not be permitted to proceed. From the onset, the proposed project has more potential positive impacts and it is the opinion of the Environmental Assessment Practitioner that the “no-go” option is not a suitable option for the proposed project.

6. DESCRIPTIONS OF AFFECTED ENVIRONMENT (BASELINE ENVIRONMENT)

The proposed project site is an undeveloped municipal land. This means that the land is not yet serviced (no existing municipal services such as power, water, roads, sewer line etc.); the land is also yet to be subjected to land surveying for the purpose of subdivision.

Information presented in this section is therefore based on the site assessment during the site familiarization visit and subsequent visits; supported by available literature and finally complimented by EAP’s own professional knowledge and experience.

6.1 Biophysical Environment

6.1.1 Climate

Namibian climate is classified as semi-arid to arid with common characteristic of high temperatures and sporadic and uneven distributed rainfall. However, climate of Swakopmund Area can be classified as cool coastal desert climate dominated by fog. It occasionally rains in Swakopmund hence chances of rainfall are very low and highly variable e.g. 20mm per annum. The common form of precipitation is fog as influenced by the cold sea breeze. Hence the climate of the proposed project site can be classified as arid coastal climate with low rainfall.

The temperature in Swakopmund remains almost constant throughout the year. Maximum daytime temperatures range from 27°C in March down to 22°C in August. Nights are mild year-round, with minimum temperatures ranging from 17°C in March down to 11°C in August. Figure 6 below presents an adapted example of typical maximum and minimum temperature ranges for a year in Swakopmund.

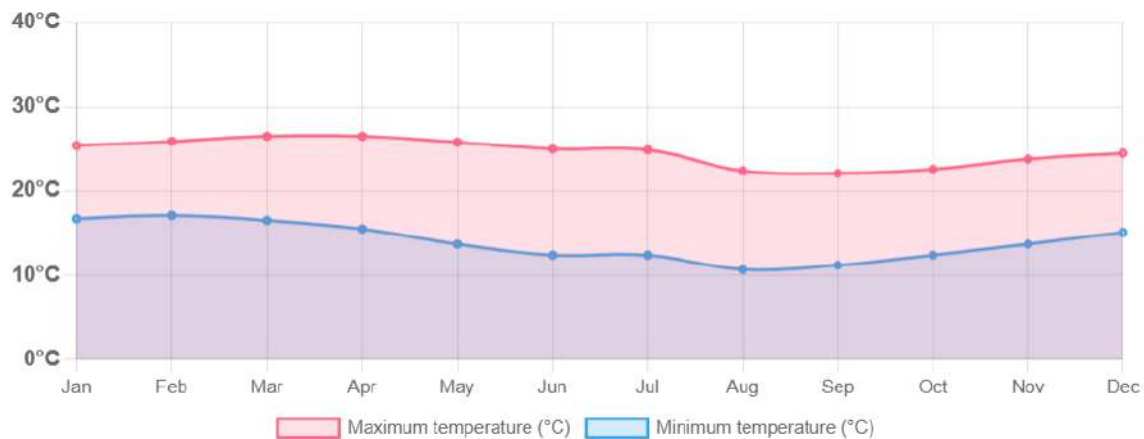


Figure 6: Annual average maximum and minimum temperatures of Swakopmund (Source: <https://weather-and-climate.com/average-monthly-min-max-Temperature,swakopmund,Namibia>)

In terms of wind regime, Swakopmund is characterized by persistent south-westerly wind regimes associated with the South Atlantic high-pressure system and Benguela coastal upwelling. The average annual wind speeds range between 12–14 km/h, with higher wind intensities during the winter dry season (May to September). These winds also contribute to fog formation, which is a key ecological driver in the Namib Desert. Calm periods are more frequent during late summer (February–March).

Figure 7 presents the schematic wind rose for Swakopmund as adapted from online literature:

Schematic Wind Rose — Swakopmund (climatology-informed)

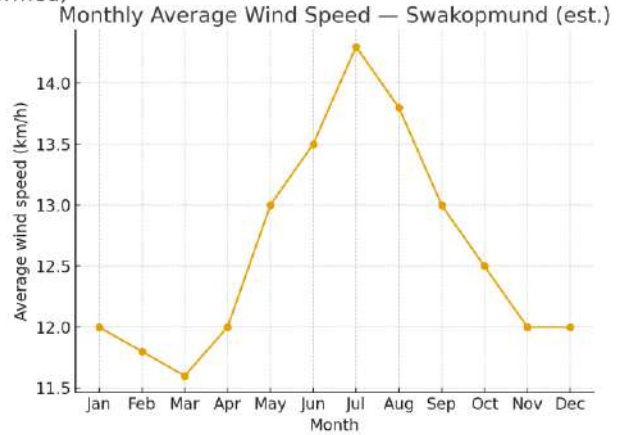
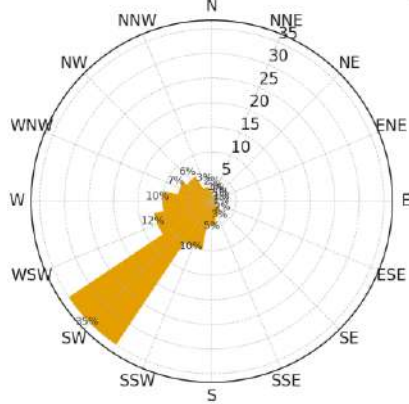


Figure 7: Wind Rose and Wind Speed for Swakopmund (Source: Web-based and Chapter 3 Namibia Atlas)

Further, it is a common knowledge that Swakopmund experience a seasonal wind-direction change phenomenon known as easterly-wind which can be described as wind blowing from the desert toward the coastline bringing in dry air, dust and heat.

6.1.2 Geology, soil, and topography

The geology of Swakopmund geology according to online literature comprises of ancient Precambrian Damara Sequence metamorphic rocks (gneisses, schists, and marbles) as bedrock or its foundation, intruded by young Karoo dolerites covered by recent Namib Desert sands, gravels and fluvio-marine deposits.

The topography of the project site can be described a general flat terrain characterized by coarse sandy soil or coastal sediments of the Namib Desert. From far, the topography would still represent the common gentle undulating terrain of the coastal area such as Swakopmund.



Figure 8: Project site with general flat ground covered with moisture coarse sand soil (photo taken on 19 September 2025)

B.G Bulley in an old Geological Survey Report on Engineering Geology of Swakopmund (1989) found that the town is located on Cenozoic fluvio-marine and alluvial deposits that overlie Precambrian Damara Sequence rocks and Karoo age dolerites. This report warns that the coastal environment is highly corrosive due to abundant airborne salts, fogs and salty moisture soils, therefore design for infrastructure development must consider these corrosive environmental conditions.

6.1.3 Hydrology

Due to less rainfall in the coastal area, there are no natural permanent surface fresh water bodies in Swakopmund and project site. The nearest and largest potential surface water body is the non-perennial Swakop River located on the South-East of Swakopmund. No surface water body observed on the project site during the site visit, however few shallow mini-valleys were observed suggesting potential drainage lines for run-off during rainfall if it ever rains with descending natural elevation generally toward the coastline from project site.

Groundwater potential for the site cannot be completely ruled out however it would be of limited availability. However the quality of water may require further improvement through treatment for shallow boreholes. There is high chance that groundwater water resources (if any) maybe prone to seawater intrusion due to project site proximity to the sea, hence increasing the salinity of the groundwater. On the adjacent or nearest lands, there was no sign of drilled boreholes for groundwater abstraction.

6.1.4 Terrestrial and coastal ecology (Flora and Fauna)

Swakopmund Townlands is surrounded by the Atlantic ocean on the West and the Dorob National Park on the northern, eastern and southern sides - proclaimed in 2010 under the Nature Conservation Ordinance 4 of 1975. Swakopmund Town lands while share some of the biodiversity value (flora and fauna) with the Dorob National Park; the town lands and its infrastructures are excluded from the park jurisdiction. The Dorob National Park aims to protect and preserve fauna and flora, fisheries, and objects of geological, archaeological etc. for the benefit (scenery enjoyment) of the inhabitants of Namibia now and future. Of relevance to Swakopmund are the coastline, the Swakop River, the birding areas and the lichen fields.

The project site is located a bit further up the coastal line; one may classify this as terrestrial. During the site visit, it was observed that site is established with sparsely distributed desert plants which seem to survive on the fog as a form of available precipitation.

The desert flora of the project site comprises of at least of four desert plant species of which are not only localized to the site but their distributions go beyond the project site into Dorob National Park.

The identification, description and conservation status of the identified desert plants on project site is presented in the next sections:



Figure 9: Coastal saltwort scientifically known as *Salsola nollothensis* (photo taken on project site on 19 September 2025)

Botanical description of *Salsola nollothensis*:

Salsola nollothensis commonly known as Coastal saltwort is from the family of *Amaranthaceae*. It is very low-growing, compact to cushion-forming perennial shrub, usually less than 30 cm high. The plant has numerous short, rigid branches with small, fleshy, cylindrical leaves adapted to saline and arid conditions. Flowers are extremely small, yellow to yellow-green, and borne densely along the stems, giving the plant a granular or moss-like appearance. It grows directly on gravelly or sandy soils with little surface stability.

Habitat and distribution:

Occurs along the Namibian coast, particularly in the central Namib (Swakopmund–Walvis Bay) area. Common on saline sands, gravel plains, and disturbed coastal flats, often associated with fog-dependent desert systems.

Conservation status:

Least Concern (LC). The species is widespread along suitable coastal habitats and well adapted to harsh saline and arid conditions. Localised impacts may arise from coastal development, off-road driving, or infrastructure expansion, but no overall population decline has been recorded. Although not threatened, *Salsola nollothensis* contributes to

coastal desert vegetation structure and soil stabilisation and should be considered of low-moderate ecological sensitivity in impact assessment.



Figure 10: Bushman's candle scientifically known as *Arthroerua leubnitziae* (photo taken on 12 November 2025)

Botanical description of *Arthroerua leubnitziae*:

Arthroerua leubnitziae, commonly known as Bushman's candle and belong to the family of Amaranthaceae, is a low-growing to spreading, perennial shrub typically forming rounded or irregular mats on sandy substrates. The plant has numerous short, woody branches bearing small, fleshy, and cylindrical to narrowly oval leaves adapted to arid and saline conditions. Flowers are small, inconspicuous but numerous, pink to purplish in colour, and borne densely along the branch tips, giving the plant a speckled appearance during the flowering period. The species is well adapted to coastal fog, wind exposure and saline soils characteristic of the central Namib Desert including Swakopmund area.

Habitat and distribution:

Endemic to Namibia, occurring mainly in the central Namib coastal belt, particularly around Swakopmund, Walvis Bay and adjacent gravel plains and coastal flats, often in saline or disturbed sandy areas.

Conservation status:

Arthroerua leubnitziae is currently listed as **Least Concern (LC)**. Although it has a relatively restricted geographic range, it is locally common within suitable habitat and shows good tolerance to harsh environmental conditions. Localised threats may include coastal development and infrastructure expansion, but there is no evidence of significant population decline at present according to available literature.



Figure 11: Dollar plant scientifically known as *Zygophyllum stapffii* (photos taken on 19 September 2025)

Botanical Description of *Zygophyllum stapffii*:

Zygophyllum stapffii locally known as the dollar plant and belong to the family of Zygophyllaceae. It is a perennial woody shrub that typically grows up to 1 to 1.5 meters tall, though it often appears smaller. Plant has small but thick, circular or slightly obovate, bright green, succulent leaves. These resemble coins, lending the plant its common English and Afrikaans names ("dollar plant" and "*daalderplant*"). The leaves are a key adaptation for storing water in the dry desert climate and are semi-deciduous, dropping during extreme drought conditions. The flowers are solitary, growing from the leaf axils, and are typically white or pale yellow whereas the fruit is a fleshy, ovoid to obovoid capsule that is roughly five-angled or five-winged.

Habitat and Distribution:

The dollar bush or dollar plant is a Namibian endemic species, with its native range restricted to the north-western and central-western parts of the country according to literature. It primarily grows in the desert or dry shrubland biome, specifically in a narrow coastal to near-coastal strip of the Namib Desert. It thrives in sandy or calcrete soils and is particularly reliant on the moisture from the regular Atlantic Ocean fogs that roll inland.

Distribution: Its range extends from the central Namib northward, with significant populations in areas like the plains outside Swakopmund (such as along Welwitschia Drive) and within the Dorob National Park.

Conservation Status:

The dollar bush (*Zygophyllum stapffii*) has not been formally evaluated by the International Union for Conservation of Nature (IUCN). However, it is recognized as a restricted-range, endemic species to Namibia. The species can potentially generally face threats from habitat loss due to mining or urban development, however there is no specific information indicating or suggest the *Zygophyllum stapffii* population is declining due to human activities such as urban expansion.



Figure 12: Specimen of Dollar Plant observed on project site and suggesting a different stage of lifecycle or plant dormancy during harsh condition (photo taken on 12 November 2025)

The fourth species not really a different species but a keen observation made on several specimens of dollar plants on the project site depicting dry leaves structures however perhaps dormant, which is often how they appear during certain seasons or life stages in

the harsh Namib desert environment. This is a dried fruit capsule or seed pod that has opened to disperse seeds, which is a natural cycle in the plant's reproduction. The overall plant is a semi-deciduous shrub. It drops its leaves during extreme drought to conserve moisture, giving it a seemingly lifeless appearance until the next heavy fog event which is the favorable conditions to grow new succulent leaves.

The local populations of the identified desert plants may be affected by the proposed project through direct destruction by site preparation and excavation during project construction.

In terms of **fauna**, there are at least two tracks seen on project site of small mammals' possibly antelope and jackal that occasionally visit the area to forage on the desert plants or drink fog trapped on desert plants' leaves and stems.



Figure 13: Wild animal tracks, possibly of a springbok scientifically known as *Antidorcas marsupialis* (photo taken on 19 September 2025)

Description of *Antidorcas marsupialis*:

Antidorcas marsupialis commonly known as Springbok is a medium-sized antelope and one of Namibia's most iconic mammals. Adults stand about 70–90 cm at the shoulder and usually weigh 25–45 kg. The coat is light brown to cinnamon on the back with a distinct dark brown lateral stripe separating the white underparts. A white face with dark eye stripes and a fold of skin along the back (used in territorial and display behavior) are characteristic. Both males and females carry slender, lyre-shaped horns, with males generally having thicker horns.

Habitat and distribution in Namibia:

Springbok are highly adaptable and inhabit a wide range of arid and semi-arid environments, including open savannahs and grasslands, arid shrublands and plains, gravel plains and dune fringes of the Namib Desert, lightly wooded areas especially where visibility is good to avoid predation.

Springboks usually prefer open landscapes with short grasses and shrubs but also well adapted to dry conditions, able to survive for long periods without direct access to surface water, obtaining moisture from forage – hence reason found in the desert environment.

The Springbok is widely distributed throughout Namibia and can be found in the Namib Desert coastal plains (areas around Swakopmund); Central plateau and commercial farmlands; northern communal areas and Southern Karas Region.

It occurs in most national parks and private conservancies, including Etosha National Park, Namib-Naukluft Park, and extensive free-hold farmland. Namibia supports one of the largest global populations of this species.

Conservation Status:

The species is regarded as Least Concern “LC” according to the IUCN Red List as the population is stable to locally increasing in Namibia.

The above is due to current conservation and sustainable utilization effort:

- Springbok are well protected within national parks and conservancies
- They are commonly managed on private game farms for conservation, meat production, and tourism
- Regulated game utilization and trophy hunting are permitted under Namibian legislation

Overall, the Springbok is considered secure in Namibia, with sustainable management playing a key role in its long-term conservation. However, main potential pressures may include fencing, habitat fragmentation, and localized overharvesting during droughts.



Figure 14: Black-Backed Jackal scientifically known as *Canis mesomelas* (photo from "Swakopmund Ocean Free Images, Stock Photos and Pictures" adapted for illustration)

Description of *Canis mesomelas*:

Canis mesomelas commonly known as the Black-backed Jackal is a medium-sized, slender canid with a distinctive black and silver “saddle” extending from the shoulders to the base of the tail, contrasting with reddish-brown flanks and legs. The underparts are pale, and the bushy tail has a black tip. Adults typically weigh 6–13 kg and stand about 35–40 cm at the shoulder. It has a pointed muzzle, erect ears, and is well adapted for endurance and opportunistic feeding.

Habitat and distribution in Namibia:

The species is highly adaptable and occurs in a wide variety of open and semi-open habitats, including arid and semi-arid savannah, grasslands and shrub lands, gravel plains and desert margins of the Namib. But can also be found or adapted to live on agricultural areas and livestock rangelands. However, black-backed jackals usually avoid dense forests and are commonly associated with open landscapes where prey availability and scavenging opportunities are high.

The Black-backed Jackal is widely and continuously distributed throughout Namibia, including coastal and inland areas of the Namib Desert, including around Swakopmund and Walvis Bay, central plateau as well commercial farmlands and northern and southern communal areas. Jackal’s population spread over both inside and outside protected areas and is one of the most common carnivores in the country.

Conservation Status:

The species is regarded as Least Concern “LC” according to the IUCN Red List as the population is stable in Namibia.

The above is due to current conservation effort:

- The species is abundant and resilient, also benefiting from its adaptability and generalist diet
- It is known to also thrive in human-modified landscapes and however considered a “problem animal” in some livestock areas due to predation on small stock
- Management includes regulated control measures under Namibian law

Overall, the Black-backed Jackal is not threatened in Namibia and plays an important ecological role as a mesopredator and scavenger, contributing to ecosystem balance.

Proposed project has potential to push the local population of both springbok and black-backed jackals out of project site due to occupation of land by proposed physical infrastructure and fencing off the site. Hence the forage range will be potentially reduced. Potential poaching from project team.

Further, at least one avifauna species of terrestrial bird usually found in a group of two (possibly male and female) was seen on the project site.

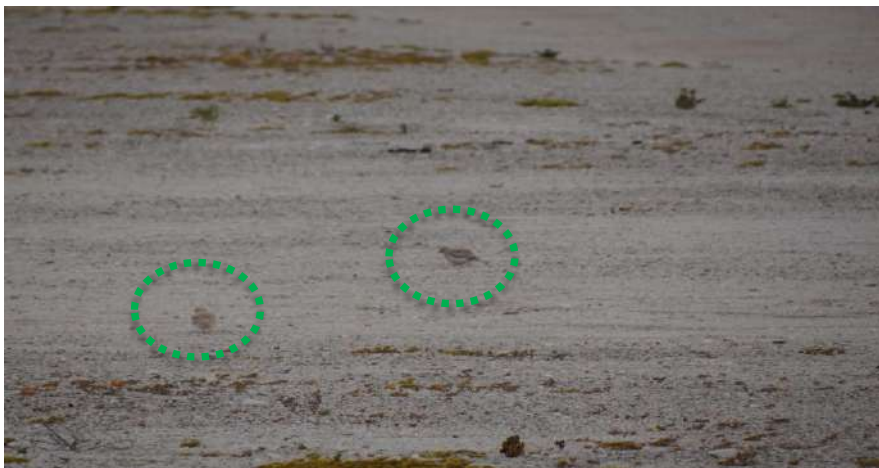


Figure 15: Dune Lark scientifically known as *Calendulauda erythrochlamys* (photo taken on 19 September 2025)



Figure 16: A clearer photo of a Dune Lark (adapted from <https://www.worldatlas.com/articles/native-birds-of-namibia.html>)

Description of *Calendulauda erythrochlamys*:

Calendulauda erythrochlamys commonly known as the Dune Lark and belong to the family of *Alaudidae* is a small, pale, ground-dwelling passerine adapted to desert conditions. It has sandy-brown to greyish plumage that provides excellent camouflage against Namib Desert landscape. The underparts are paler, with subtle streaking on the breast. A short, stout bill is suited for feeding on seeds and small invertebrates. The species has relatively long legs and prefers running to flying; flight is usually low and over short distances. The running behavior of a Dune Lark make it challenging for one take a steady photo of this bird.

Habitat and distribution:

The Dune Lark is highly specialized and restricted to coastal and inland dune systems of the Namib Desert. It favors open gravel plains and dune fields, areas with sparse vegetation, dry, arid environments with minimal rainfall and high wind exposure. The species avoids densely vegetated areas and human-modified landscapes.

The species is endemic to Namibia meaning it is only found in Namibia and occurs only in the central and northern Namib Desert. The distribution is primarily from the Kuiseb River northwards to the Hoarusib River and including areas around Swakopmund, Walvis Bay, and the Namib-Naukluft Park. The distribution of this bird species closely follows dune systems influenced by coastal fog rather than rainfall as the bird adapted to desert system and drink from trapped fog on the desert plants.

Conservation Status:

The species is regarded as Near Threatened “NT” according to the IUCN Red List as the population has is on a decreasing trend.

The above is due to key threats:

- Habitat disturbance from off-road vehicles
- Mining, coastal infrastructure, and urban expansion
- Increasing tourism pressure in dune environments
- Climate change affecting fog patterns and food availability

Further conservation considerations would include:

- Protection of dune habitats within protected areas
- Regulation of off-road driving and coastal development
- Environmental impact assessments (EIAs) for projects in dune systems

Proposed project has potential to push the local population out of project site due to occupation of land by proposed physical infrastructure as well as destruction of desert plants on the project site through land preparation and excavation. Desert plants offer drinking source of fog and insects for the survival of the Dune Lark. The species has adaptive behavior to avoid human-induced landscape. Potential impact is from poaching or illegal hunting of birds from project team.

6.2 Socio-Economic Environment

6.2.1 Economic Land use and human settlements

The project site is currently situated on a large portion of undeveloped municipal land and no permanent economical activities currently on the project site. The site is far away from the residential zones of the municipal lands.

However existing economic and social activities in the vicinity (some not necessarily directly adjacent to the project site boundary) of the project site, comprises of the following economic infrastructures and activities:

- **Salt Company's** operation site with mining license area extending toward the western site of C34 road as well as municipal leased land by Salt Company (as understood from the meeting held with Salt Company management) extending beyond C34 and potentially bordering or intercepting the project site boundary.
- **A Satellite Tracking Station** – not directly bordering with the project site, however it is a well-established and operational station.
- **Public tarred road (C34)** from Swakopmund to Henties Bay – potential to provide access to project site and consideration for traffic management at the turn-off to project site. Also the proposed seawater pipeline will need to cross this road at agreed and appropriate section. One route option for the seawater pipeline is preferred along the extreme servitude of the road. The impact need to be understood in line with future potential expansion of this road.
- **Namwater's Bulk Water Pipeline** from Omdel and Desalination Plant – although not directly bordering the project site, there is potential interaction with proposed seawater pipeline as this will need to cross the Namwater pipeline regardless of which route (from the three options) of sea water pipeline will be finally adopted and implemented. Also the supply of potable water is not foreseen in the concept design of the proposed project, consideration for tap-off from Namwater bulk pipelines need to be considered to cater for future eventuality should the original considered scenario (i.e. purify seawater to produce portable water for own use) change in future and create this need.
- **Swakopmund Municipal Sewage Water Works** – not directly bordering the project site, however has potential to provide municipal services to the project in future, although project concept is to have self-contained sewage treatment facilities onsite.
- **Limestone mining area (quarry)** – not directly bordering the project site, however may sometime make use of informal access routes evident on the project site.
- **Exploration and prospecting** activities - no visible activities of exploration and prospecting observed the project site; however there is evidence that there may be a number of EPLs cut across the project site.

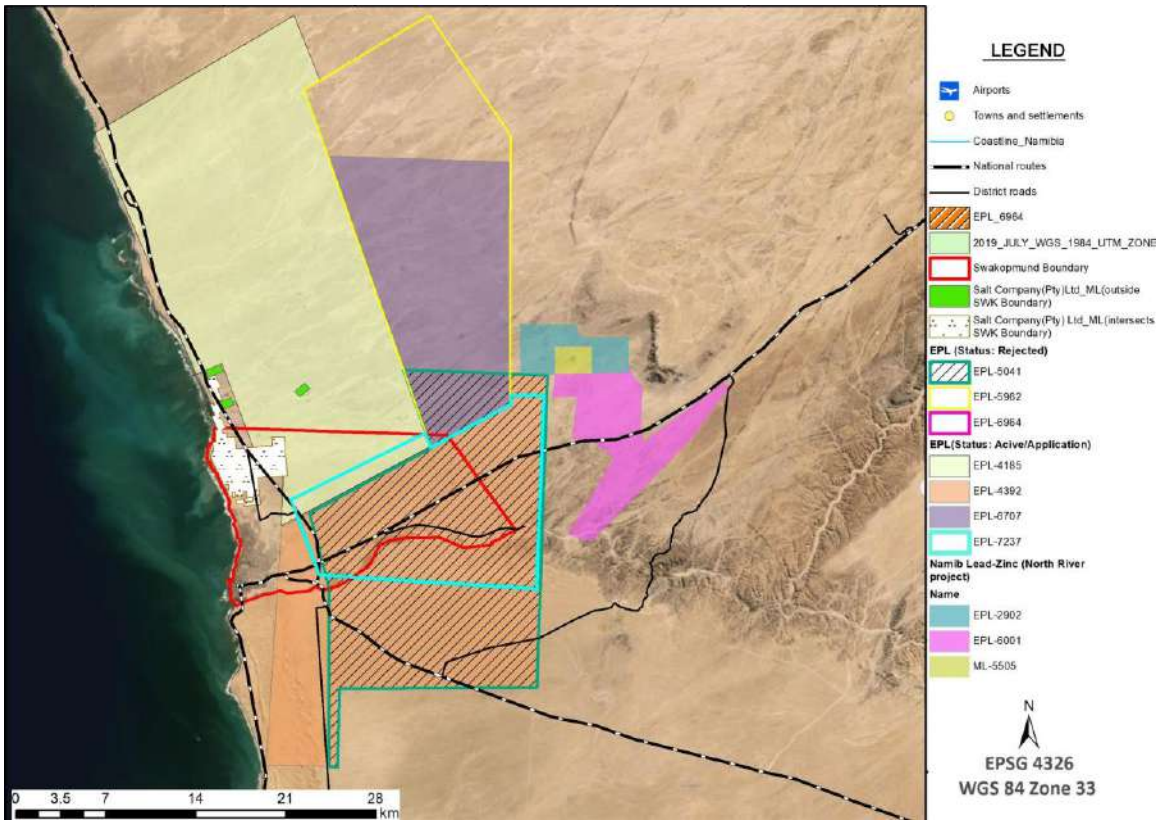


Figure 17: Possible Exploration and Prospecting Licenses in and around the project site (Source: Swakopmund Structure Plan 2020-2040)

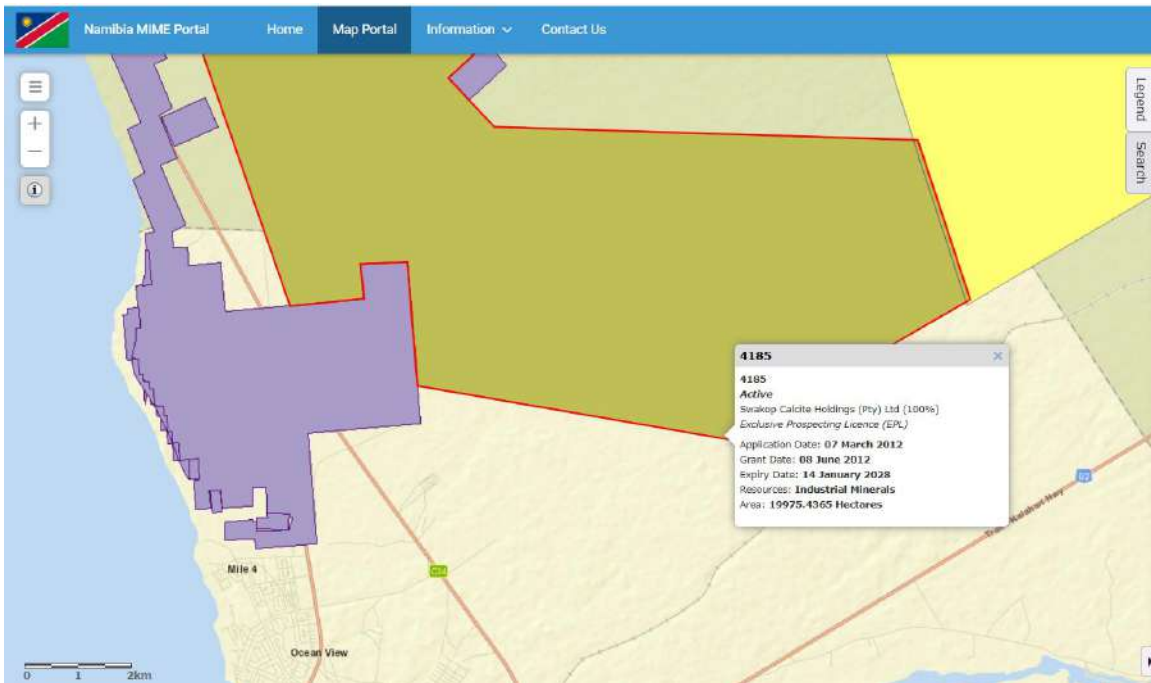


Figure 18: boundary of ML-66L and EPL -4185 (Source: <https://portal.mme.gov.na/page/MapPublic>)

Other activities in the vicinity, however which may still be at proposal level but with visible signs of initial or preparatory activities related to these are:

- **Proposed new shooting range** – not directly bordering the project site, however since is yet to be fully developed, the diameter or range need to be understood to ensure it is not affected by the boundary extent of the project and/or project not at safety risk from this activity.
- **Go-Kart or motor sport** – although not directly bordering the project site, this probably the nearest activity to the project site. However it is understood that this activity is currently leasing or sub-leasing the land from Salt Company.

There are also signs of informal activities on the project site and around related to the following:

- Dogs training
- Quart-biking
- Walking paths
- Informal access/transit roads or district roads

6.2.2 Demographics, economy, employment opportunities, and services

Swakopmund population is estimated to be approximately 75,921 people according to the 2023 population census and was also found to be one of the 10 populated cities in Namibia. Further the unemployment rate in Erongo Region which includes Swakopmund was found to be 32% compared to 25.6% which was observed in 2011 for Swakopmund alone (Namibia Statistics Agency, 2023).

The project site is not yet developed; hence there are no general services such as municipal sewer line, powerline available. There is however a bulk water supply pipeline along the C34 road. The proposed project has potential direct and indirect benefits to the local population through employment and skills development opportunities during construction and operation phase.

Swakopmund is a growing industrial and tourism hub with the latter serve as original main economy of the town apart from commodities, salt factory, fishing (angling) and service

institutions. The proposed green hydrogen project support and contribute to the town's industrial growth and indirectly may also serve as tourism attraction for local, regional and beyond.

6.2.3 Community health, safety, and security aspects

The site is still in its pristine condition with insignificant disturbances from informal activities currently taking place on project site. No public health and safety hazards anticipated during construction or when accessing site for preparation of project establishment. Since the project site is a large piece of land currently seems remotely located and potential security risks especially robbery cannot be ruled out. However there is full network coverage for cellphone reception for communication purpose in case of emergency.

Public health and safety during operation, with regards to bulk storage of Hydrogen (H₂) and Oxygen (O₂) gases become a concern. Hydrogen is highly flammable, odorless and colorless gas making potential leaks difficult to detect. Oxygen while it is non-flammable gas on its own, this gas is a strong oxidizer. Community health and safety in general will be potentially affected by the manner in which these two gases will be stored onsite.

6.2.4 Cultural heritage sites and historical resources

Although there is no potential signs or indications of possible places or objects within the project site (from observation screening), Swakopmund being one of the oldest town in Namibia, potential occurrence of places or objects of cultural, archaeological and historical importance, cannot be ruled out at this stage.

7. LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

It is a common cause that Namibia does not yet have specific legislation for green hydrogen sector; however it is understood that the government is geared to formalize this sector as far as legislations are concerned. At the current moment, development is taking the lead with application of existing legislative framework governing specific processes which include enacted laws and policies, while the sector specific laws are being formulated. This section presents key applicable legislations by category.

Table 1: List of relevant laws, policies and international guidelines

Regulatory Aspect, Legislations and Policy	Relevance
7.1 General Environmental and Planning	
<ul style="list-style-type: none"> Namibian Environmental Management Act, 2007 (Act No. 7 of 2007) (EMA) 	<p>Requires all listed activities (i.e. project with potential environmental impacts) to be subjected to a process of an Environmental Impact Assessment (EIA). As a result an Environmental Clearance Certificate (ECC) must be obtained before project commencement</p>
<ul style="list-style-type: none"> Environmental Impact Assessment Regulations (February 2012) 	<p>Guide the ESIA process of proposed project including the manner of public consultation</p>
<ul style="list-style-type: none"> National Heritage Act, 2004 (Act No. 27 of 2004) 	<p>Protects potential places and objects of significant heritage importance during the life cycle of the project.</p>
<ul style="list-style-type: none"> Local Authorities Act, 1992 (Act No. 23 of 1992) 	<p>Governs administration of local government affairs and land within the jurisdiction of local authority (municipal area). The Act give mandate to municipal council to come up with internal laws known as By-Laws on specific aspects or matters such as control of littering and waste disposal within municipal area. The Swakopmund Structure Plan 2020-2040 must be read together with this legislation.</p>
<ul style="list-style-type: none"> Nature Conservation Ordinance 4 of 1975 	<p>Governs the conservation and management of national parks, game parks, and nature reserves, including the protection of wild animal and plant life. Its relevance to the proposed project may relate to the site location in relation to the boundary of Dorob National Park as well as dealing with protected species which may be found in the project site (e.g. protection of wildlife from poaching and/or illegal hunting).</p>
<ul style="list-style-type: none"> Public and Environmental Health Act, 	<p>Deals with public health matters, including</p>

Regulatory Aspect, Legislations and Policy	Relevance
2015	sanitation, waste management, and the prevention of health hazards. Storage of hydrogen and oxygen gases under pressure is a public health hazards which need proper management. The health and safety of workers and the public, especially concerning the industrial risks associated with hydrogen, which is a colorless, odorless, and flammable gas prone to explosions if leaked, may be a trigger to consider the provision of this legislations in the sense of general health and safety standards and especially that there are no specific regulations for the unique safety risks of commercial-scale hydrogen production, distribution, and storage.
<ul style="list-style-type: none"> Labour Act No.11 of 2007 	The Act governs the health and safety of employees at work place. It defines the responsibility of both employers and employees and mandate the electing and or appointment of safety representatives and area owners in work place
<ul style="list-style-type: none"> Mineral (Prospecting and Mining) Act 1992 	Potential active EPLs near or cut across the project site and the potential need for servitude for the proposed seawater pipeline as this legislation regulates the activities within the Mining Areas. Lastly proposed project has a an optional component for potential rare earth metals extraction from the brines should this become economical viable, this would fall in the controlled minerals or agreeable interpretation need to be achieved between proponent and competent authority
7.2 Water Abstraction, Treatment, Use and Wastewater disposal	
<ul style="list-style-type: none"> Water Resources Management Act, 2013 (Act No. 11 of 2013) 	Regulate water abstraction (seawater), water treatment (desalination), and the disposal of brine by-product. Domestic

Regulatory Aspect, Legislations and Policy	Relevance
	wastewater treatment and disposal is also regulated under this law. A water use permit/license as well as license to dispose wastewater will be required from the Ministry of Agriculture, Water and Land Reform (now Ministry of Agriculture, Fisheries, Water and Land Reform).
<ul style="list-style-type: none"> Marine Resources Act, 2000 (Act No.27 of 2000) 	Regulate fisheries activities, management of marine resources including controlling of human activities in coastal waters. Impacts of abstraction of seawater on marine coastal ecology and potential disposal of brines after desalination (if any)
7.3 Energy and Power Generation	
<ul style="list-style-type: none"> Electricity Act, 2007 (Act No. 4 of 2007) 	Regulates the generation, transmission, and supply of electricity. Solar farm is the related infrastructure applicable to this legislation
<ul style="list-style-type: none"> Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990) 	Limited application to green hydrogen, however general provisions may be applied to govern aspects of the energy inputs and outputs in the absence of a specific hydrogen law. Ministry of Industrialization Mines and Energy is competent authority of green hydrogen projects
<ul style="list-style-type: none"> National Renewable Energy Policy (2017) 	Guides the promotion and development of renewable energy sources like wind power, solar power and hydro power.
<ul style="list-style-type: none"> Synthetic Fuels Act (Draft/Proposed) 	When in place, aims to specifically regulate the green hydrogen sector and to align with the international standards relates to health, safety, and environmental.
<ul style="list-style-type: none"> National Green Hydrogen Policy (draft/proposed) 	Currently under review by the Ministry of Industries, Mines and Energy, this will form the basis of future legislation on green

Regulatory Aspect, Legislations and Policy	Relevance
	hydrogen production
<ul style="list-style-type: none"> Feasibility and Implementation Agreement (FIA): 	<p>Learning from similar large-scale green hydrogen projects (e.g. the Hyphen project) are currently primarily governed by specific agreements with the Namibian government (such as the FIA), which is understood to bridge the gap until formal legislation is in place.</p>
<ul style="list-style-type: none"> National Green Hydrogen Strategy 2022 	<p>Strategy positioning green hydrogen as a pillar of the country's energy independence, economic diversification, and export-driven development. This strategy outlines an ambitious roadmap to produce up to 300,000 metric tons of green hydrogen annually by 2040, focusing on building large-scale electrolysis facilities powered by renewable energy and creating a global supply chain targeting energy-thirsty markets such as Europe and Asia.</p>
7.4 National Economic Visions, Policies and Strategies	
<ul style="list-style-type: none"> National Vision 2030 	<p>National dream for Namibia to become industrialized by year 2030.</p>
<ul style="list-style-type: none"> National Development Plans (current NDP 6) 	<p>Five-year Implementation plans for Vision 2030</p>
<ul style="list-style-type: none"> Harambee Prosperity Plan 	<p>Plan or strategy to fast track or speed up the implementation of the development agenda for Namibia</p>
7.5 International policies, conventions and administrative frameworks	
<ul style="list-style-type: none"> Applicable IFC Performance Standards (PSs) 	<p>PS1 on Assessment and Management of E&S Risks and Impacts and PS2-8 are the performance standards that likely to be triggered by the project. Compliance with these standards ensures that the project meets international benchmarks for environmental and social performance,</p>

Regulatory Aspect, Legislations and Policy	Relevance
	<p>transparency, and accountability – hence eligible to meet international funding requirements:</p> <ul style="list-style-type: none"> • PS1: Assessment and Management of Environmental and Social Risks and Impacts • PS2: Labour and Working Conditions • PS3: Resource Efficiency and Pollution Prevention • PS4: Community Health, Safety, and Security • PS5: Land Acquisition and Involuntary Resettlement • PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources • PS7: Indigenous Peoples (if applicable) • PS8: Cultural Heritage
<ul style="list-style-type: none"> • Paris Agreement and UNFCCC Commitments 	<p>Namibia is a signatory to the Paris Agreement and has committed to reducing emissions in line with global climate targets. This project contributes directly to that commitment while supporting the broader goals outlined in Namibia’s National Energy Policy, Nationally Determined Contributions (NDCs), and the Green Hydrogen Strategy.</p>
<ul style="list-style-type: none"> • UN Sustainable Development Goals (SDGs) 	<p>A green hydrogen project directly supports Namibia’s transition to a low-carbon, climate-resilient economy, while contributing to national development priorities and global sustainability commitments. The most relevant SDGs are outlined below.</p>

Regulatory Aspect, Legislations and Policy	Relevance
	<p>Key SDGs:</p> <ul style="list-style-type: none"> • SDG 6: Clean Water and Sanitation • SDG 7: Affordable and Clean Energy • SDG 8: Decent Work and Economic Growth • SDG 9: Industry, Innovation and Infrastructure • SDG 12: Responsible Consumption and Production • SDG 13: Climate Action • SDG 14: Life Below Water • SDG 15: Life on Land • SDG 17: Partnerships for the Goals
<ul style="list-style-type: none"> • International Standards Organisation (ISO) 	<p>Alignment with international standards, including ISO 14687 (hydrogen quality), ISO 7396 (oxygen systems), and IEC 60079 (explosive atmospheres).</p>

In summary, the project must navigate a combination of general environmental and water resource laws, existing energy regulations, and the specific contractual agreements established with the Namibian government while anticipating the new hydrogen-specific legislation that is currently being drafted. The international tools such as IFC performance standards are adopted to also contribute to the international funding eligibility of the proposed project.

8. STAKEHOLDER ENGAGEMENT AND/ PUBLIC CONSULTATION

PROCESS

Stakeholder engagement has been conducted in accordance with Regulations 21 and 23 under Environmental Management Act 7 of 2007; as well as in alignment with the IFC Stakeholder Engagement Guidance Note (2012) which promotes continuous engagement through project cycle. The overall objective of engagement is to build and maintain a constructive relationship between the proposed project and its stakeholders hence enhances the improved risk management, project sustainability and actual development outcomes offered by the project.

8.1 Objectives:

Public consultation on the proposed project and in compliance with the above regulatory provisions achieve the following objectives -

- *Identify and inform stakeholders about the project (share Background Information Document)*
- *Explain to stakeholders the ESIA process*
- *Promote transparency*
- *Promote democracy*
- *Promote participatory governance*
- *Identify potential issues at project planning phase*
- *Strengthen potential co-management of environment*
- *Ensure social license to operate when project commences (i.e. social acceptance of the project by the community)*

8.2 Steps taken to notify and invite stakeholders

After EIA project registration with the Office of the Environmental Commissioner, the public i.e. interested and affected parties were invited to participate in the EIA scoping process through the following both formal and informal means:

- Formal: an EIA advert was prepared and placed in the local print media i.e. newspaper namely the three-affiliated newspapers “the **Republikein**, **Allgemeine Zeitung**, and **Namibian Sun**” on the **5th November 2025**. Same advert was again published in the same newspaper on the **11th November 2025**.

- Formal: the same EIA advert was also placed in the coastal local newspaper, the Namib Times published on the **31st October 2025** as well as on **07th November 2025**.
- Formal: the same EIA advert was printed out on an A3 posters and placed at a public notice board of the Swakopmund Constituency Office as well as at Entrance of the Swakopmund Food Lover Shopping Mall on **11 November 2025**.
- Formal: the same EIA advert was also printed out on an A1 Poster and on **12 November 2025** placed in the field at the proposed project site and next to the main access district/informal access road passing through the project site. This was specifically to notify any potential adjacent land owners since the immediate lands to the proposed site are also undeveloped. The poster is intentionally left in the field to allow more identification of affected parties during the EIA process.
- Informal: an electronic/ soft copy of the same EIA advert on **12 November 2025** was posted on the Swakopmund community WhatsApp group known as “Information Sharing” by the Constituency Office’s Secretary
- Formal: identified stakeholders including adjacent land owners such as Salt Company management, Swakopmund Constituency Councilor, Office of the Mayor, Office of Chief Executive Office; and National Marine Information Research Centre (NatMIRC) were notified by sharing the Background Information Document and in the same vein, face-to-face meetings were respectively requested. This was done one/ two weeks before the week of the 13th November 2025.

Also see the details and evidence of engagement activities presented in the attached Annexure A: Issue and Response Report.

8.3 List of registered interested and affected parties

Interested and affected parties responded to the EIA adverts which were circulated to the public through the above various platforms, by requesting to be registered as I&APs and at the same time also request the background information document (BID). The names of all registered I&APs is presented in Annexure AA part of the attached Issue and Response Report.

In this section, the table below presents the categories of I&APs who participated in the engagement process:

Table 2: Categories of registered I&APs with indicative sample size (i.e. number of representatives)

Category	Sample size (number of persons)
Media House <ul style="list-style-type: none"> Media NMH (Erongo) 	1 <ul style="list-style-type: none"> 1
Adjacent Land Owners with Conflicting Land Use <ul style="list-style-type: none"> Salt Company (Pty) Ltd (Issue: ML-66E-L) Swakop Calcine Pty Ltd (Issue: EPL-4185) Namwater (Issue: Bulk Water Pipeline) Road Authority (issue: C34) 	5 <ul style="list-style-type: none"> 2 1 2
Adjacent Land Owners without direct conflicting Land Use <ul style="list-style-type: none"> Satellite Tracking Station Municipal Sewage Works Limestone Mining Area (quarry) Rent-A-Drum Waste Management Facility Proposed new shooting range Go-Kart/Motor sport Social Radio Controlled Airplane Club 	1 <ul style="list-style-type: none"> 1
Interested parties with direct economic interest <ul style="list-style-type: none"> Stewart Planning – Town & Regional Planners Walfish Electric 	3 <ul style="list-style-type: none"> 2 1
Interested parties with direct professional interest <ul style="list-style-type: none"> NAMSUN – Environmental Projects & Development Nikolas Ndeikonghola – Envirofficient Consultants CC 	3 <ul style="list-style-type: none"> 2 1
Interested and affected parties – General Community <ul style="list-style-type: none"> 4Evergreen 	4 4 (based number of persons cc'd in comment submission)
Local Leadership <ul style="list-style-type: none"> Office of His Worship Mayor of Swakopmund Office of Swakopmund Constituency 	
Authorities <ul style="list-style-type: none"> Office of Chief Executive Officer: Swakopmund Municipality Engineering Services: Swakopmund Environmental Department: Swakopmund Swakopmund Town Council Ministry of Environment, Forestry & Tourism (Environmental Commissioner's Office) Ministry of Mines and Energy: Office of Executive Director NatMIRC – Ministry of Agriculture, Fisheries, Water and Land Reform 	11 <ul style="list-style-type: none"> 1 1 2 1 2 4

8.4 Summary of issues raised by interested and affected parties

The full details of issues subjected by the interested and affected parties are presented in the Annexure A on “*Issue and Response Report*” attached to this report. This section only intends to summarize the comments submitted by the I&APs which have further been categorized into the following thematic areas (aspects):

8.4.1 Environmental | Biophysical | Ecological Issues

- Potential severe impacts of the proposed project on nature and wildlife

8.4.2 Social-Economic Issues

- Poor communication of project of this magnitude create missed opportunity for public to provide inputs
- Potential economic impact for the community and business, I&APs need to be kept informed of the EIA process and project progress
- Potential Employment creation for locals
- Community and authority encouraged to support and promote the proposed project due to potential good social economic impact
- Potential economic conflict in land use with existing land use (focus: activities within exploration area and mining license area)
- Opportunity for community collaboration via economic and human development initiatives – social corporate responsibility suggested to be part of the whole project concept
- Impacts associated with people migration to Swakopmund – potential increase in cost and put pressure on the current capacity of municipal services

8.4.3 Public and Occupational Safety and Health Issues

- Storage and handling of both hydrogen and oxygen can be potentially a safety hazard to the public – need to be stored according to accepted standards
- Safety concern on the residential area adjacent or in close-proximity with the project site
- Public must be informed about the potential danger of the proposed plant

8.4.4 Cultural and Heritage Issues

- No submission related to cultural and heritage was submitted

8.4.5 Institutional and Regulatory Issues

- Potential existing land lease agreement between Salt Company and Swakopmund Municipality need to be respected or at least clarified when a portion of land from this agreement is to be allocated for another land use
- Zone “M” of Swakopmund Structure Plan 2020-2040 require subdivision and surveying to allow final erven creation for the proposed project
- Potential conflict in land use – regulatory guideline on non-mining activities within existing mining areas (both mining license and exploration license areas)
- Permit for abstraction of seawater maybe required according to the current Water Resource Management Act 2013
- If envisaged desalination will supply surplus water to another party being municipality or other, this is potentially prohibited by Namibia Water Corporation (1997)
- There are more sensitive receptors whose were not directly consulted through focus group meetings to obtain inputs at the onset of EIA process

9. IDENTIFICATION OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

This section presents the potential environmental and social impacts identified from the issues submitted by the I&APs, field visits to the project site as well as the consultant’s professional knowledge.

9.1 Impact Theme: Environmental | Biophysical | Ecological Impacts

Table 3: Specific Negative Environmental Impacts

Specific Impact	Impact Source Activity	Project Phase
<p>Impact 1: Disturbance to local biodiversity - flora and fauna</p> <ul style="list-style-type: none"> • Removal or damage to desert plants (namely <i>coastal saltwort</i>, <i>bushman’s candle</i> and <i>dollar plants</i>) • Migration of animals such as antelope/springbok, black-backed jackals and desert birds “the dune lark” 	Site preparation and construction	Construction

Specific Impact	Impact Source Activity	Project Phase
<p><u>Impact 2: Disturbance of bird conservation area and coastal marine environmental water</u></p> <ul style="list-style-type: none"> • Damage to habitants (coastal plants, bird nests) for the bird conservation area around salt work area “Salt Company operation” • Impact on coastal ecology through Entrainment, Impingement and habitat disruption 	Sea water pipeline and actual pumping of sea water	Construction and Operation
<p><u>Impact 3: Potable water abstraction and consumption</u></p> <ul style="list-style-type: none"> • Pressure (increased demand) from municipal water sources 	Construction activities	Construction
<p><u>Impact 4: Waste generation, treatment and disposal</u></p> <ul style="list-style-type: none"> • Solid waste Littering • Wastewater Sewage treatment 	food consumption by workers and ablution facility operation	Construction Operation
<p><u>Impact 5: Impact on local soil and air quality</u></p> <ul style="list-style-type: none"> • Dust generation • Increase in ambient noise • Ground vibration • Soil contamination due to oil spill 	Construction activities driving on unpaved roads onsite machinery servicing	Construction Operation
<p><u>Impact 6: Reduction of aesthetic value of the area</u></p> <ul style="list-style-type: none"> • Undeveloped land to developed land with physical infrastructure • Reduced tourism attraction of the area e.g. looking at endemic plants such as bushman’s candle and dollar 	Installation of green hydrogen plant and all physical infrastructure	Construction Operation

Specific Impact	Impact Source Activity	Project Phase
plant and avifauna such as the dune lark bird		
Impact 7: harsh coastal environment on infrastructure and operation of desalination <ul style="list-style-type: none"> • Corrosive environment • Impact of red tides (Sulphur eruption) on the seawater quality and operation of desalination plant 	Design compatibility with local environmental conditions	Operation

Table 4: Specific Positive Environmental Impact

Specific Impact	Impact Source Activity	Project Phase
Impact 8: Climate Change Mitigation <ul style="list-style-type: none"> • Clean production of hydrogen 	Solar farm supply alternative energy	Operation
Impact 9: Desalination of seawater reduce demand pressure on available scarce fresh water sources	Desalination plant	Operation

9.2 Impact Theme: Socio-Economic Impacts

Table 5: Specific Negative Socio-economic Impacts

Specific Impact	Impact Source Activity	Project Phase
Impact 10: Competing or perceived competing land uses <ul style="list-style-type: none"> • Potential interception of project site boundary and existing mining & mineral exploration area • Automatic stoppage of informal/district access roads 	Boundary of Zone –M of Swakopmund structure plan and potential allocation of project site actual boundaries in relation to existing ML-66E-L and EPL-4185	Construction Operation
Impact 11: Unfair labour practices	Recruitment and	Planning

Specific Impact	Impact Source Activity	Project Phase
<ul style="list-style-type: none"> Disregard consideration for local Potential political influences on recruitment processes and tenders for contractors Poor communication to public about project progress /update (i.e. public miss-out on opportunities) 	procurement process	Construction Operation
<p>Impact 12: Migration associated impact on municipal services</p> <ul style="list-style-type: none"> Potential increase in cost and pressure on municipal services (water, electricity, accommodation, and waste) due to population increase Potential expansion of informal settlements 	Perceived social economic opportunities	Construction Operation

Table 6: Positive Socio-economic impacts

Specific Impact	Impact Source Activity	Project Phase
<p>Impact 13: Support to local, regional and national economy</p> <ul style="list-style-type: none"> Possible construction tenders of goods and services Enhanced purchasing power (local markets) Contribution to state revenue through taxes and levies 	Procurement activities	Construction Operation
<p>Impact 14: Employment creation</p> <ul style="list-style-type: none"> Potential job opportunities for locals 	Recruitment	Construction Operation
<p>Impact 15: Knowledge transfer and Skill upgrade opportunity for locals</p> <ul style="list-style-type: none"> Potential collaboration on local capacity Direct skill transfer - 	Partnering platforms with community	Planning Construction Operation

Specific Impact	Impact Source Activity	Project Phase
<p>Impact 16: Improved capacity for regional oxygen availability</p> <ul style="list-style-type: none"> Production of oxygen contribute to adequate regional capacity for supply of medical oxygen 	Production of oxygen	Operation

9.3 Impact Theme: Public and Occupational Health and Safety

Table 7: Specific negative health and safety impacts

Specific Impact	Impact Source Activity	Project Phase
<p>Impact 17: Ambient and occupational noise, vibration and dust emission</p> <ul style="list-style-type: none"> Machinery noise Ground vibration Dust emission (PM10 and PM2.5) 	Construction equipment and construction activities	Construction
<p>Impact 18: storage of bulk compressed hydrogen and oxygen – an inherent safety hazard</p> <ul style="list-style-type: none"> Incompatibility storage of hydrogen and oxygen especially in presence of sparks Potential leaks and mixture of the hydrogen and oxygen gases in presence of sparks – leads to violent combustion known as “detonating gas” Dangerous gas and dangerous loud sound 	Bulk storage of compressed hydrogen and oxygen Integrity of storage tanks	Operation
<p>Impact 19: Spread of HIV / AIDS</p> <ul style="list-style-type: none"> Migration coupled with increased local prostitution 	Perceived availability of socio-economic opportunities	Construction Operation
<p>Impact 20: Public misinformation and under-information about safety impacts</p> <ul style="list-style-type: none"> Unawareness of safety hazards and risks 	Improperly public information sharing lack of public	Operation

Specific Impact	Impact Source Activity	Project Phase
potential to go beyond project boundary	information disclosure Awareness	
Impact 21: Increased traffic on C34 <ul style="list-style-type: none"> Coordination of traffic on C34 roads from Swakopmund up to turn off to project site 	Delivery trucks and employees' vehicles	Construction Operation

Table 8: Positive safety impact

Specific Impact	Impact Source Activity	Project Phase
Impact 22: New skills or improved capacity for local emergency response <ul style="list-style-type: none"> New hazard (bulk hydrogen and oxygen storage) require upgrade of local skills in the field of emergency response – a long term benefit despite short-term negative impact of cost implication Upgrade of emergency response capacity – a long term benefit despite a short-term negative impact of cost implication 	Partnering with community	Operation

9.4 Impact Theme: Cultural and Heritage

Table 9: Specific negative cultural and heritage impacts

Specific Impact	Impact Source Activity	Project Phase
Impact 23: disturbance and or damage to objects/sites of cultural and heritage significance <ul style="list-style-type: none"> Uncover potential cultural or heritage sites especially underneath ground in and around the project site Impact on cultural value of the land 	Excavation	Construction

Table 10 Specific positive future cultural and heritage impact

Specific Impact	Impact Source Activity	Project Phase
<p><u>Impact 24: Future local tourism attraction</u></p> <ul style="list-style-type: none"> Overtime, the green hydrogen and oxygen plant present future attraction for local tourism and or for academic visit (e.g. school tours) 	Physical infrastructure and technology science behind the technology	Operation

9.5 Impact Theme: institutional and regulatory

Table 11: Negative institutional and regulatory impact

Specific Impact	Impact Source Activity	Project Phase
<p><u>Impact 25: Conflicting land uses</u></p> <ul style="list-style-type: none"> Proposed project site boundary potentially intercept with boundaries of existing mining license There is existing exploration license running through the project site Other existing agreements regarding land-use 	Land allocation and governing of activities within the mineral license area	Planning Construction Operation
<p><u>Impact 26: Required permits</u></p> <ul style="list-style-type: none"> Potential required servitude for pipeline construction through mining area – ML66E-L Abstraction of salt water regulated under the current Water Resources Management Act 2013 Authorization required to cut cross the C34 Road and Namwater bulk pipeline by the seawater pipeline 	Specific project activities	Planning Construction Operation

9.6 Cumulative environmental and socio-economic impacts

The cumulative impacts considered specifically focusing on the fact (or as is understood) that another green hydrogen project is proposed in Swakopmund in addition to the current proposed project.

Table 12: Negative and Positive cumulative environmental and socio-economic impact

Specific Impact	Impact Source Activity	Project Phase
<p><u>Impact 27: Negative impacts</u></p> <ul style="list-style-type: none"> Habitant destruction in particular from multiple seawater bulk pipeline from sea to these two project sites Increased Safety hazards of bulk storage of hydrogen Traffic increase on C34 Impact on cultural and heritage Increased pressure on the capacity of municipal services 	Combined impact	Planning Construction Operation
<p><u>Impact 28: Positive impacts</u></p> <ul style="list-style-type: none"> Enhanced investment in local economy and improving livelihood through business opportunities and job creations 	Combined impact	Planning Construction Operation

10.ASSESSMENT METHODOLOGY: CRITERIA AND IMPACT

SIGNIFICANCE

This section presents the assessment criteria and actual assessment of the identified environmental and socio-economic impacts on the basis of determining the significance. Assessment follows both Namibian EIA Regulations and IFC PS1 methodologies, including Significance rating based on **extent, duration, magnitude, likelihood** as well as the **confidence** level. Table 13 outlines these criteria.

10.1 Impact Assessment Criteria

Table 13: Standard criteria for impact evaluation

Criteria	Category
Impact	Description
Status	Positive (+), Neutral (N) or Negative (-)
Extent	Small (S)(<i>within project site</i>), Medium(M)(<i>beyond project site</i>) or Large (L)(<i>beyond project site boundary</i>)
Duration	Planning (P), Operation (O) or Closure (C)
Magnitude	Low (L), Medium(M) or High(H)
Likelihood	Unlikely (U), likely(L), Definitely(D)
Confidence Level	Low (L), Medium (M), or High (H)
Significance	Low (L), Moderate (M), or High(H)

10.2 Assessment of Impact Significance

All the identified impacts are evaluated according the above assessment criteria to determine their significance. The approach is also that whether impacts remain low at baseline, this should still be recorded and maintained for monitoring purposes in case environmental and social conditions changes or potential changes happen in the project. For example currently the residential areas far away from proposed project site within “Zone M”, should in future the residential zoning get amended to extend toward the current zone “M”, then associated safety impact need to be re-assessed.

There have been a total of 28 specific impacts identified, which comprises of 19 negative impacts and 9 positive impacts covering the six (6) impact themes:

- Environmental | Biophysical | Ecological Impacts
- Socio-Economic Impacts
- Public and Occupational Health and Safety Impacts
- Cultural and Heritage
- Institutional and regulatory Impacts
- Cumulative Impacts

Tables 14 – 19, presents the assessment and significance rating of specific impacts which are abbreviated as I-1 to 1-28 and with shorten description.

Note:

Criteria rating color coding for Negative Impact (-):

Small, Planning, Low, Unlikely, Low, Low	Medium, Operation, Medium, Likely, Medium, Moderate	Large, Closure, High, Definitely, High, High

Criteria rating color coding for Positive Impact (+):

Small, Planning, Low, Unlikely, Low, Low	Medium, Operation, Medium, Likely, Medium, Moderate	Large, Closure, High, Definitely, High, High

Table 14: Specific Negative and Positive Environmental Impacts

Criteria	Category	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9
Impact	Description	Biodiversity	Conserv	Water	Waste	Soil	Aesthet	Harsh	CCM	Desalin.
Status	Positive (+), Neutral (N) or Negative (-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(+)	(+)
Extent	Small(S), Medium(M) (beyond operation project site) or Large(L) (beyond project site boundary)	(S)	(L)	(L)	(L)	(S)	(S)	(L)	(L)	(M)
Duration	Planning(P), Operation (O), or Closure(C)	(C)	(O)	(P)	(C)	(P)	(O)	(O)	(O)	(O)
Magnitude	Low(L), Medium(M) or High(H)	(L)	(H)	(L)	(H)	(M)	(M)	(H)	(M)	(M)
Likelihood	Unlikely (U), likely (L), Definitely (D)	(D)	(D)	(L)	(D)	(L)	(L)	(L)	(D)	(D)
Confidence Level	Low (L), Medium (M), or High (H)	(H)	(M)	(M)	(M)	(M)	(M)	(M)	(H)	(H)
Significance	Low (L), Moderate (M), or High (H)	(M)	(H)	(M)	(H)	(M)	(M)	(H)	(H)	(M)

Table 15: Specific negative and positive Socio-economic impacts

Criteria	Category	I-10	I-11	I-12	I-13	I-14	I-15	I-16
Impact	Description	Land-use	Labour	Services	economy	Jobs	Skills Transfer	Medical O ₂
Status	Positive (+), Neutral (N) or Negative (-)	(-)	(-)	(-)	(+)	(+)	(+)	(+)
Extent	Small(S), Medium(M) (beyond operation project site) or Large(L) (beyond project site boundary)	(M)	(L)	(M)	(L)	(L)	(M)	(L)
Duration	Planning(P), Operation (O), or Closure(C)	(O)	(O)	(O)	(O)	(O)	(C)	(O)
Magnitude	Low(L), Medium(M) or High(H)	(M)	(M)	(M)	(H)	(H)	(M)	(M)
Likelihood	Unlikely (U), likely (L), Definitely (D)	(L)	(U)	(L)	(D)	(D)	(L)	(D)
Confidence Level	Low (L), Medium (M), or High (H)	(H)	(L)	(M)	(H)	(M)	(M)	(H)
Significance	Low (L), Moderate (M), or High (H)	(M)	(M)	(M)	(H)	(H)	(M)	(H)

Table 16: Specific negative and positive health and safety impacts

Criteria	Category	I-17	I-18	I-19	I-20	I-21	I-22
Impact	Description	Noise/dust	H ₂ &O ₂ Hazard	HIV/AIDS	Lack Info.	Traffic	New skills/improve d capacity
Status	Positive (+), Neutral (N) or Negative (-)	(-)	(-)	(-)	(-)	(-)	(+)
Extent	Small(S), Medium(M) (beyond operation project site) or Large(L) (beyond project site boundary)	(S)	(L)	(L)	(M)	(M)	(M)
Duration	Planning(P), Operation (O), or Closure(C)	(O)	(O)	(O)	(O)	(O)	(O)
Magnitude	Low(L), Medium(M) or High(H)	(M)	(H)	(H)	(M)	(M)	(M)
Likelihood	Unlikely (U), likely (L), Definitely (D)	(L)	(L)	(L)	(L)	(L)	(L)
Confidence Level	Low (L), Medium (M), or High (H)	(M)	(L)	(H)	(M)	(M)	(L)
Significance	Low (L), Moderate (M), or High (H)	(M)	(H)	(M)	(M)	(M)	(M)

Table 17: Specific negative and positive cultural and heritage impacts

Criteria	Category	I-23	I-24
Impact	Description	Heritage objects sites	Tourism attraction
Status	Positive (+), Neutral (N) or Negative (-)	(-)	(+)
Extent	Small(S), Medium(M) (beyond operation project site) or Large(L) (beyond project site boundary)	(S)	(L)
Duration	Planning(P), Operation (O), or Closure(C)	(P)	(C)
Magnitude	Low(L), Medium(M) or High(H)	(M)	(H)
Likelihood	Unlikely (U), likely (L), Definitely (D)	(U)	(L)
Confidence Level	Low (L), Medium (M), or High (H)	(M)	(L)
Significance	Low (L), Moderate (M), or High (H)	(M)	(M)

Table 18: Institutional and regulatory issues

Criteria	Category	I-25	I-26
Impact	Description	Conflicting land uses	Project “Show-stopper” Required permits
Status	Positive (+), Neutral (N) or Negative (-)	(-)	(-)
Extent	Small(S), Medium(M) (beyond operation project site) or Large(L) (beyond project site boundary)	(M)	(L)
Duration	Planning(P), Operation (O), or Closure(C)	(O)	(O)
Magnitude	Low(L), Medium(M) or High(H)	(M)	(H)
Likelihood	Unlikely (U), likely (L), Definitely (D)	(L)	(L)
Confidence Level	Low (L), Medium (M), or High (H)	(M)	(H)
Significance	Low (L), Moderate (M), or High (H)	(M)	(M)

Table 19: Negative and Positive Cumulative Environmental and socio-economic impacts

Criteria	Category	I-27	I-28
Impact	Description	All negative impacts of two green hydrogen projects	All combined positive impacts of two green hydrogen projects
Status	Positive (+), Neutral (N) or Negative (-)	(-)	(+)
Extent	Small(S), Medium(M) (beyond operation project site) or Large(L) (beyond project site boundary)	(M)	(L)
Duration	Planning(P), Operation (O), or Closure(C)	(O)	(O)
Magnitude	Low(L), Medium(M) or High(H)	(H)	(H)
Likelihood	Unlikely (U), likely (L), Definitely (D)	(L)	(L)
Confidence Level	Low (L), Medium (M), or High (H)	(M)	(M)
Significance	Low (L), Moderate (M), or High (H)	(M)	(H)

For the negative impacts, the above impact significance rating reveals that only four (4) impacts are rated “**Highly Significant**” whereas the remaining fifteen (15) negative impacts are all rated “**Moderately significant**”. The highly significant rated impacts comprises of impacts related to potential disturbance of the existing birds conservation area (**impact 2**), waste generation and disposal (**impact 4**), impact on the project relates to harsh external environmental condition (**Impact 7**) and with the last impact relates to the bulk storage of compressed gases of hydrogen and oxygen focusing on safety hazards (**impact 18**) associated with potential gas leaks and in particular in the presence of sparks sources (e.g. fire, heat etc.).

The fifteen (15) **Moderately Significant** rated impacts, includes the following specific negative impacts:

- Localized disturbance to biodiversity – **Impact 1**
- Abstraction of portable water for construction – **Impact 3**
- Dust emission and soil contamination – **Impact 5**
- Reducing aesthetic value of place – **Impact 6**
- Conflicting land use/interception – **Impact 10**
- Unfair Labour practice on procurement and hiring – **Impact 11**
- Pressure on municipal services due to influx of people – **Impact 12**
- Ambient and occupational noise – **Impact 17**
- Spreading of HIV/AIDS – **Impact 19**
- Lack of information and poor communication – **Impact 20**
- Traffic congestion on C34 (turn-off to project site) – **Impact 21**
- Potential disturbance of cultural and heritage objects | places – **Impact 23**
- Regulatory issue on co-existence in land use – **Impact 25**
- Potential project show-stoppers “required permits” – **Impact 26**
- Cumulative negative impacts influenced by similar project in the area – **Impact 27**

Further, in terms of positive impacts, five (5) impacts are rated **Highly Significant** which has to do with climate change mitigation (**Impact 8**), economical contribution (**impact 13**), jobs creation (**impact 14**), locally produced medical oxygen – boost local supply capacity (**impact 16**) and the cumulative positive impact from the two green hydrogen projects (**impact 28**).

11. PROPOSED SPECIALIST STUDIES AND TERMS OF REFERENCE

The first highly significant rated impact relates to the combined potential disturbance of the existing locally declared “*birds conservation area*” around the salt pan (or dams) of Salt Company as the proposed pipeline has potential to partly or wholly run in this area as one of the three options considered. Further, this impact includes impacts associated with the actual seawater pumping (**Impact 2**).

The second highly significant rated impact is around the issue of waste management focusing on waste generation, waste treatment and the disposal thereof despite the fact that the proposed model is zero discharge of brine wastewater from desalination plant. However the facility will be self-contained implying there will be generation of process and domestic wastewater which require treatment, storage and disposal (**Impact 4**). The third highly significantly rated impact is the external impact on the project relates to the abnormal environmental phenomenon known as Sulphur eruption, a red tide related coastal water condition which may have potential disruption effect on the operation of the desalination plant (**Impact 7**).

The fourth and last highly significant rated impact relates to the bulk storage of compressed gases of hydrogen and oxygen focusing on safety hazards of employees, the adjacent properties and public at large. This hazard associated with potential gas leaks and in particular in the presence of sparks sources such as fire, heat etc. (**Impact 18**).

It is a common cause that all highly significant rated impacts especially negative impacts, need to be subjected to in-depth studies to establish the baseline and re-evaluate their significance. For impact 4 and Impact 7, will only be subjected to the high-level assessment as part of this scoping report and draft environmental and social management plan.

Therefore the proposed specialist studies will only be on **Impact 2** (Impacts of seawater abstraction infrastructures on Marine ecology and coastal process as well as on Birds Conservation Area) and **Impact 18** (Hydrogen and oxygen storage – hazard):

- **Marine Impact and Coastal Process Study – assess the impacts of seawater pumping infrastructures (i.e. seawater pipeline and pumping unit infrastructure) on the local marine ecology (e.g. entrainment of larvae, other organisms and coastal erosion or sediment transport.**

- **Coastal Bird Impact Study** – evaluate the potential disturbance to coastal bird feeding, nesting or resting areas during construction within the birds conservation area
- **Hazard and Operability Study (HAZOP) | Quantitative Risk Assessment** – Detailed safety analysis concerning high-pressure gas storage, flammability, leakage risks, and safety distances from public areas

Note: industry practice is that HAZOP is conducted on a detailed final process design (i.e. design for construction), hence it is recommended that this will ultimately become part of environmental clearance license condition as this study cannot be completed during the ESIA process.

The draft Terms of Reference for the above proposed specialist studies are attached to this report as **Annexure D**.

12. DRAFT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

12.1 Mitigation hierarchy: Avoid, Minimize, Restore and/or Offset

For each identified negative impacts, applicable mitigation measures are recommended and agreed, which are formulated based on the mitigation hierarchy to ensure impacts are avoided, minimized, reversed/restored and /or offset. For the positive impacts, the opposite of the mitigation hierarchy is true where for all identified positive impacts measures are put in place to ensure these positive impacts are allowed, enhanced and/or maintained.

Although the project site falls within already declared municipal area for such type of development to take place, it is recommended that this project will introduce its own internal conservation and environmental management initiatives to ensure where impacts on biodiversity can be avoid or reduced, that such actions are implemented (e.g. relocating desert plant specimen from construction area and replant at an appropriate area(s) within the project site.

Continuous public consultation including establishment of a clear community complain and grievances platform will need to be implemented to continuously engage, identify and address the potential new impacts.

12.2 The need and principle of Environmental and Social Management Plan (ESMP)

All identified impacts and recommended mitigation measures need to be structured and comprehensively documented in the Environmental and Social Management Plan. The ESMP is a living guiding document – implying that this guiding environmental and social document will need to be updated from time to time and or whenever material changes are made to the project. This ensures all identified projects impacts and recommended (agreed) mitigations are implemented timely.

Further ESMP also outline the monitoring indicators, responsibilities and reporting which is aligned with the provisions of EMA 2007 and/or IFC's Environmental and Social Management System (ESMS) requirements.

Therefore in principle, the key mini-plans which make up ESMP are:

- Mitigation and Monitoring Plan
- Occupational health and safety management plan
- Community engagement plan
- Emergency Response Plan
- Compliance audit and reporting framework

The draft ESMP is attached to this report in **Annexure C**. Please note that the ESMP will be updated with regards to impact 2 and impact 18 which are being further assessed and re-evaluated with inputs from the above proposed specialist studies.

13. CONCLUSIONS AND RECOMMENDED WAYFORWARD

The project site is an undeveloped and open large piece of municipal land, with still its natural pristine value. The only anthropogenic disturbances on the site are from district or informal unpaved access roads that run through the site. Existing infrastructures not directly on the project site but on adjacent land or lands in further proximity to the site or potential intercepting with project include C34 tarred road, Namwater bulk pipeline

(above-ground), the mining license area of Salt Company, EPL belong to Swakop Calcite Holdings (Pty) Ltd, Motorsport/Go-karting infrastructure area and Chinese Satellite Tracking Station. Other infrastructures which a slightly further from the proposed site include municipal sewage works, rent-a-drum waste management facility, practical shooting range. The site was also found to intercept with an existing EPL which partly run through the site.

A total of 28 specific impacts comprising both negative and positive impacts were identified and assessed for significance rating. A total of four negative impacts were rated Highly significant, of which two of the impacts are being to be subjected to specialist studies and these relates to impacts of seawater abstraction infrastructures on the both birds conservation area and marine coastal ecology. The second impact is also to be subjected to an in-depth risk assessment (HAZOP), due to the hazardous nature of bulk storage of compressed hydrogen and oxygen gases however the latter is recommended to become part of license condition.

All the other negative impacts were rated moderately significant and which once the recommended mitigations actions are appropriately implemented would be reduced to low significance rating.

Overall, the proposed Odula Green Hydrogen Project presents significant socio-economic and environmental benefits while identified impacts are all manageable. The project further supports Namibia drive its National Green Hydrogen Strategy, contribute to National Vision 2030 with National Development Plan 6 as the current implementing tool. The project also contributes to Namibia global commitments on climate change under the UNFCCC as well as UN SDGs.

Therefore, this ESIA Scoping report is found to be comprehensive and adequate at this stage, and further recommend the finalisation ESIA process with the outstanding specialist studies on marine ecology and coastal birds' habitats.

14.REFERENCES

- a) Swakopmund Municipal Council Resolution: Provisional letter of approval for land purchase, 24 November 2024
- b) Swakopmund Town Structure Plan: 2020 – 2040
- c) Environmental Management Act 7 of 2007
- d) Environmental Management Act: EIA Regulations of February 2012
- e) Namibia Chamber of Environment – EIA Guidelines for public participation
- f) Mineral license portal, Ministry of Mines and Energy

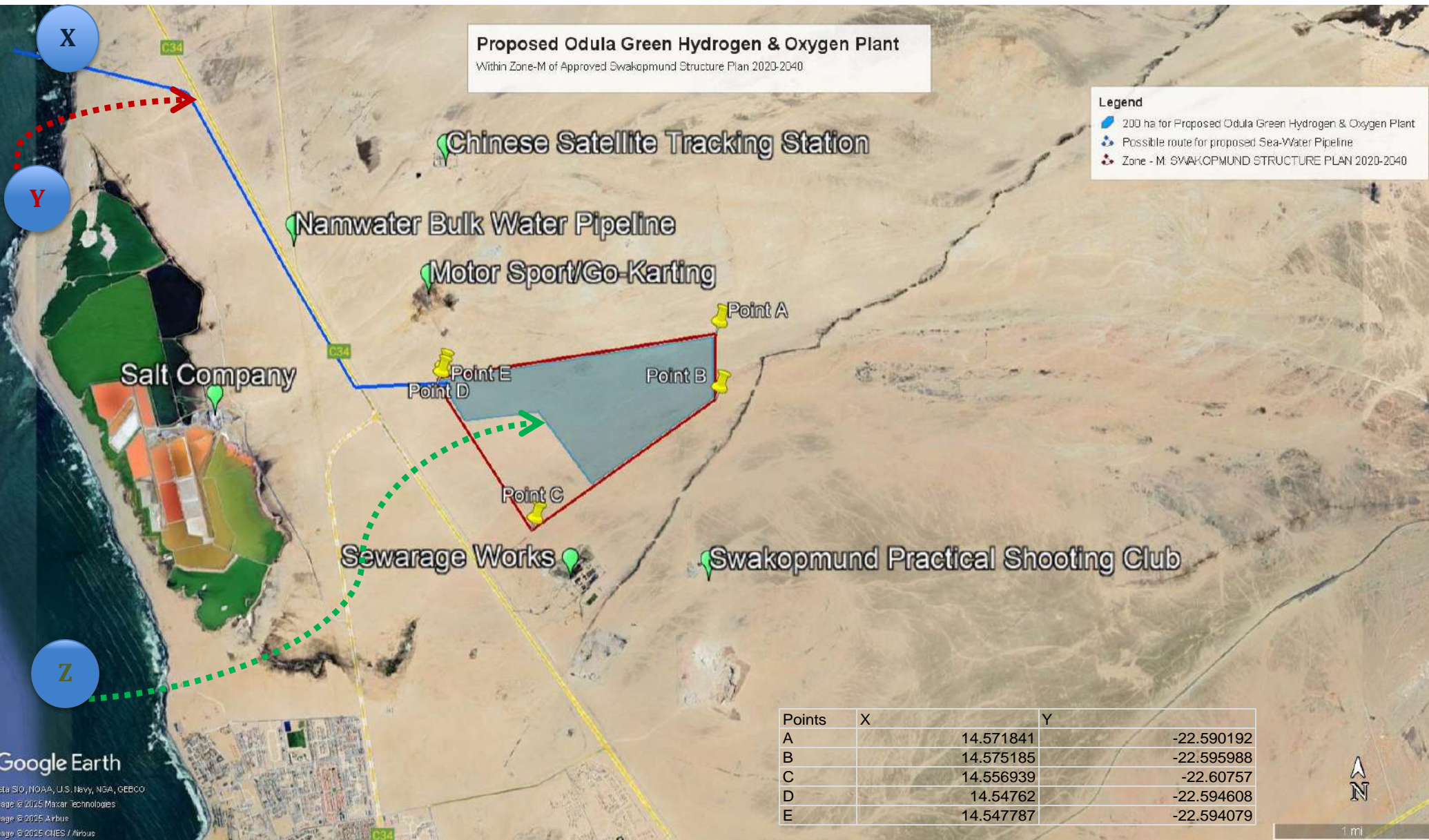
15. ANNEXURES

Annexure A: Project Site Layout and Location Map and Site Photo

Proposed Odula Green Hydrogen & Oxygen Plant
 Within Zone-M of Approved Swakopmund Structure Plan 2020-2040

Legend

- 200 ha for Proposed Odula Green Hydrogen & Oxygen Plant
- Possible route for proposed Sea-Water Pipeline
- Zone - M: SWAKOPMUND STRUCTURE PLAN 2020-2040



Points	X	Y
A	14.571841	-22.590192
B	14.575185	-22.595988
C	14.556939	-22.60757
D	14.54762	-22.594608
E	14.547787	-22.594079



Annexure B: Issue and Response Report (IRR)

Annexure C: Draft Environmental and Social Management Plan

Annexure D: Terms of References – 3 x Specialist Studies

Annexure E: Curriculum Vitae – Environmental Assessment Practitioner

ANNEXURE - B



ISSUES AND RESPONSE REPORT

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (SCOPING) FOR THE PROPOSED ODULA
GREEN HYDROGEN AND OXYGEN PROJECT

SWAKOPMUND MUNICIPAL AREA (UNDEVELOPED LIGHT INDUSTRIAL ZONE - M), ERONGO
REGION, NAMIBIA

PROPONENT: ODULA HYDROGEN (PTY) LTD

COMPILED BY:

ABRAHAM KANIME - ENVIRONMENTAL ASSESSMENT PRACTITIONER

TOGREEN CONSULTING CC – ENVIRONMENTAL MANAGEMENT SPECIALISTS

NOVEMBER 2025 (updated in MARCH 2026)

Table of Contents

1. Introduction	3
2. Legal context	3
3. Purpose of report.....	3
4. Summary of stakeholder engagement.....	3
4.1 Public Participation Activities.....	3
4.2 Registration of Interested and Affected Parties (I&APs)	6
5. Methodology for issue management.....	6
6. Issues and Responses Register.....	7
6.1 Key Issues Raised by Stakeholders.....	7
7. Summary of key thematic issues	18
7.1 Environmental Biophysical Ecological Issues.....	18
7.2 Social-Economic Issues.....	18
7.3 Public and Occupational Safety & Health	18
7.4 Cultural and Heritage Issues	18
7.5 Institutional and Regulatory Issues.....	18
8. Incorporation into the EIA Scoping /EMP	19
9. Outstanding Issues.....	20
10. Conclusion.....	20
11. Declaration by Environmental Assessment Practitioner	20
12. Annexures	21
Annexure AA: Register of Interested and Affected Parties (I&APs)	21
Annexure BB: Copies of Written Comments and Responses (email submission)	23
Annexure CC: Attendance Registers and Meeting Minutes	54
Annexure DD: Proof of Newspaper Advertisements, Site Notices, and Social Media – Community Whatsapp Group.....	58
Appendix EE: Presentation slides for stakeholder engagement.....	68

1. Introduction

TOGREEN CONSULTING CC (hereafter referred as Consultant), an independent environmental consulting entity has been appointed by Odula Hydrogen (Pty) Ltd (hereafter referred as Proponent) to undertake the environmental impact assessment process for the proposed Odula Green Hydrogen and Oxygen project and apply for the Environmental Clearance Certificate on behalf of the proponent.

The consultant coordinated and managed the public consultation (stakeholder engagement) in order to obtain inputs from the public i.e. interested and affected parties including regulatory authorities.

2. Legal context

The Issue and Response Report is prepared in terms of the Environmental Management Act, 2007 (Act No. 7 of 2007) and the Environmental Impact Assessment Regulations, 2012. The report in particular is prepared to comply with the EMA Regulations 21, 22 and 23 which require public consultation and the recording of comments, concerns and responses.

3. Purpose of report

The purpose of the Issue and Response Report is to:

- Document all issues, comments, and concerns raised by Interested and Affected Parties (I&APs), authorities, and any other stakeholders during the public consultation process;
- Demonstrate how these issues have been considered and addressed in the Environmental Assessment process; and
- Ensure transparency and compliance with the public participation requirements of the Namibian EMA 7 of 2007 and its EIA Regulations of 2012.

4. Summary of stakeholder engagement

The section intends to present the processes followed by the consultant as guided by the law as well as available practices, to best engage the potential interested and affected parties to the proposed project.

4.1 Public Participation Activities

Activities	Date	Location/Medium	Description
Newspaper advertisements	Tuesday, 11 November 2025	Page 2 of Republikein, Namibia Sun & Allgemeine Zeitung Newspapers	Public Notice for invitation of public (I&APs) to register, submit comments and also participate in planned engagement meeting. The notice indicated date, time, place (venue) and purpose of meeting.
	Friday, 07 November 2025 (page 10)	Page 10 of Namib Times Newspaper	Same as above

Activities	Date	Location/Medium	Description
	Wednesday, 05 November 2025	Page 3 of Republikein, Namibia Sun & Allgemeine Zeitung newspapers	Same as above
	Friday, 31 October 2025	Page 12 of Namib Times Newspaper	Same as above
Site notice	Tuesday, 10 November 2026	<ul style="list-style-type: none"> • Notice Board – Swakopmund Municipality Head-Office • Notice Board - Regional Council: Swakomund Constituency Office • Entrance – Swakopmund Food Lovers Shopping Complex/Mall 	Public Notice for invitation of public (I&APs) to register, submit comments and also participate in planned engagement meeting. The notice indicated date, time, place (venue) and purpose of meeting.
	Wednesday, 11 November 2026	In field – notice placed in the field at the boundary of the proposed site and next to informal/district access roads	Same as above
Social Media	Wednesday, 12 November 2026 (07:42 AM)	WhatsApp Group - Swakopmund Community “Information Sharing” administered by Constituency Office Secretary	Same as above
Public meeting	Thursday, 12 November 2025 at 15:00-15:30	In-person meeting with Management of Salt Company (Pty) Ltd at their Head-Office, Swakopmund	Focus group meeting with adjacent land owner (in relation to Mining License boundary): brief the Salt Company management on proposed project and register their specific concerns or issues
	Thursday, 13	In-person meeting with	General structured

Activities	Date	Location/Medium	Description
	November 2025 at 17:00 – 18:00	interested and affected stakeholders at Swakopmund Municipality Head-Office in Training Room	public meeting to introduce the proposed project to interested and affected parties (in attendance). Platform to record and respond to issues, concerns and/ comments
	Friday, 14 November 2025 at 10:00-11:00	In-person meeting with Chief Executive Officer/delegated municipal officials of Swakopmund Municipality in their board room	Structured meeting to brief the CEO/Representatives on the proposed project, possible impacts and high-level mitigations. Platform to record and respond to issues, concerns and/comments
	Friday, 14 November 2025 at 14:00-15:00	In-person meeting with marine researchers at National Marine Research and Information Centre (NatMIRC, Ministry of Fisheries and Marine Resources)	Structured meeting to brief NatMIRC research team on the proposed project, possible impacts and high-level mitigations. Platform to record and respond to issues, concerns and/comments
	Note: requested formal meetings with Mayor of Swakopmund, His Worship Blasius Goraseb as well as Swakopmund Constituency Councillor Hon. Louisa Kativa did not take place due to their unavailability. However Background Information Document was shared with the respective offices. No specific comments received from these offices.		
Authority consultation	06 October 2025	Consultation with EIA officials of Office of Environmental Commissioner's Office, Windhoek	To register the proposed project with the authority and obtain regulatory input/guidance (if any) on the EIA process
	14 November 2024	Proponent engaged Swakopmund Municipal Council to apply for purchase of	Municipal Council gave in-principle-approval letter pending finalisation of this EIA

Activities	Date	Location/Medium	Description
		land (proposed site) and obtain consent	process.
	01 March 2024	Proponent engaged Ministry of Mines and Energy to obtain support letter for the proposed project	Although legislations are still being developed, MME is the likely competent authority for Green Hydrogen Projects – MME gave consent to the project
Written submissions	31 October 2025 to 03 January 2026. Additional comments (not new comments but emphasising comments) received in March 2026 on the ESIA Scoping report	Submission by Emails	Nine (9) registered interested and affected parties submitted a total of 22 points. These submissions are presented in sub-section 6.1 of this report

4.2 Registration of Interested and Affected Parties (I&APs)

A register of I&APs was maintained throughout the engagement process and is attached to this report as **“Appendix AA”**.

5. Methodology for issue management

The Issues and comments were:

- Collected through engagement meetings, written submissions via emails and over the telephonic calls however this were ultimately submitted via email;
- Categorised by theme (e.g. biophysical, socio-economic, heritage, traffic, health and safety);
- Assessed for relevance and significance; and
- Addressed through design changes, mitigation measures, and or further studies to improve understanding or provide clarifications.

6. Issues and Responses Register

6.1 Key Issues Raised by Stakeholders

All the submissions by the interested and affected parties have been recorded including mere requests for registration. Real issues were also considered in the ESIA Scoping report and ESMP. Hence “Report section” indicated in the below table refers to sections of the ESIA Scoping report and not this Issue and Response Report.

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
Submitted by Email:							
1)	Bruce Stewart 064 280 770 bruce@sp.com.na	31-Oct-2025	Request to be registered as I&AP and keep informed of EIA process/progress	Planning	BID shared and I&AP registered		Closed
2)	Johann Otto otto@sp.com.na	04-Nov-2025	Location of the project is not clear. Request for BID and Locality map	Planning	BID and locality map shared; I&AP also registered	Pg.14	Closed
3)		10-Nov-2025	Interesting project which can be supported. However proponent has to also apply for subdivision and our firm can assist with such application	Planning	Noted and Proponent informed of availability of surveying and subdivision services		Closed
4)			EIA can continue to any site falling in zone M, once ECC is issued, then proponent can appoint a town planner to apply for subdivision to create specific site and land surveyor also needed. Process can take up to 18 months to complete	Planning	Noted		Closed
5)	Jochi Braune Jochi.Braune@walfishelect	07-Nov-2025	Request for BID	Planning	BID shared and reminder for meeting date		Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
	ric.com						
6)		10-Nov-2025	Why site so close to residential area?	Planning Operation	Site is within the future light industrial area according to Zone M of Swakopmund Structure Plan 2020-2040. It is currently an undeveloped open area and the nearest active land uses (i.e. adjacent to project site with varying distances) includes Salt Company site, Satellite Tracking Station, Municipal sewage works, some limestone quarry, the C34 road to Henties Bay, Namwater bulk pipeline and according to the municipal officials that took us to the site, they say there will be also practical shooting range area and motor sport area near the site. Finally, despite this being not directly adjacent to residential areas, the issue of public safety is still part of the EIA consideration.	Pg.14	Closed
7)	Detlef Klein Managing Director: Salt Company Pty Ltd 064 402 611 / 081 286 2866 kleindevindean@gmail.co	11-Nov-2025	Hydrogen and Oxygen Plant is falling in our ML-66 Mining Area	Planning Operation	Comment well received. We will discuss this with you when we visit your office, and will let you know. This issue was discussed at the meeting and recommended mitigation is that Mining Area be avoided,	Pg.32	Open

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
	m_saltco1@afol.com.na				alternatively route for “servitude” into mining area be applied/approved		
8)	Ulrike Lüdorf 4-Ever Green 081 214 3507 (Molly) 4evergreen@iway.na desiree@realestatesnamibia.com info@sra.com.na aplaatjies@swkmun.com.na	13-Nov-2025	Signboard was only put up today or late yesterday. Put an absolute audacity to put up a single signboard – in middle of nowhere and not even at the main road entrance. No communication, no announcements via social media, newspapers radio etc.	Planning	All the mentioned media were utilised as per the provision of the law: <ul style="list-style-type: none"> • Newspaper adverts in four newspapers (31 October & 7 November: Namib Times; 05 November & 11 November 2025: Namibian Sun, Republikein and Allegemeine Zeitung). • Additional public notices placed at Swakopmund Municipality & Constituency Office notice boards, Food Lover Shopping Complex • Complimented by posting on community whatsapp group "Information Sharing" managed by constituency office. • a Poster with public notice was also put in the field at the project site next to informal or district access roads through the project site (what you have seen) 	Pg.42	Closed
9)			There are rules and regulations in place and reputable company should not be afraid to hear the	Planning	<ul style="list-style-type: none"> • Rules and Regulations was followed beyond what is required by law 	Pg.41	Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
			public opinion and answer questions. I demand a public hearing – announced widely over the above mentioned media at least 1 week in advance		<ul style="list-style-type: none"> Open public meeting was held in Training Room of Swakopmund Municipality Head Office on 13November2025 from 17:00 Engagement with interested and affected stakeholders continues...you are still welcome to participate in the EIA process by submitting your input to be incorporated into EIA Scoping report and draft EMP 		
10)			Project with severe consequences to Nature, wildlife and residents has to be transparent and openly discussed. Public has right to be informed and heard especially when their direct environment is concerned	Planning Operation	Purpose of EIA process is to identify, assess environmental and social impacts, to ensure mitigations are recommended to manage identified impacts. Consultation with public is also taken as an ongoing process throughout the project cycle.	Pg.42	Closed
11)	Pierre' Smit Senior Environmental Practitioner NAMISUN – Environmental Projects & Development 081 752 7207 psmit@namisun.com wpetrick@namisun.com	14-Nov-2025	Request to be registered as I&APs, and BID	Planning	I&AP registered and BID shared		Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
12)		19-Nov-2025	There a number of potential sensitive receptors in the vicinity of proposed Odula project: Salt Company, Mile 4, Chinese Satellite Station, Swakomund Motorsport Club, Swakopmund Sewage Works, Municipal Landfill and MRF of Rent-a-Drum, Swakopmund Shooting Club. Did you have focus group meetings with these parties? Do not underestimate the value of these meetings	planning	Noted. Focus group meetings were held with salt company management as well as Municipality of Swakopmund. Draft scoping report will be shared with the additional suggested stakeholders for their input. Engagement with public including adjacent land owners is treated as an ongoing process throughout the project lifecycle	Pg.43	Closed
13)			It is their input that must be considered for identifying key environmental and social aspects prior to commencement of entire EIA process. Is this reason why you still did not provide most likely key environmental and social aspects as requested?	Planning	Noted. For all the engagement meetings held a standard presentation was given to the audience focusing on EIA process, potential high-level environmental social impacts associated with the proposed project and way forward after these meetings. The impacts are presented in the scoping report which is to be shared with all registered interested and affected parties		Open
14)	Janine Vorster Area Manager: BU Coastal Namibia Water Corporation Ltd	19-Nov-2025	Desalination Plant: Size of the desalination plant? Extraction permit? Effect of sulphur season during month of Oct to April.	Planning Operatio n	Desalination Plant using Reverse Osmosis as technology will be designed with production capacity of 800 m3/hour. Under the old Water	Pg.8	Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
	064 713 801 081 127 2735 VorsterJ@namwater.com.na				Act, abstraction of seawater was not regulated however the new Water Resource Management Act 11 of 2013 requires a license to abstract any water resource including seawater. Thanks for the information about potential effect of sulphur season, this info will be communicated to the project engineers to cater for this in the design (i.e. mitigation for external environmental factors)		
15)			Water Corporation Act of 1997 establishes Namibia Water Corporation Limited to manage bulk water supply and related services	Planning	Noted and agreed. However the proposed green hydrogen project design to produce bulk portable water for own use		Closed
16)			Plant within town boundaries – supply needs to be from Swakopmund Municipality who will apply with Namwater for a supply point		Noted. This will be considered if become necessary in future		Closed
17)			Water needs of Hydrogen Plant m3/annum or per month or per day? And quality need?	Planning Operation	The desalination plant will require 1.1 million cubes of sea water. From this, 800 cubes per hours will be produced as portable water	Pg.9	Closed
18)			Crossing Namwater pipeline to east	Planning	Noted. The possible and potential		Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
			of Swakopmund – there is 1x1200mm pipeline with “right of way servitude” and another 1200mm pipe in the future next to existing pipeline		routes will be assessed and inform the crossing section.		
19)			Safety of existing infrastructure and that of community next or in close to hydrogen Plant	Operation	This will be assessed.		Open
20)			Wind farm set-up: distance to Swakopmund airport. Studies from walvisbay and Swakopmund on wind farming	Planning	Zone-M as understood from the structure plan and discussion with technical personnel of Swakopmund Municipality , contain a vision for airport establishment, however not sure if the zone will still accommodate all these land use or there is a change in mind depending on which development come first. In any instance, the EIA approach is to leave a buffer zone between the green hydrogen plant complex and adjacent land		Closed
21)	Oliver Krappmann Swakop Calcine (Pty) Ltd 061 227 380 081 289 9718 oliver@gecko.na	03-Jan-2026	Request to be registered as I&AP	Planning	Noted, I&APs registered		Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
22)			Note the project is infringing on EPL4185 and on envisaged project development within this mineral licence	Planning Operation	Noted. Regulations regarding development within EPL will be reviewed and mitigations adopted	Pg.52	Closed
Submitted during engagement meetings:							
23)	Salt Company 064 402 611	12-Nov-2025	Just by estimating, there is possibility that proposed green hydrogen plant boundary may partly into our ML-66 boundary. Please check for the beacons in the field.	Planning	Noted, this will be verified during the surveying of the land and creation of specific erven for the proposed Odula Green Hydrogen site by Town Planner/Surveyor (yet to be appointed)		Open
24)			The proposed route for seawater pipeline will without doubt, fall into the ML-66 boundary. As suggested mitigation a servitude can be applied provided also potential collaboration is created e.g. Odula construct a jetty and partner to pump water together with Salt Company	Planning	Noted, suggestion will be brought to the attention of the proponent and also in alignment with the outcome of the assessment for other potential routes such as route z which has potential outcome to avoid possible interception with the Mining License	Pg.52	Open
25)			If above collaboration is not possible, then suggest the route for proposed pipeline be from the site and run between ML-66E-L boundary to the South and the Municipal boundary however has to	Planning	Noted, this will be assessed in consultation with the Municipality of Swakopmund	Pg.14	Open

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
			cut close C34 road				
26)	J. Volster Namwater: Operations 0811272735 volsterj@namwater.com.na	13-Nov-2025	Consider cumulative impact as there is plan to construct a second pipeline for the new desalination plant	Planning	Noted, thanks for the information, obviously cumulative impacts will be considered.		Closed
27)			Understand there will be a second green hydrogen plant. Consider engaging the developer for possible decision to have a single off-take point to reduce unnecessary multiple similar impacts	Planning	Noted with thanks.		Open
28)	Jochi Blaune Walfish Electric 0811242705 Jochi.Braune@walfishelctric.com	13-Nov-2025	I found the project very close to Swakopmund properties. Hydrogen and oxygen gases are very volatile and if anything goes wrong there is not much left. And now we hear another green hydrogen plant planned which is even closer. Why cannot these move too-far-away places like Mile-4? Hydrogen is very lime and if it escapes and mixes it sparks!	Planning	Noted. As per the scope of EIA need to look at the proposed site as directed by the proponent and then also considered alternative site which may fall in other jurisdiction such as national parks or private properties. These are dimensions we will need to consider, hence alternative that will be looked at is not only on the basis of site but also technology including additional control such as buffer zones	Pg.14	Closed
29)	J. Donatius Namwater: Maintenance 081 155 5833	13-Nov-2025	How far is the proposed site from Namwater bulk pipeline?	Planning	We will verify the actual distance but roughly should be 500 meters from the C34 and Namwater Pipeline.		Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
	donatiusj@namwater.com.na				However it is important to note that there no deep excavation is foreseen		
30)	Adam Hartman Media – NMH (Erongo)	13-Nov-2025	Who are the owners of the project?	Planning	Owner is Odula Green Hydrogen (Pty) Ltd - a Namibian registered company. Not sure on specific shareholders, but we can always verify this with the proponent		Closed
31)	C. McClune GM: EPS 081 122 4656 cmclune@swkmun.com.na	14-Nov-2025	Consider social corporate responsibility on potential collaboration for local skill development	Planning	Noted. This will be considered		Open
32)			Consider cumulative impact, ideal is to have proposed pipeline in one route	Planning Operation	Noted. This will be considered		Closed
33)	P. Engelbrecht Swakopmund Municipality 081 1438766 pengelbrecht@swkmun.com.na E. Nghisoono 085 762 9060 enghisoono@swkmun.com.na	14-Nov-2025	Pressure on the capacity of municipal services	Construction Operation	Noted, where required, local should be given first priority provided they meet the required skill-set.		Closed
34)			Will the proposed seawater pipeline		It is better to look at both options and		Closed

Ref. #	I&AP	Date Raised	Issue/Comment	Project Phase	Response/Mitigation	Report Section	Status
			above ground or underground?		subject to the assessment, whichever is ideal (low environmental impact and meet other business criteria) is likely to be considered		
35)	<p>A. Kreiner NatMIRC-MAFWLR 064 410 1158 Anja.Kreiner@mfmr.gov.na</p> <p>L. Shivute NatMIRC-MAFWLR 081 208 2784 Latoya.Shivute@mfmr.gov.na</p>	14-Nov-2025	Question of interest: will the project allowed to produce own electricity within Municipal Area as there is a common understanding that residents are not allowed?	Planning	Municipality is very aware of the project and in principle they approved the sale of land pending finalisation of the EIA process. If there is such a condition, maybe this is an exemption looking at the large scale in terms of power need. From a national perceptive, the concept of green hydrogen is driven because it promote use of renewable energy		Closed
36)	<p>C. Barthomeus NatMIRC-MAFWLR 064 410 1101</p> <p>S. Kisting NatMIRC-MAFWLR Saskia.Kisting@mfmr.gov.na</p>	14-Nov-2025	When is project scheduled to commence and for how long the construction will take?	Planning	Project is to commence as soon as ECC is granted and land purchase is completed together with land surveying. Indicative period for construction less than three years		Closed

7. Summary of key thematic issues

Based on the comments and issues submitted by the consulted stakeholders through meetings, and email, the submitted issues are categorized into the following thematic issues and presented in a deduced manner (i.e. consultant's own words).

7.1 Environmental | Biophysical | Ecological Issues

- Site location of the proposed project be assessed in relations to nature - wildlife
- Project with severe consequences to nature, wildlife should be communicated widely to the public

7.2 Social-Economic Issues

- Potential interested parties to be kept informed of the project to explore economic opportunities during project-cycle
- Employment creation for locals
- Project with good social economic impact, must be promoted and supported by the community and all relevant stakeholders
- Economic conflict as result of potential project boundary interception with existing economic activities related to mineral exploration and mining (reference: EPL4185 and ML66E-L)
- Potential collaborative initiatives aimed at empowering community should be considered e.g. capacity and skill development, social corporate responsibility etc.
- Migration of people to Swakopmund due to employment has potential to put pressure on municipal services (capacity issue of sewer line, capacity to supply portable water to all residents, lack of shelter – lead increased informal settlement and safety issue).

7.3 Public and Occupational Safety & Health

- Project with severe consequences to residents should be communicated widely to the public.
- Why the site is too close to residential area? Consider public safety of residents in close proximity to the project site.
- Safe storage of hydrogen and oxygen gases - considers stringent storage protocol and or consider alternative site away from town.
- Hydrogen gas is dangerous once it escapes and reacts with oxygen – it sparks!

7.4 Cultural and Heritage Issues

- No concerns was directly raised on this aspect

7.5 Institutional and Regulatory Issues

- Potential existing land lease agreement (not sure if verbal, written, hearsay) between Salt Company and Swakopmund Municipality regarding some pieces of land next or potentially

intercepting proposed site, require consideration or clarification from Municipality when allocating land to the proposed project site.

- Zone “M” require surveying and subdivision: Proponent will need to appoint a town planner and land surveyor for the creation of erven for the proposed project.
- Potential conflict in land use between proposed project and potential existing regulated land use i.e. Mining License 66E-L and Exploration License EPL4185 – regulation of activities with mining and mineral exploration areas.
- Potential conflict in land use or effect of proposed project on land uses in close proximity.
- In the past seawater abstraction was not regulated (a stakeholder said “*seawater will not finish*”, however Water Resources Management Act 2013, require a license for abstraction of water resources including seawater.
- The envisaged desalination plant should be strictly for the proposed green hydrogen project as bulk water supply to other operations including municipality may require authorisation (i.e. only Namwater is a recognised Bulk Water Supply in Namibia according to Namibia Water Corporation Act 1997).
- Method of communication: transparency, openness and focus group adjacent land owners improve gathering of stakeholders’ inputs at the onset of EIA process.

8. Incorporation into the EIA Scoping /EMP

In the EIA Scoping Report and EMP, the key issues and comments submitted by the stakeholders are analyzed and incorporated to influence the project design, alternatives, and mitigation measures – environmental management plan in the following manner:

- Design modification: engineering team to consider both underground and above-ground bulk seawater pipeline.
- Mitigation measures added to the EMP: buffer zone between the proposed green hydrogen plant and the adjacent land use as well as continuous engagement with adjacent land owners.
- Further mitigation measures added to the EMP: potential boundary crush or boundary encroachment especially for mining license area to be avoided unless a servitude authorization obtained with consent of the adjacent mining license owners.
- Monitoring and reporting commitments.

9. Outstanding Issues

There are no outstanding issues, the issues with status indicating “open” only denote that strategy to resolve the issue(s) are yet to be implemented for example during the actual surveying of the portion of the land to be allocated to the proposed project. In other words, there are no issues raised by stakeholders which cannot be resolved during the implementation of the project.

10. Conclusion

This Issues and Response Report demonstrates that meaningful public participation has been undertaken in accordance with the provisions of the Environmental Management Act, 2007, the EIA Regulations, 2012, as well as additional adopted best practices such as communication through social media “Community WhatsApp Group”. Lastly that the stakeholder concerns have been appropriately considered and addressed in the EIA Scoping Report and associated Environmental Management Plan.

11. Declaration by Environmental Assessment Practitioner

I, the undersigned, declare that this Issues and Response Report is a true and accurate reflection of the relevant issues raised and responses provided during the public consultation process. Further on behalf of Togreen Consulting CC, that I will be flexible to accept any correction on any issue which might have been unintentionally but wrongly captured.

Abraham Kanime (EAP)

Signature:



Date: November 2025 (updated in March 2026)

12. Annexures

Annexure AA: Register of Interested and Affected Parties (I&APs)

Name	Organisation	Interested or Affected?	Contact details
	Salt Company	Affected	064 402 611
D. Klein	Manager: Salt Company	Affected	064 402 611 kleindevindean@gmail.com saltco1@afol.com.na
P. Loubser	Social Radio Controlled Airplane Club (Tenant to Salt Company)	Affected	081 240 8179 ptmoubser66@gmail.com
Bruce Stewart	Stewart Planning – Town & Regional Planners		064 280 770 bruce@sp.com.na
Johann Otto	Stewart Planning – Town & Regional Planners		otto@sp.com.na
J. Vorster	Namwater: Operations	Affected	081 127 2735 vorsterj@namwater.com.na
J. Donatius	Namwater: Maintenance	Affected	081 155 5833 donatiusj@namwater.com.na
Adam Hartman	Media NMH (Erongo)	Interested	081 250 5966 adam@erongo.com.na
Jochi Blaune	Walfish Electric	Interested	081 1242705 Jochi.Blaune@walfishelectric.com
Nikolas Ndeikonghola	Environmental Consultants	Interested	envirofficient@gmail.com
Abraham Haikwiyu	Training and Development Officer: Swakopmund Municipality	Interested	081 277 7902 ahaikwiyu@swkmun.com.na
P. Engelbrecht	Swakopmund Municipality	Affected: Local Authority	081 143 8766 pengelbrecht@swkmun.com.na
E. Nghisoono	Swakopmund Municipality	Affected: Local	085 762 9060 enghisoono@swkmun.com.na

Name	Organisation	Interested or Affected?	Contact details
		Authority	
C. McClune	GM: EPS – Swakopmund Municipality	Affected: Local Authority	081 122 4656 cmclune@swkmun.com.na
A.Kreiner	MAFWLR		064 410 1158 Anja.Kreiner@mfmr.gov.na
L. Shivute	MAFWLR		081 208 2784 latoya.shivute@mfmr.gov.na
S. Kisting	MAFWLR		saskia.kisting@mfmr.gov.na
C. Bartholomeus	MAFWLR		064 410 1101
Pierre' Smit wpetrick@namisun.com	Senior Environmental Practitioner – NAMISUN Environmental Projects & Development	Interested	081 752 7207 psmit@namisun.com
Werner Petrick	Founder – NAMISUN Environmental Projects & Development	Interested	wpetrick@namisun.com
Ulrike Lüdorf	4Evergreen		081 214 3507 (Molly) 4evergreen@iway.na
			desiree@realestatesnamibia.com
			info@sra.com.na
			aplaatjies@swkmun.com.na
Oliver Krappmann	Swakop Calcine Pty Ltd	Affected	061 227 380 081 289 9718 oliver@gecko.na
	Practical Shooting Club		info@swakoppracticalshooting.org
	Rent-A-Drum		reception@rent-a-drum.com.na
	Swakopmund Motor Club		steven@hmn.com.na
	Go-karting		info@gokartingnamibia.com
	Swakopmund Water & Sewer		pmu@swkmun.com.na swkmun@swkmun.com.na

Annexure BB: Copies of Written Comments and Responses (email submission)

EIA/ECC - ODULA GREEN HYDROGEN AND OXYGEN PROJECT

Inbox



Bruce

Fri, Oct 31, 2025, 2:47 PM

Stewart <bruce@sp.com.na>

to me

Good afternoon,

I refer to your public consultation notice in today's Namib Times: ODULA GREEN HYDROGEN AND OXYGEN PROJECT.

I would like to be registered as an Interested and Affected Party and ask you to continue to keep me informed of progress in your EIA/ECC process.

I look forward to your confirmation reply in due course.

Regards,

Bruce

Bruce Stewart

Town Planner

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay
Tel: (064) 280 770 | Email: bruce@sp.com.na | Website: www.sp.com.na



Togreen

Wed, Nov 5, 2025, 2:01 PM

ConsultingCC <togreen.consulting@gmail.com>

to Bruce

Dear I&AP,

Thank you for your registration. You will be kept updated on the EIA progress.

We will share with you the BID in the due course.

Thanks,
Abraham



Bruce

Thu, Nov 6, 2025, 10:43 AM

Stewart <bruce@sp.com.na>

to me

Thanks Abraham,
Enjoy the rest of the day.
Regards,
Bruce

Bruce Stewart

Town Planner

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay
Tel: (064) 280 770 | Email: bruce@sp.com.na | Website: www.sp.com.na



Togreen
ConsultingCC <togreen.consulting@gmail.com>

Fri, Nov 7, 2025, 6:33 PM

to Bruce

Good day Bruce,

Attached please find the BID and registration form for your input contribution to the EIA process of proposed Odula Green Hydrogen and Oxygen project.

You are also invited to the meeting on 13 November 2025 (17:00 to 18:00) in Swakopmund at the Training Hall of the Municipality of Swakopmund - Head Office.

Hope to hear from you soon.

Regards,
Abraham

2 Attachments • Scanned by Gmail



Bruce
Stewart <bruce@sp.com.na>

Mon, Nov 10, 2025, 8:46 AM

to me

Thanks Abraham,
Documentation well received.
Regards,
Bruce

Bruce Stewart

Town Planner

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay
Tel: (064) 280 770 | Email: bruce@sp.com.na | Website: www.sp.com.na

From: Togreen ConsultingCC <togreen.consulting@gmail.com>

Sent: 07 November 2025 18:34

To: Bruce Stewart <bruce@sp.com.na>

Subject: Re: EIA/ECC - ODULA GREEN HYDROGEN AND OXYGEN PROJECT

Good day Bruce,

Attached please find the BID and registration form for your input contribution to the EIA process of proposed Odula Green Hydrogen and Oxygen project.

You are also invited to the meeting on 13 November 2025 (17:00 to 18:00) in Swakopmund at the Training Hall of the Municipality of Swakopmund - Head Office.

Hope to hear from you soon.

Regards,
Abraham

Odula Green Hydrogen and Oxygen Project, Swakopmund: Request to share locality map and BID
Inbox



Johann

Nov 4, 2025, 1:52 PM

Otto <otto@sp.com.na>

to me

Good day Togreen Consulting CC,

Reference is made to your public notice: **EIA for the proposed Odula Green Hydrogen and Oxygen Project, Swakopmund, Erongo Region.**

The notice refers to a location in the “Swakopmund Municipal Area (Light Industrial Zone)” which is not clear as no portion or erf number is given. Could you kindly share the locality map and background information document (BID) which indicate the project location? Thank you.

Yours sincerely,
Johann

Johann Otto

Town Planning Officer

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay
Tel: (064) 280 773 | Email: otto@sp.com.na |
Website: www.sp.com.na



**Togreen
ConsultingCC**

Nov 5, 2025, 2:09 PM

Dear Johann, Thanks for contacting us and for your observation. We will share with you the BID in due course. The proposed site is in Zone M of Swakopmund Struc



**Johann
Otto <otto@sp.com.na>**
to me

Nov 6, 2025, 8:01 AM

Dear Abraham,

Thank you for the response which is a bit more clear on the location. I look forward to receiving the BID for both projects namely:

1. **EIA for the proposed Odula Green Hydrogen and Oxygen Project, Swakopmund, Erongo Region.**
2. **EIA for the proposed Oasis Crude Oil Refinery Project, Swakopmund, Erongo Region.**

I hope to receive the BIDs sooner rather than later, as the deadline for registration and comments is 20 November 2025.

Yours sincerely,

Johann

Johann Otto

Town Planning Officer

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay
Tel: (064) 280 773 | Email: otto@sp.com.na |
Website: www.sp.com.na



**Togreen
ConsultingCC**

Nov 7, 2025, 6:20 PM

Good day Johann, Attached please find the BID and Registration form for your contribution to the EIA process of Odula Green Hydrogen and

Oxygen Project. Hope to



Johann

Nov 10, 2025, 8:59 AM

Otto <otto@sp.com.na>

to me

Dear Abraham,

Thanks for sharing the BID. An interesting project which can be supported in my opinion. I believe the proponent will also have to apply for a subdivision and/or rezoning to permit the proposed use of land in terms of the Swakopmund Zoning Scheme. Our firm can assist with such an application, and happy to provide first proposal on request. Please find attached my registration form and comments.

Kind regards,

Johann

Johann Otto

Town and Regional Planner

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay

Tel: (064) 280 773 | Email: otto@sp.com.na |

Website: www.sp.com.na

From: Togreen ConsultingCC <togreen.consulting@gmail.com>

Sent: 07 November 2025 18:20

To: Johann Otto <otto@sp.com.na>

Subject: Re: Odula Green Hydrogen and Oxygen Project, Swakopmund: Request to share locality map and BID

Good day Johann,

One attachment • Scanned by Gmail



Togreen

Nov 10, 2025, 9:44 AM

ConsultingCC <togreen.consulting@gmail.com>

to Johann

Dear Johann,

Thanks for your comments and initial observation. Yes you are right the land is yet to be surveyed. The proponent will or are seeking a service of town planner/land surveyor for the subdivision and creation of erven. This process was to run parallel to EIA or even earlier, but I think there were some delays from the proponent side to get this, though not material now, we will need it before we finalise EIA reports for submission because we will need the actual corners of the land not the whole zone or the sketch-out that we illustrated on the map. I will advise them of your service in case they have not yet found somebody.

Special request: If you know any other person or organisation that may be affected or interested in the project, please forward the BID and i&APs Registration Form to them. Just in case they missed newspaper adverts or we missed identifying them.

Thanks again.

Regards,
Abraham



Johann Otto <otto@sp.com.na>
to me

Nov 10, 2025, 3:41 PM

Thanks for the feedback Abraham.

I think the EIA can continue to be any site falling in zone M and the ECC could be issued accordingly. Once issued, then the proponent can proceed to appoint a town planner to apply for the subdivision/rezoning, to create a more specific site falling in zone M, and of course a land surveyor to survey the area.

The town planning/survey process can take 6 to 18 months to complete, therefore, it is wise to start the process sooner rather than later, but obviously more safe to start the process once the ECC has been issued. I will share the BID with interested/affected persons. In the meantime, I look forward to receiving a copy of the scoping report/EIA and to be notified of decisions taken, thank you.

Yours sincerely,
Johann

Johann Otto
Town Planning Officer

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay



Togreen ConsultingCC <togreen.consulting@gmail.com>
to Johann

Nov 10, 2025, 3:46 PM

Great thanks for the suggestions.

We will share the EIA Scoping report and draft EMP with all registered I&APs.

Regards,
Abraham

ODULA/ OASIS

Inbox



Jochi

Nov 10, 2025, 12:35 PM

Braune <Jochi.Braune@walfishelectric.com>

to me

Good day,
Please see attached,
regards

J Braune | WALFISH ELECTRIC (PTY) LTD

Walvis Bay | Swakopmund | Tsumeb

Namibia

Website: www.walfishelectric.com

Email: Jochi.braune@walfishelectric.com

2 Attachments • Scanned by Gmail



Togreen

Nov 10, 2025, 1:13 PM

ConsultingCC <togreen.consulting@gmail.com>

to Jochi

Good day Jochi,

Thank you for your comments on both projects.

Odula: On question why proposed project is near the residential area, our response is that the proposed site is within the future light industrial area according to Zone M of Swakopmund Structure Plan 2020-2040. It is currently an undeveloped open area and the nearest active land uses (i.e. adjacent to project site with varying distances) includes Salt Company site, Satellite Tracking Station, Municipal sewage works, some limestone quarry, the C34 road to Henties Bay, Namwater bulk pipeline and according to the municipal officials that took us to the site, they say there will be also practical shooting range area and motor

sport area near the site. Finally, despite this being not directly adjacent to residential areas, the issue of public safety is still part of the EIA consideration.

Happy to answer any other questions on email or at the meeting on thursday 13 November 2025 at Swakopmund Municipality Head-Office (Training Room) from 17:00-18:00.

Regards,
Abraham

13 November EIA

Inbox



Jochi Braune <Jochi.Braune@walfishelectric.com>
to me

Fri, Nov 7, 2025, 9:51 AM

Good day,
Please forward the information for above EIA meeting on the 13th November,
Much appreciated,

Regards

J Braune | WALFISH ELECTRIC (PTY) LTD

Walvis Bay | Swakopmund | Tsumeb

Namibia

Website: www.walfishelectric.com

Email: Jochi.braune@walfishelectric.com

Togreen ConsultingCC <togreen.consulting@gmail.com>
to Jochi

Nov 7, 2025, 6:31 PM

Good day Jochi,

Attached please find the BID and registration form for your input contribution to the EIA process of proposed Odula Green Hydrogen and Oxygen project.

You are also invited to the meeting on 13 November 2025 (17:00 to 18:00) in Swakopmund at the Training Hall of the Municipality of Swakopmund - Head Office.

Hope to hear from you soon.

Regards,
Abraham

2 Attachments • Scanned by Gmail

ESIA for Proposed Green Hydrogen Project

Inbox



Togreen

Nov 7, 2025, 6:42 PM

ConsultingCC <togreen.consulting@gmail.com>

to saltco12

Good day Ms. Botha,

As per my telephonic conversation the previous week, please attached find the BID and Registration form for your input contribution to the EIA process for proposed green hydrogen project which will be situated just behind the C34 road from your salt operation.

You are particularly identified as an adjacent landowner and we will need to engage you to understand how the proposed project may directly or indirectly impact your organisation. We are proposing to engage you during the week of the 10th November 2025.

Hope to hear from you soon.

Regards,
Abraham

2 Attachments • Scanned by Gmail



Togreen

Nov 10, 2025, 4:30 PM

ConsultingCC <togreen.consulting@gmail.com>

to saltco12

Good day Ms. Botha,

I received a call from one of your colleagues. I noticed I have shared the old version BID. Please see attached BID version with revised map of the pipeline route in consideration of the birds conservation area around salt work and avoid going too much into the mining license area. Please consider this as a proposal which requires us to look at all parameters.

We will come visit your office for table discussion this week (Wednesday afternoon or Thursday) so that we understand all the aspects from your side. In the meantime please complete the registration form and put all comments so form part of our discussion.

Regards,
Abraham

2 Attachments • Scanned by Gmail



Salt Company: Anria
Botha <saltco12@saltco.com.na>
to me

Nov 10, 2025, 6:04 PM

Afternoon Abraham,

Sorry for only getting back to you now.

I am not in the office this week, I will only be back in the office next Monday.

Regards

Anria

Get [Outlook for Android](#)

From: Togreen ConsultingCC <togreen.consulting@gmail.com>
Sent: Monday, November 10, 2025 4:30:58 PM
To: Salt Company: Anria Botha <saltco12@saltco.com.na>
Subject: Re: ESIA for Proposed Green Hydrogen Project



Salt Company: Anria
Botha <saltco12@saltco.com.na>
to me

Nov 10, 2025, 7:42 PM

Abraham,

I spoke to Devin and he said that he will have the meeting with you this week.

Please just let me know which day and the time then I can let him know.

Get [Outlook for Android](#)

(no subject)

Inbox



Detlef Klein <saltco1@afol.com.na>
to me

Nov 11, 2025, 10:50 AM

Kind Regards
Sent from my iPhone
Detlef Klein
(Managing Director)
Salt Company (Pty) Ltd
+264811296202
saltco1@afol.com.na

One attachment • Scanned by Gmail



Togreen ConsultingCC <togreen.consulting@gmail.com>
to Detlef

Nov 12, 2025, 6:19 AM

Good morning Mr. Klein,

Comment well received. We will discuss this with you when we visit your office, and will let you know.

You are welcome to think of any other issues (positive/negative) or general inputs to the project so that we cover all these in the assessment.

Thanks,
Abraham

Meeting Request with Office of the Mayor, Swakopmund

Inbox



Togreen ConsultingCC <togreen.consulting@gmail.com>
to dhanes

Nov 10, 2025, 11:55 AM

Dear Ms. Hanes,

I would like to request for a meeting with His Worship the Mayor and any relevant team member of his office on Wednesday 12 November 2025 (please advise on time).

Background: We are conducting an EIA on two proposed projects namely Odula Green Hydrogen & Oxygen Plant; and Oasis Crude Oil Refinery Plant, both to be situated in Swakopmund Municipal Area. EIA process is triggered by projects being classified as listed activities under Environmental Management Act 2007, but also to fulfil the condition toward final approval of land purchase from the Swakopmund Municipal Council.

Therefore the requested meeting is part of EIA stakeholder consultation. Our meeting with the general public is on Thursday 13 November 2025 after 5pm as advertised in the local newspapers.

Please note we have also requested a similar meeting with the CEO, it is good practice if these two meetings can be combined. Please advise.

Attached please find BIDs for the Mayor's perusal and I&APs Registration forms for any written comment submission.

Thanks,
Abraham

4 Attachments • Scanned by Gmail



Delinda

Nov 10, 2025, 12:08 PM

Hanes <dhanes@swkmun.com.na>

to me

Good afternoon

This email serves to confirm receipt of your email. Please note that your request for a meeting has been shared with the Mayor. Once we have liaised internally, we will revert to you with feedback.

Regards,

From: Togreen ConsultingCC <togreen.consulting@gmail.com>

Sent: Monday, 10 November 2025 11:56 AM

To: Delinda Hanes <dhanes@swkmun.com.na>

Subject: Meeting Request with Office of the Mayor, Swakopmund

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Delinda
Hanes <dhanes@swkmun.com.na>
to Clarence, Paulina, me

Nov 11, 2025, 3:45 PM

Good day

Please take note that Mr. Benjamin has requested Mr. McClune, the General Manager of Engineering and Planning Services, to assist you with your request. Unfortunately, due to his busy schedule, he is unable to meet with you at this time. However, Ms. Engelbrecht and Mr. McClune have been copied in this regard. I am still awaiting feedback from the Mayor and will revert as soon as I receive a response.

Regards,

From: Togreen ConsultingCC <togreen.consulting@gmail.com>
Sent: Monday, 10 November 2025 11:56 AM
To: Delinda Hanes <dhanes@swkmun.com.na>
Subject: Meeting Request with Office of the Mayor, Swakopmund

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Dear Ms. Hanes,



Togreen
ConsultingCC <togreen.consulting@gmail.com>
to Delinda, Clarence, Paulina

Nov 11, 2025, 6:20 PM

Good day Ms. Hanes,

Thanks for your response and guidance from Mr. Benjamin well noted. His apology well accepted.

Will proceed to meet with th delegated team members

Much appreciated.

Regards,
Abraham.

Request for meeting with Hon. Louisa Kativa on 13 November 2025

Inbox



Togreen

Mon, Nov 10, 2025, 1:57 PM

ConsultingCC <togreen.consulting@gmail.com>

to cganases, rgauseb, louisakativa62

Good day Ms. Ganases,

I trust your emails are now working. Also note the Hon. Councillor's gmail address which Mr. Gauiseb shared, was also bouncing back.

We are here again to request a meeting with the Hon. Kativa on 13 November 2025 and please advise suitable time based on availability of Hon.Kativa and relevant team members of her office.

Attached please find BIDs for Hon. Kativa's perusal and I&APs Registration form for any written submission on the two projects (green hydrogen and crude oil refinery all to be situated in your constituency).

Regards,
Abraham

Hydrogen & Oxygen Project

Inbox



4 Ever

Thu, Nov 13, 2025, 6:34 PM

Green <4evergreen@iway.na>

to me, aplaatjies, desiree, info

Good day

The attached signboard and letter refers.
Best regards

Ulrike Lüdorf

4 EVER Green

P.O. Box 7437 / Swakopmund
15 Schwester Frieda Street
Molly: 081 2143507

...

[Message clipped] [View entire message](#)

2 Attachments • Scanned by Gmail



Togreen

Mon, Nov 17, 2025, 6:43 PM

ConsultingCC <togreen.consulting@gmail.com>

to 4evergreen, aplaatjies, desiree, info

Good day I&APs,

Thank you for your email and your written submission. You have been registered as an Interested and Affected Parties for the proposed Odula Green Hydrogen Project, Swakopmund Municipal Area (undeveloped future light industrial area) in the area where you saw the public notice poster (i.e. proposed project site).

To respond to your observation and conclusion regarding the manner of public notice, here is the update of the whole process (public invitation to participate) that we have undertaken so far:

1. Registration of project with Authority - Environmental Commissioner's Office.
2. Newspaper adverts in four newspapers (31 October & 7 November: Namib Times; 05 November & 11 November 2025: Namibian Sun, Republikein and Allegemeine Zeitung).
3. Additional public notices placed at Swakopmund Constituency Office notice board, Food lover Shopping Complex complimented by posting on community whatsapp group "Information Sharing" managed by constituency office. a Poster with public notice was also put in the field at the project site next to informal or district access roads through the project site (what you have seen).
4. Public meeting was held at Swakopmund Municipality Head Office - Training Room on 13 November 2025 from 17:00.
5. However engagement with interested and affected stakeholders continues, including new registration, until 20 November 2025.

As per attached BID, you are still welcome to participate in the EIA process by submitting your input to be incorporated into the EIA scoping report and draft EMP which will be shared with all registered interested and affected parties for their additional inputs or verification of their inputs, before submission to the Environmental Commissioner. Attached please find the BID and Registration Form for your written submission.

Regards,
Abraham

2 Attachments • Scanned by Gmail

Odula and Oasis Projects near Swakopmund

Inbox



psmit@namisun.com
to me

Fri, Nov 14, 2025, 5:14 PM

Dear Madam or Sir

Kindly register me as an I&AP to both projects you advertised in the newspapers recently:

1. Odula Hydrogen (Pty) Ltd
2. ~~Oasis Oil Refinery (Pty) Ltd~~

Kindly forward me the BIDs of both projects as well.

Regards



Togreen
ConsultingCC <togreen.consulting@gmail.com>
to psmit

Mon, Nov 17, 2025, 5:02 PM

Good day I&APs,

Thank you for your email, you have been registered as Interested and Affected Party for proposed Odula Green Hydrogen Project, Swakopmund Municipal Area (undeveloped future light industrial area).

Attached please find the BID and Registration Form for your written submission.

Regards,
Abraham

2 Attachments • Scanned by Gmail



psmit@namisun.com

Nov 19, 2025, 12:27 PM

to wpetrick, me

Dear Abraham

In addition to Werner's response to you about the proposed Oasis Project, I would like to point out that the same remarks apply to the proposed Odula Project.

I noticed that there a number of potential sensitive receptors in the vicinity of the proposed Odula Project, amongst others the Salt Company, residents of Mile Four, the Chinese Satellite Station, the Swakopmund Motorsport Club, the Swakopmund Sewage Works, the municipal landfill and the MRF of Rent-a-Drum and the Swakopmund Shooting Club. Did you have Focus Group Meetings with these parties? If not, please do not underestimate the value of such meetings.

The absence of key environmental and social aspects and potential impacts suggests that you did not do an Environmental Screening Study. Can you please share the key environmental and social aspects and potential impacts with us, as well as the potential specialist studies to be conducted.

Please do not hesitate to contact Namisun for further discussions on these two projects.

Regards



Togreen

Dec 17, 2025, 9:28 PM

ConsultingCC <togreen.consulting@gmail.com>

to psmit, wpetrick

Dear Dr. Smit,

I noted, I have not formally responded to your submission. Thank you for your submission.

Specific responses are being incorporated into Issue and Response Report which will be shared with you as Annexure to the ESIA Scoping Report.

Although we had engaged directly with the Municipality, Salt Company and individual found at the motor sport area, I agree on the suggested additional focus group meetings. We will do this together with sharing of ESIA scoping report.

Regards,
Abraham



psmit@namisun.com

Dec 19, 2025, 9:56 AM

to me, wpetrick

Dear Abraham

The intent of Focus Group Meetings is to get the input of stakeholders as early as possible in the EIA process – i.e. already during the environmental screening and or scoping phases. Meeting with stakeholders is not merely a casual informative gathering to share information with them afterwards (and to document an IRR) – it is THEIR input that must be considered for identifying the key environmental and social aspects and potential impacts prior to the commencement of the entire EIA process.

Is this the reason why you still did not provide the most likely key environmental and social aspects and potential impacts, as requested?

Please do not hesitate to contact Namisun for further discussions.

Take care.

Comments Togreen Hydrogen plant

Inbox



Vorster

Wed, Nov 19, 2025, 5:03 PM

Janine <VorsterJ@namwater.com.na>

to me

Dear Mr. Kanime

My comments as per the Public meeting held on the 13th November 2025 at the Municipality of Swakopmund.

Regards
Janine

"Excellence in the water industry"

Namibia Water Corporation Ltd

Janine Vorster
Area Manager: BU Coastal

176 Iscor Street, Northern Industrial Area, Windhoek, Namibia
Private Bag 13389, Windhoek, Namibia
Tel: +264 (64) 71-6201, Fax: +264 (64) 71 3801
Cell: 081 127 2735
E-mail: VorsterJ@namwater.com.na

"Excellence in the water industry"



NAMWATER

Namibia Water Corporation Ltd

Janine Vorster
Area Manager: BU Coastal

176 Iscor Street, Northern Industrial Area, Windhoek, Namibia
Private Bag 13389, Windhoek, Namibia
Tel: +264 (64) 71-6201, Fax: +264 (64) 71 3801
Cell: 081 127 2735
E-mail: VorsterJ@namwater.com.na

2 Attachments • Scanned by Gmail



Togreen
ConsultingCC <togreen.consulting@gmail.com>
to Vorster

Fri, Nov 21, 2025, 4:01 PM

Dear I&AP,

Your written comments are well received and thanks for attending the meeting.

Regards,
Abraham

Ondula Green Hydrogen Project

Inbox



Oliver

Sat, Jan 3, 5:21 PM

Krappmann <oliver@gecko.na>

to me

Good day Abraham Kamine

Please register me as I&AP for the above project. Note that this project is infringing on EPL4185 and on envisaged project development within this mineral licence.

Kind regards,

Oliver Krappmann
Swakop Calcite (Pty) Ltd

Tel +264 61 227380

Fax +264 61 225304

Mobile +264 81 2899718

email oliver@gecko.na



Togreen

Tue, Jan 6, 11:11 AM

ConsultingCC <togreen.consulting@gmail.com>

to Oliver

Good day I&AP,

Your request and comments are noted with much thanks. We will share with you the draft scoping report as we will share this with all registered I&APs for further input.

Regards,
Abraham

Final Draft ESIA Scoping Report & ESMP: Proposed Odula Green Hydrogen, Swakopmund

Inbox



Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 9, 2026,
8:04 PM

to Oliver, Bruce, I&APs, Detlef, I&APs, Johann, Vorster, donatiusj, adam, I&APs, I&APs, Abraham, Paulina, I&APs, Clarence, I&APs, I&APs, I&APs, psmit, wpetrick, 4evergreen, desiree, info, aplatjies, I&APs, I&APs, I&APs, I&APs, I&APs, Jacques, swkmun

Dear Interested and Affected Parties,

You are receiving this ESIA Scoping report pack, because you have participated in the ESIA process during public consultation in November 2025 and or you were suggested as one of the potential interested and affected parties by those that participated.

Attached is the draft ESIA Scoping report pack for your review as a way to confirm if all your comments or concerns are addressed:

1. ESIA Scoping Report
2. Issue and Response Report
3. Environmental and Social Management Plan
4. Terms of Reference for detail studies

We would appreciate your comments on the specific content of the reports by **Friday 20th March 2026 at 17:00.**

Once we receive your comments on the reports, the next step is to incorporate your comments into the report and submit the final report pack to the regulator (Office of Environmental Commissioner) for review.

If you have any question, please do not hesitate to contact us on the details below.

Regards,
Abraham

4 Attachments • Scanned by Gmail



Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 9, 2026,
8:09 PM

to Jochi

4 Attachments • Scanned by Gmail



oakrappmann@gmail.com

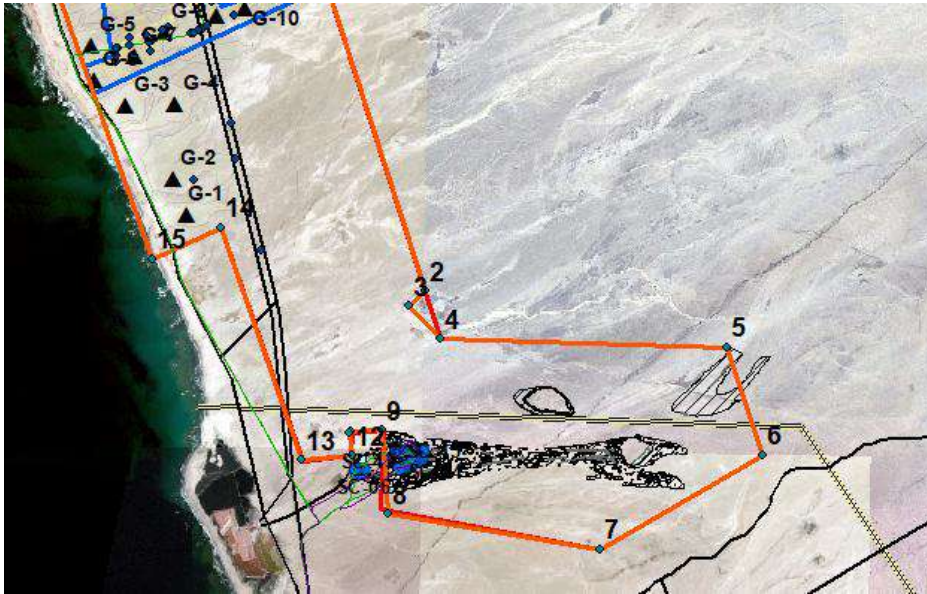
Mar 9, 2026,
9:12 PM

to wpetrick, me

Good day Abraham

Your reference to existing mineral rights, Figure17 is entirely incorrect and EPL-4185 is not shown in the actual licence extend. Please render the correct licence boundaries to depict the conflict between this project and the future calcite quarries and lime works.

Also section 6.2.1 does not regard the envisaged Swakop Calcite development for which an ECC has already been issued. I therefore suggest that a focus meeting should be held with Swakop Calcite as a key stakeholder.



A smaller issue is that temperature rendered in degree Fahrenheit is not appropriate for any project in Namibia.

Section 8.2: Steps taken to notify and invite stakeholders - was certainly inadequate as you did not bother to contact me or other representatives of Swakop Calcite

I find that insufficient information is given on the project proponent Odula Hydrogen (Pty) Ltd. Please disclose a list of directors and shareholders of this company.

Kind regards

Oliver Krappmann

Director

Swakop Calcite (Pty) Ltd

Tel +264 61 227380

Fax +264 61 225304

Mobile +264 81 2899718

email oakrappmann@gmail.com

From: Togreen ConsultingCC <togreen.consulting@gmail.com>
Sent: Monday, March 09, 2026 8:05 PM
To: Oliver Krappmann <oliver@gecko.na>; Bruce Stewart <bruce@sp.com.na>; I&APs ESIA Odula <kleindevindean@gmail.com>; Detlef Klein <saltco1@afol.com.na>; I&APs ESIA Odula <ptmoubser66@gmail.com>; Johann Otto <otto@sp.com.na>; Vorster Janine <vorsterj@namwater.com.na>; donatiusj@namwater.com.na; adam@erongo.com.na; I&APs ESIA Odula <Jochi.Blaune@walfishelectric.com>; I&APs ESIA Odula <envirofficient@gmail.com>; Abraham Haikwiyu <ahaikwiyu@swkmun.com.na>; Paulina Engelbrecht <pengelbrecht@swkmun.com.na>; I&APs ESIA Odula <enghisoono@swkmun.com.na>; Clarence McClune <cmclune@swkmun.com.na>; I&APs ESIA Odula <Anja.Kreiner@mfmr.gov.na>; I&APs ESIA Odula <latoya.shivute@mfmr.gov.na>; I&APs ESIA Odula <saskia.kisting@mfmr.gov.na>; psmit@namisun.com; wpetrick@namisun.com; 4evergreen@iway.na; desiree@realestatesnamibia.com; info@sra.com.na; aplaatjies@swkmun.com.na; I&APs ESIA Odula <info@swakoppracticalshooting.org>; I&APs ESIA Odula <reception@rent-a-drum.com.na>; I&APs ESIA Odula <steven@hmn.com.na>; I&APs ESIA Odula <info@gokartingnamibia.com>; I&APs ESIA Odula <pmu@swkmun.com.na>; Jacques Beukes <jrbeukes@swkmun.com.na>; swkmun@swkmun.com.na
Subject: Final Draft ESIA Scoping Report & ESMP: Proposed Odula Green Hydrogen, Swakopmund

Dear Interested and Affected Parties,



Bruce Stewart

Mar 10, 2026,
12:21 PM

to me

Good morning Abraham,
Thanks for your email and for your update.
I have briefly looked through your documentation and have no further comments.
Good luck with finalising your EIA/ECC.
Sincerely,
Bruce

Bruce Stewart

Town Planner

122 Sam Nujoma Avenue | First Floor, 122 On Main | PO Box 2095 Walvis Bay
Tel: (064) 280 770 | Email: bruce@sp.com.na | Website: www.sp.com.na

From: Togreen ConsultingCC <togreen.consulting@gmail.com>
Sent: 09 March 2026 20:05
To: Oliver Krappmann <oliver@gecko.na>; Bruce Stewart <bruce@sp.com.na>; I&APs ESIA Odula

<kleindevindean@gmail.com>; Detlef Klein <saltco1@afol.com.na>; I&APs ESIA Odula <ptmoubser66@gmail.com>; Johann Otto <otto@sp.com.na>; Vorster Janine <vorsterj@namwater.com.na>; donatiusj@namwater.com.na; adam@erongo.com.na; I&APs ESIA Odula <Jochi.Blaune@walfishelectric.com>; I&APs ESIA Odula <envirofficient@gmail.com>; Abraham Haikwiyu <ahaikwiyu@swkmun.com.na>; Paulina Engelbrecht <pengelbrecht@swkmun.com.na>; I&APs ESIA Odula <enghisoono@swkmun.com.na>; Clarence McClune <cmclune@swkmun.com.na>; I&APs ESIA Odula <Anja.Kreiner@mfmr.gov.na>; I&APs ESIA Odula <latoya.shivute@mfmr.gov.na>; I&APs ESIA Odula <saskia.kisting@mfmr.gov.na>; psmit@namisun.com; wpetrick@namisun.com; 4evergreen@iway.na; desiree@realestatesnamibia.com; info@sra.com.na; aplaatjies@swkmun.com.na; I&APs ESIA Odula <info@swakoppracticalshooting.org>; I&APs ESIA Odula <reception@rent-a-drum.com.na>; I&APs ESIA Odula <steven@hmn.com.na>; I&APs ESIA Odula <info@gokartingnamibia.com>; I&APs ESIA Odula <pmu@swkmun.com.na>; Jacques Beukes <jrbeukes@swkmun.com.na>; swkmun@swkmun.com.na

Subject: Final Draft ESIA Scoping Report & ESMP: Proposed Odula Green Hydrogen, Swakopmund

Dear Interested and Affected Parties,



oakrappmann@gmail.com

Mar 11, 2026,
12:29 PM (13 days
ago)

to wpetrick, me

Good day Abraham

Please acknowledge receipt of the correspondence below sent to you on Monday.

Regards

Oliver



4 Ever Green

Mar 12, 2026, 1:44 PM
(12 days ago)

to me

Thank you very much,I will study everything over the weekend.

Best regards

Ulrike (Molly) Lüdorf

4 EVER Green

P.O. Box 7437 / Swakopmund
15 Schwester Frieda Street
Molly: 081 2143507

From: Togreen ConsultingCC <togreen.consulting@gmail.com>

Sent: Monday, 9 March 2026 8:05 pm

To: Oliver Krappmann <oliver@gecko.na>; Bruce Stewart <bruce@sp.com.na>; I&APs ESIA Odula <kleindevindean@gmail.com>; Detlef Klein <saltco1@afol.com.na>; I&APs ESIA Odula <ptmoubser66@gmail.com>; Johann Otto <otto@sp.com.na>; Vorster Janine <vorsterj@namwater.com.na>; donatiusj@namwater.com.na; adam@erongo.com.na; I&APs ESIA Odula <Jochi.Blaune@walfishelectric.com>; I&APs ESIA Odula <envirofficient@gmail.com>; Abraham Haikwiyu <ahaikwiyu@swkmun.com.na>; Paulina Engelbrecht <pengelbrecht@swkmun.com.na>; I&APs ESIA Odula <enghisoono@swkmun.com.na>; Clarence McClune <cmclune@swkmun.com.na>; I&APs ESIA Odula <Anja.Kreiner@mfmr.gov.na>; I&APs ESIA Odula <latoya.shivute@mfmr.gov.na>; I&APs ESIA Odula <saskia.kisting@mfmr.gov.na>; psmit@namisun.com; wpetrick@namisun.com; 4evergreen@iway.na; desiree@realestatesnamibia.com; info@sra.com.na; aplaatjies@swkmun.com.na; I&APs ESIA Odula <info@swakoppracticalshooting.org>; I&APs ESIA Odula <reception@rent-a-drum.com.na>; I&APs ESIA Odula <steven@hmn.com.na>; I&APs ESIA Odula <info@gokartingnamibia.com>; I&APs ESIA Odula <pmu@swkmun.com.na>; Jacques Beukes <jrbeukes@swkmun.com.na>; swkmun@swkmun.com.na

Subject: Final Draft ESIA Scoping Report & ESMP: Proposed Odula Green Hydrogen, Swakopmund

Dear Interested and Affected Parties,



psmit@namisun.com

Mar 13, 2026, 10:30 AM
(11 days ago)

to Oliver, Bruce, I&APs, Detlef, I&APs, Johann, Vorster, donatiusj, adam, I&APs, I&APs, Abraham, Paulina, I&APs, Clarence, I&APs, I&APs, I&APs, wpetrick, desiree, info, aplaatjies, I&APs, I&APs, I&APs, I&APs, I&APs, Jacques, swkmun, me, 4evergreen

Dear all

We noticed that an important piece of information was omitted from the information shared by Togreen. Please see the attachment to this email.

Regards

From: Togreen ConsultingCC <togreen.consulting@gmail.com>

Sent: Monday, March 9, 2026 8:05 PM

To: Oliver Krappmann <oliver@gecko.na>; Bruce Stewart <bruce@sp.com.na>; I&APs ESIA Odula <kleindevindean@gmail.com>; Detlef Klein <saltco1@afol.com.na>; I&APs ESIA Odula <ptmoubser66@gmail.com>; Johann Otto <otto@sp.com.na>; Vorster Janine <vorsterj@namwater.com.na>; donatiusj@namwater.com.na; adam@erongo.com.na; I&APs ESIA Odula <Jochi.Blaune@walfishelectric.com>; I&APs ESIA Odula <envirofficient@gmail.com>; Abraham Haikwiyu <ahaikwiyu@swkmun.com.na>; Paulina Engelbrecht <pengelbrecht@swkmun.com.na>; I&APs ESIA Odula <enghisoono@swkmun.com.na>; Clarence McClune

<cmclune@swkmun.com.na>; I&APs ESIA Odula <Anja.Kreiner@mfmr.gov.na>; I&APs ESIA Odula <latoya.shivute@mfmr.gov.na>; I&APs ESIA Odula <saskia.kisting@mfmr.gov.na>; psmit@namisun.com; wpetrick@namisun.com; 4evergreen@iway.na; desiree@realestatesnamibia.com; info@sra.com.na; aplaatjies@swkmun.com.na; I&APs ESIA Odula <info@swakoppracticalshooting.org>; I&APs ESIA Odula <reception@rent-a-drum.com.na>; I&APs ESIA Odula <steven@hmn.com.na>; I&APs ESIA Odula <info@gokartingnamibia.com>; I&APs ESIA Odula <pmu@swkmun.com.na>; Jacques Beukes <jrbeukes@swkmun.com.na>; swkmun@swkmun.com.na

Subject: Final Draft ESIA Scoping Report & ESMP: Proposed Odula Green Hydrogen, Swakopmund

Dear Interested and Affected Parties,

One attachment • Scanned by Gmail



oakrappmann@gmail.com

Mar 16, 2026, 9:17 AM
(8 days ago)

to me, wpetrick, Bruce, I&APs, Detlef, I&APs, Johann, Vorster, donatiusj, adam, I&APs, I&APs, Abraham, Paulina, I&APs, Clarence, I&APs, I&APs, I&APs, psmit, 4evergreen, desiree, info, aplaatjies, I&APs, I&APs, I&APs, I&APs, I&APs, Jacques, swkmun

Good day Abraham

Please acknowledge receipt and respond to my correspondence below, which I sent you last Monday with comments towards the draft EIA report.

Kind regards

Oliver Krappmann

Swakop Calcite (Pty) Ltd

Tel +264 61 227380

Mobile +264 81 2899718



Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 23, 2026, 4:48 PM
(19 hours ago)

to Oliver, psmit, Bruce, I&APs, Detlef, I&APs, Johann, Vorster, donatiusj, adam, I&APs, I&APs, Abraham, Paulina, I&APs, Clarence, I&APs, I&APs, I&APs, wpetrick, 4evergreen, desiree, info, aplaatjies, I&APs, I&APs, I&APs, I&APs, I&APs, Jacques, swkmun

Dear Dr. Smit,

We took note of your current and previous observations and comments. Please note the reports which were shared now pertain to the proposed Odula Green Hydrogen project.

Reports for the proposed Oasis Crude Oil Refinery are being drafted and will be shared with stakeholders including possible additional consultations with owners of the identified plots.

Further, do you have any specific environmental and social concerns with the proposed Odula Green Hydrogen Project, which is not perhaps covered in the reports we shared?

Regards,
Abraham

On Fri, Mar 13, 2026 at 10:30 AM <psmit@namisun.com> wrote:

Dear all

We noticed that an important piece of information was omitted from the information shared by Togreen. Please see the attachment to this email.

Regards

From: Togreen ConsultingCC <togreen.consulting@gmail.com>

Sent: Monday, March 9, 2026 8:05 PM

To: Oliver Krappmann <oliver@gecko.na>; Bruce Stewart <bruce@sp.com.na>; I&APs ESIA Odula <kleindevindean@gmail.com>; Detlef Klein <saltco1@afol.com.na>; I&APs ESIA Odula <ptmoubser66@gmail.com>; Johann Otto <otto@sp.com.na>; Vorster Janine <vorsterj@namwater.com.na>; donatiusj@namwater.com.na; adam@erongo.com.na; I&APs ESIA Odula <Jochi.Blaune@walfishelectric.com>; I&APs ESIA Odula <envirofficient@gmail.com>; Abraham Haikwiyu <ahaikwiyu@swkmun.com.na>; Paulina Engelbrecht <pengelbrecht@swkmun.com.na>; I&APs ESIA Odula <enghisoono@swkmun.com.na>; Clarence McClune <cmccclune@swkmun.com.na>; I&APs ESIA Odula <Anja.Kreiner@mfmr.gov.na>; I&APs ESIA Odula <latoya.shivute@mfmr.gov.na>; I&APs ESIA Odula <saskia.kisting@mfmr.gov.na>; psmit@namisun.com; wpetrick@namisun.com; 4evergreen@iway.na; desiree@realestatesnamibia.com; info@sra.com.na; aplaatjies@swkmun.com.na; I&APs ESIA Odula <info@swakoppracticalshooting.org>; I&APs ESIA Odula <reception@rent-a-drum.com.na>; I&APs ESIA Odula <steven@hmn.com.na>; I&APs ESIA Odula <info@gokartingnamibia.com>; I&APs ESIA Odula <pmu@swkmun.com.na>; Jacques Beukes <jrbeukes@swkmun.com.na>; swkmun@swkmun.com.na

Subject: Final Draft ESIA Scoping Report & ESMP: Proposed Odula Green Hydrogen, Swakopmund

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2. Issue and Response Report
3. Environmental and Social Management Plan
4. Terms of Reference for detail studies

We would appreciate your comments on the specific content of the reports by **Friday 20th March 2026 at 17:00.**

Once we receive your comments on the reports, the next step is to incorporate your comments into the report and submit the final report pack to the regulator (Office of Environmental Commissioner) for review.

If you have any question, please do not hesitate to contact us on the details below.

Regards,
Abraham



Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 23, 2026, 5:10 PM
(19 hours ago)

to oakrappmann, wpetrick

Good day Mr. Krappmann,

Thanks for your observations and submission.

We agree that there might be a mismatch in boundary conflicts or understanding thereof, this is because the actual site area is yet to be surveyed so the actual portion for the Odula Green Hydrogen Project is allocated. The current coordinates are used as reference points for the project site as informed by the coordinates of Zone-M presented in the Swakopmund Municipality Structure Plan 2020-2040 and not the actual boundary of the project site. Thus the issue of potential boundary conflicts is recognised in the EMP so that it is managed during the actual allocation of the piece of land for Odula project out of the Zone-M area.

Other observations on the temperature units etc will be corrected in the report.

If the above explanation is not satisfactory, do you have time tomorrow 24 March 2026 on the Microsoft team call or telephone call so we can discuss your concerns fully? Please suggest the time for your availability so I can set the meeting. I am available any time between 08:00 am to 11:00 am.

Regards,
Abraham

On Mon, Mar 9, 2026 at 9:12 PM <oakrappmann@gmail.com> wrote:

Good day Abraham

Your reference to existing mineral rights, Figure17 is entirely incorrect and EPL-4185 is not shown in the actual licence extend. Please render the correct licence boundaries to depict the conflict between this project and the future calcite quarries and lime works.

Also section 6.2.1 does not regard the envisaged Swakop Calcite development for which an ECC has already been issued. I therefore suggest that a focus meeting should be held with Swakop Calcite as a key stakeholder.

A smaller issue is that temperature rendered in degree Fahrenheit is not appropriate for any project in Namibia.

Section 8.2: Steps taken to notify and invite stakeholders - was certainly inadequate as you did not bother to contact me or other representatives of Swakop Calcite

I find that insufficient information is given on the project proponent Odula Hydrogen (Pty) Ltd. Please disclose a list of directors and shareholders of this company.

Kind regards

Oliver Krappmann

Director

Swakop Calcite (Pty) Ltd

Tel +264 61 227380

Fax +264 61 225304

Mobile +264 81 2899718

email oakrappmann@gmail.com

ESIA Scoping and ESMP: Proposed Odula Green Hydrogen project, Swakopmund

Inbox



Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 9, 2026,
8:40 PM

to Detlef, Vorster, I&APs, info, reception, steven, info, Jacques, saltco12, Oliver

Dear Adjacent Land Owners / Sensitive Receptors,

You are receiving this ESIA Scoping Report pack for your review because you are identified and/ engaged as one of the adjacent land owners or potential sensitive receptor due to the

location of your activity in proximity to the proposed Odula Green Hydrogen Project site within the Zone M of Municipality Structure Plan 2020-2040.

We would like to ask for your time to review the attached ESIA Report pack for any comment or concern:

1. ESIA Scoping report
2. Issue and Response Report
3. ESMP
4. Terms of Reference for detailed studies

Comments on specific section or content of the reports or new comment about the project in general can be submitted to us by **Friday, 20th March 2026 at 17:00.**

The next step is to incorporate your comments on the report before submitting the final report to the Environmental Commissioner office for their review.

Regards,
Abraham

P.S: If you received same request from us in a different email (general stakeholders), please ignore that and respond to this email in capacity as adjacent land owners.

4 Attachments • Scanned by Gmail



Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 9, 2026,
8:53 PM

to Delinda, Clarence, Paulina, swkmun, enghisoono, Anja.Kreiner, Latoya.Shivute, Saskia.Kisting

Dear I&APs (Institutions/Authority),

You are receiving this ESIA Scoping Report pack for your review because you are identified and engaged as one of the institutions who may potentially have institutional interest in the proposed Odula Green Hydrogen Project within the Zone M of Municipality Structure Plan 2020-2040.

We would like to ask for your time to review the attached ESIA Report pack for any comment or concern:

1. ESIA Scoping report
2. Issue and Response Report
3. ESMP
4. Terms of Reference for detailed studies

Comments on specific sections or content of the reports or new comments about the project in general can be submitted to us by **Friday, 20th March 2026 at 17:00.**

The next step is to incorporate your comments on the report before submitting the final report to the Environmental Commissioner office for their review.

Regards,
Abraham

P.S: If you received the same request from us in a different email (general stakeholders), please ignore that and respond to this email in your capacity as institutions.

4 Attachments • Scanned by Gmail



Salt Company: Anria Botha

Mar 17, 2026, 3:45 PM
(7 days ago)

to me

<https://portal.mme.gov.na/page/MapPublic>

Abraham,

As discussed, please see above link for Ministry of Mines which will show you all the mining areas over Namibia.

Kind Regards

Anria Botha

(Safety & Environment)

Email: saltco12@saltco.com.na

TRADING HOURS :

Monday - Friday: 07h30 - 13h00 | 13h30 – 17h00 | **CLOSED ON PUBLIC HOLIDAYS**



TOGREEN
Environmental

Togreen ConsultingCC <togreen.consulting@gmail.com>

Mar 20, 2026, 5:20 PM

(4 days ago)

to Salt

Thank you for the information! Much appreciated.

Regards,
Abraham

Annexure CC: Attendance Registers and Meeting Minutes

Meeting Minutes: 12 November 2025 at 15:00 AM

SALT Company Pty Ltd: Head Office – Boardroom

Attendance:

- Abraham Kanime – Environmental Consultant
Togreen Consulting CC
- D. Klein – Manager
Salt Company Pty Ltd
- Representative?
Salt Company Pty Ltd

Purpose:

To brief the Management of Salt Company about the details of the proposed Odula Green Hydrogen Plant and this meeting serve as a focus group meeting as Salt Company is identified as an established land use adjacent to the proposed site, hence identified as one of the adjacent land owner.

Meeting Outcomes:

- Proposed site is likely to partly fall in the mining license ML-66E-L, hence boundary need to be verified when surveying the land.
- Proposed route for pipeline pass through the same mining license area, hence discussion related to servitude need to be held.
- New route for pipeline is suggested to avoid the boundary of ML-66E-L
- New site is suggested; however this will fall into Dorob National Park. The suggested
- Management of Salt Company also welcomes any opportunity for partnering with proponent with regards to seawater pumping to achieve shared cost and or other collaborations.

Complied by:

Abraham Kanime on 12 November 2025



.....

Signed

Meeting Minutes: 13 November 2025 at 17:00 – 18:00

Swakopmund Municipality: Head Office – Training Room

Attendance:

- Abraham Kanime – Environmental Consultant
Togreen Consulting CC
- J. Vorster (affected party)
Namwater Operations
- J. Donatius (affected party)
Namwater Maintenance
- Adam Hartman (Interested Party)
Media NMH (Erongo)
- Jochi Braune (Interested)
Walfish Electric
- Nikolas Ndeikoghola (Interested party)
Environmental Consultant
- Abraham Haikuyu (Interested party)
Swakopmund Municipality Training and Development
- Asteria Shaumbwako – Consultant

Purpose:

This represents the general public meeting to brief the public about the proposed Odula Green Hydrogen Plant with a proposed site within municipal light industrial area of Swakopmund. Further to present the ESIA process including public consultation process being followed and to record any concerns or comments about the proposed project and provide clarification or responses to specific questions.

Meeting Outcomes:

- Consider cumulative impact as there is plan (as understood) to construct a second pipeline for the new desalination plant
- Consider alternative site e.g. Mile 4 as the proposed project site is very close to Swakopmund properties. This is in the context that hydrogen and oxygen gases are very volatile – dangerous reactions and also for the public news that there is green hydrogen plant planned which is even closer!
- Consider safe distance from the current and future Namwater bulk pipelines
- Stakeholders also wanted to know who is the owner of the proposed project

Complied by:

Abraham Kanime on 13 November 2025



.....

Signed

Meeting Minutes: 14 November 2025 at 10:00 AM

Swakopmund Municipality: Head Office – Boardroom for engineering and planning

Attendance:

- Abraham Kanime – Environmental Consultant
Togreen Consulting CC
- P. Engelbrecht
Swakopmund Municipality
- E. Nghisoono
Swakopmund Municipality
- C. McClune – GM: EPS
Swakopmund Municipality

Purpose:

To brief the Management of Swakopmund Municipality (Office of the CEO) about the proposed Odula Green Hydrogen Plant with a site within municipal light industrial area and this meeting serves as a focus group meeting with regards to municipal infrastructure near the proposed site. But also serves as a meeting to brief the municipal management representatives on the progress of the EIA process.

Meeting Outcomes:

- Development is welcomed, it must also bring in an element of social corporate responsibility e.g. collaboration with local authority to upgrade local skills; surplus from proposed desalination (if any) be pumped (donated) to municipality
- Concern on the pressure on municipal service due to increased population, consider a condition for local employment (avoid poaching employees from other companies e.g. mines)
- There is a second or even the first proposed green hydrogen plant which is also in the pipeline (being planned) which will also require a desalination plant and related seawater pipeline.

Suggestion: consider cumulative impact and reduce this by utilizing the concept of “pump together” and keep the pipeline on one route to the sea instead of multiple pipelines.

- If the current servitude of the C34 road is to be used for the construction of seawater pipeline engage the road authority to understand the future expansion of this road, but high chances that it will not expand at least in near future.
- Consider both underground and above ground option in the assessment for the seawater pipeline. Above ground-pipeline has a potential to also serve as a safety buffer for deter illegal movement or establishment
-

Complied by:

Abraham Kanime on 14 November 2025



.....

Signed

Meeting Minutes: 14 November 2025 at 14:15

National Marine Information and Research Centre (NatMIRC) – Ministry of Agriculture, Fisheries, Water and Land Reform: Boardroom for Pelagic Sub-Division

Attendance:

- Abraham Kanime – Environmental Consultant
Togreen Consulting CC
- A. Kreiner – Fisheries Scientist
NatMIRC – MAFWLR
- L. Shivute – Fisheries Scientist
NatMIRC – MAFWLR
- S. Kisting – Fisheries Scientist
NatMIRC - MAFWLR
- C. Barthomeus – Fisheries Scientist
NatMIRC - MAFWLR

Purpose:

To brief the fisheries scientists about the proposed Odula green hydrogen project and in particular consult them with regards to potential ecological issues associated with pumping seawater.

Meeting Outcomes:

- No concern with seawater quantity
- Question for interest: are they allowed to put up independent power such as solar farm within the municipal area based on the common knowledge that users such as residential houses not allowed to put up own solar for their houses??
- Consider impacts on the project from external environmental conditions such as Sulphur eruption and impact on seawater quality required
- Consider study on the potential impacts of seawater abstraction activities on the coastal ecology e.g. kelp plants, mollusk

Complied by: Abraham Kanime on 14 November 2025



Annexure DD: Proof of Newspaper Advertisements, Site Notices, and Social Media –

Community Whatsapp Group

Newspaper advert in the three-affiliated newspapers on 05 November 2025

Wednesday 5 November 2025

Republikein

Jou land. Jou mense. Jou nuus.

Sensasionele Gullmer Horn (15) wys 300 in T20 is moontlik

» Twyfel hang oor ekonomiese herstel

NNN wil nou nóg taakmagte aanstel

Laerskool Walvisbaai, onderwysministerie skik

Stolz über gesäubertes Owela-Gelände

Phosphorgerde der ersten Industriepavillon - September 2025

Der AZ-Wochenblender 2026

MITWOCHE 5. NOVEMBER 2025

AZ Allgemeine Zeitung

SEITE 16 (10. JAHRESNUMMER)

Pro Umwelt
People's Climate Movement
Die grüne Bewegung in Deutschland

Stimmzettel
Über 1,1 Millionen Wähler
für die Regional- und
Landtagswahlen in
Deutschland

Wechselbad
Aber 1,1 Milliarden Wähler
für die Regional- und
Landtagswahlen in
Deutschland

Das Wetter
Mittwoch: 14 bis 17 Grad
Donnerstag: 15 bis 18 Grad
Freitag: 16 bis 19 Grad

Desolat in Gefängnissen

Mangelnde gesundheitliche Versorgung und Überfüllung

Mehr Importe aber Handelsdefizit schrumpft

Verfall des Industriestandorts

Überholung und der Ausbau des Bahnsystems

Stolz über gesäubertes Owela-Gelände

Phosphorgerde der ersten Industriepavillon - September 2025

Der AZ-Wochenblender 2026

TODAY! OVER 1 MILLION INVESTED IN KAWANGO EAST STREET LIGHTS - #4

SUN

Then accused of killing grandparents over witchcraft claim


ECN secures 2,7m ballots at N\$4,9m ahead of polls

Lichtenstrasser - hated, adored and never ignored

The untold story of Maxillius' BODYGUARD

The man officially recognized as a veteran of Namibia's liberation struggle was buried on Saturday

Der AZ-Wochenblender 2026


 REPUBLIC OF NAMIBIA
**MINISTRY OF HOME AFFAIRS, IMMIGRATION,
 SAFETY & SECURITY**
EXPRESSION OF INTEREST (EOI)
APPOINTMENT OF INDEPENDENT AUDIT AND RISK COMMITTEE

The Ministry of Home Affairs, Immigration, Safety and Security is seeking expression of interest from suitably qualified and experienced Namibians, to serve as members of the Ministry Audit and Risk Committee (ARC) for three (3) years term from the date of appointment.

The Audit and Risk Committee (ARC) is an independent Advisory Committee to be established in accordance with the Public Sector Internal Audit Policy. The primary objective of the ARC is to provide independent oversight, assurance, and assistance to the Ministry in the effective conduct of its responsibilities over the governance, risk management, control environment and overseeing the internal audit function.

Qualifications

- Bachelor's Degree or equivalent qualification on NQF L7 in the following fields: Auditing, Accounting, Finance, Law, Risk Management, Information systems Audits.
- Professional qualifications or Certifications in the above or related fields will be an added advantage.

Required skills, knowledge and experience.

- Strong understanding of financial reporting, risk management, internal controls, corporate governance, information systems and public sector management.
- High level of personal integrity, ethics and communication skills.
- Understanding the roles of internal and external audit.
- Experience in serving on Audit and Risk Committees will be an added advantage.

Independence: Applicant must be external to and independent of the Ministry to ensure impartial oversight.

Compensation: Compensation will be as per approved Revised Payment Structure for Audit Committees.

Eligible persons should forward their applications accompanied by a comprehensive Curriculum Vitae, certified copies of Identity Documents and qualifications, foreign qualifications must be accompanied by proof of evaluation from Namibia Qualifications authority (NQA).

Enquiries:
 (Ms. Lahya N. Shuungula, Lahya.Shuungula@mha.gov.na
 Tel: +264 819510754/264 811602779)

Ms. Martha N. Shilongo Martha.Shilongo@mha.gov.na Tel: +264819510116

EXPRESSION OF INTEREST IN A SEALED ENVELOPE SHOULD BE ADDRESSED TO:

POSTAL ADDRESS	HAND DELIVERED
Executive Director	Human Resources

PUBLIC NOTICE

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED ODULA GREEN HYDROGEN AND OXYGEN PROJECT, SWAKOPMUND, ERONGO REGION

Notice is hereby given to all Interested and Affected Parties (I&APs) that an application for Environmental Clearance Certificate (ECC) for the above proposed project (REF: APP-006521) will be submitted to the Environmental Commissioner in accordance with the provisions of Environmental Management Act (7 of 2007) and its Regulations of 2012.

Proponent: Odula Hydrogen (Pty) Ltd
Project Location: Swakopmund Municipal Area (Light Industrial Zone)

Project Description: Production of compressed hydrogen (H2) and Oxygen (O2) directly from seawater using alkaline electrolysis method and to be powered by renewable energy. The project also comprises of a reverse-osmosis (RO) desalination plant for purification of service and portable water. Other products include Ammonia, Urea and Hydrogen Fuel Cells.

Togreen Consulting CC as appointed Environmental Assessment Practitioner hereby invites all Interested and Affected Parties (I&APs) to public meeting on **Thursday, 13 November 2025 (17:00 - 18:00)**, Swakopmund Municipality Head-Office (cnr Rakotoka St. & Daniel Kamho Av.).

Registration and comments should be submitted to below contact details before **20 November 2025**:

Togreen Consulting CC
 Cell: +264 81 854 4510
 Email: togreen.consulting@gmail.com



PUBLIC NOTICE

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED OASIS CRUDE OIL REFINERY PROJECT, SWAKOPMUND, ERONGO REGION

Notice is hereby given to all Interested and Affected Parties (I&APs) that an application for Environmental Clearance Certificate (ECC) for the above proposed project (REF: APP-006544) will be submitted to the Environmental Commissioner in accordance with the provisions of Environmental Management Act (7 of 2007) and its Regulations of 2012.


Proponent: Oasis Oil Refinery (Pty) Ltd
Project Location: Swakopmund Municipal Area (Heavy Industrial Zone)

Project Description: processing (refining) of crude oil (both imported and potential future local sources) to produce several petroleum products including diesel, gasoline/petrol, jet-fuel, bitumen and lubricants, with overall production capacity of 600,000 to 1,000,000 barrels per day.

Togreen Consulting CC as appointed Environmental Assessment Practitioner hereby invites all Interested and Affected Parties (I&APs) to public meeting on **Thursday, 13 November 2025 (18:00 - 19:00)**, Swakopmund Municipality Head-Office (cnr Rakotoka St. & Daniel Kamho Av.).

Registration and comments should be submitted to below contact details before **20 November 2025**:

Togreen Consulting CC
 Cell: +264 81 854 4510
 Email: togreen.consulting@gmail.com




Newspaper advert in the three-affiliated newspapers on 11 November 2025

Dinsdag 11 November 2025

Republikein

Jou land. Jou mense. Jou nuus.



Nuwe blafgetjilje-spesies in Namibie ontdek
 Dr. Francois Becker

Die Nieuwreger-afdeling van die Namibiese Wetenskaplike Akademie (NWA) het 'n nuwe spesie van blafgetjilje (Carpodacus) ontdek. Die spesie is vernoem na die bekende natuurkundige en natuurleerling, Dr. Francois Becker. Die spesie is ontdek in die Kaoko-gebied van Namibie. Die spesie is 'n nuwe spesie van blafgetjilje, wat 'n unieke kleurpatroon het. Die spesie is ontdek deur 'n span van wetenskaplikes van die NWA. Die spesie is vernoem na die bekende natuurkundige en natuurleerling, Dr. Francois Becker. Die spesie is ontdek in die Kaoko-gebied van Namibie.

Minister bevraagteken wettigheid van sloerstaking

'Die regstelsel is op die spel'

Die Minister van Justisie, Dr. Theo Diederichs, is bevraag deur die parlement oor die wettigheid van 'n sloerstaking deur die regering. Die Minister het geantwoord dat die regering die wettigheid van die staking betoek. Die Minister het ook gesê dat die regstelsel op die spel is. Die Minister het gesê dat die regering die wettigheid van die staking betoek. Die Minister het ook gesê dat die regstelsel op die spel is.

Wyle oorlogsveteraan se gestremde dogter dakloos ná storm

Die dogter van 'n wyle oorlogsveteraan is dakloos gelaat ná 'n storm. Die dogter is gestremd en het geen plek om te woon nie. Die dogter is 'n vrou van 35 jaar oud. Die dogter is 'n vrou van 35 jaar oud. Die dogter is 'n vrou van 35 jaar oud. Die dogter is 'n vrou van 35 jaar oud.

Dinsdag 11 November 2025

AZ Allgemeine Zeitung

AKTUELL MITTENDRIN FÜR SICH

Jugend
 Über den richtigen Umgang mit Social Media

Korruption
 Die Rolle der Medien bei der Bekämpfung von Korruption

Trainer gesucht
 Die Suche nach dem besten Trainer für die deutsche Fußballnationalmannschaft

Das Wetter
 Die Wettervorhersage für die nächsten Tage

Große Solaranlage in Ostafrika-Region

MEFT lädt zur Konsultation über Nationalparks ein

Stromlast bei Green Schemes
 Regierung und ECB planen Reformen und besseres Lastmanagement

Die Solaranlage in Ostafrika-Region
 Eine große Solaranlage wird in der Ostafrika-Region gebaut. Die Anlage wird die Energieversorgung der Region verbessern. Die Anlage wird die Energieversorgung der Region verbessern.

MEFT lädt zur Konsultation über Nationalparks ein
 Die MEFT lädt die Öffentlichkeit zur Konsultation über die Einrichtung von Nationalparks ein. Die Konsultation wird in den nächsten Wochen stattfinden. Die Konsultation wird in den nächsten Wochen stattfinden.

Stromlast bei Green Schemes
 Die Regierung und die ECB planen Reformen und besseres Lastmanagement für Green Schemes. Die Reformen werden die Stromlast reduzieren und das Lastmanagement verbessern. Die Reformen werden die Stromlast reduzieren und das Lastmanagement verbessern.

TODAY | YOUNG VOTERS COULD SHAPE 2025 ELECTIONS • P3

Tells it all

Sun

Nearly 3000 seal penises and 25 horses stolen in Erongo

Court orders N\$1 million payout to mother injured during childbirth

Stake could cost Namibia nearly \$1 billion

Cabinet agrees to De Beers equity acquisition

The deal would make Namibia co-owners of diamond reserves in Botswana, Angola and Canada.

Green-to-governance cooperation

De Beers Group

De Beers Group
 De Beers Group is a leading diamond producer and retailer. The group is looking for new opportunities to expand its operations. De Beers Group is a leading diamond producer and retailer. The group is looking for new opportunities to expand its operations.

Green-to-governance cooperation
 The government and De Beers Group are exploring opportunities for green-to-governance cooperation. This cooperation could help to improve the environment and create jobs. The government and De Beers Group are exploring opportunities for green-to-governance cooperation. This cooperation could help to improve the environment and create jobs.

"The Warrior Princess" A Book of Transformation, Healing and Purpose

Sandi Brown

A powerful voice of resilience, restoration, and divine purpose rang out in Swakopmund this past Saturday as Dioline Cherrish, affectionately known as Dio-Che, launched her highly anticipated second book, *From Pauper to Warrior Princess: Predestined with Great Purpose*. The book is a deeply personal chronicle of Dio-Che's journey through trauma, brokenness, and eventual transformation. More than just a memoir, it is a spiritual roadmap and interactive guide designed to ignite healing, reflection, and purpose in its readers. In *From Pauper to Warrior Princess*, Dio-Che opens her heart and history, chronicling her rise from deep personal despair to a life of meaning and calling. "It's about the message that no matter what you go through, there is purpose in it," she says. "If you just take the lead." Through poetry, spoken word, evocative artwork, and soul-sear-



Dioline Cherrish, the author of *From Pauper to Warrior Princess: Predestined with Great Purpose*

ing reflections, the book invites readers into an experience that is equal parts confessional and communal. Each chapter ends with a space for personal reflection, encouraging readers to actively participate in their own healing journey. "I write because my scars address both body and soul. Her professional and spiritual vocations intersect in the *Warrior Princess*, where inner healing and self-love are given just as much emphasis as spiritual awakening. Her story is marked not just by survival, but by divine redirection and empowerment.



Through rooted in her own lived experiences, Dio-Che emphasizes that the book is not just about her. "This story is not solely about the girl behind the pen," she explains. "It's about how every twist in the journey was divinely orchestrated, not just for my healing, but as a weapon of deliverance in the hands of God." *From Pauper to Warrior Princess* carries a universal message. It's a clarion call to all, women and men, young and old, inviting them to believe in the power of transformation, no matter how dark the beginning may have been. Launched with grace and purpose, *The War-*

NOTICE OF THE CONSENT APPLICATION IN TERMS OF THE WALVIS BAY TOWN PLANNING SCHEME

CONSENT: Accommodation Establishment Air B&B ON REF NO: 231 Unit 19 TOWNSHIP/AREA: Langstrand STREET NAME & NO: 14 Kinshel Street.

In terms of the Walvis Bay Town Planning Scheme, notice is hereby given that I/we, the undersigned, have applied to the Walvis Bay Municipality for permission to erect/walbuild on the site a/an: Air B & B.

Plans may be inspected or particulars of this application may be obtained at Town Planning, First Floor, Rooms 101 & 105, Civic Centre.

Any person having any objection to the approval of this application, must lodge such objection, together with grounds thereof, with the General Manager: Roads and Building Control, (Town Planning), Private Bag 5017, Walvis Bay and the applicant, in writing, not later than 21 November 2025.

NAME AND ADDRESS OF APPLICANT: Gonteb Abel Nxum, P O Box 49451, Aunpampaplatz, Windhoek

Namibia's Mid-Year Budget Review Signals Deeper Fiscal Concerns

Elaine van der Schyf

Investment analyst Kara van den Heever from Momentum Investments says that while Namibia's 2025 Mid-Year Budget Review paints a picture of calm and stability, the underlying numbers tell a more sobering story. "At first glance, it reads like a story of calm seas and steady hands," Van den Heever noted.

"Revenue forecasts are holding firm, spending remains within budget, and the rebuffering of funds between departments has been contained. On paper, it looks optimistic." However, she cautioned that beneath the surface, warning signs are emerging. Namibia's GDP growth forecast has been revised downward, from 4.5% to 3.3%, a shift that may seem small, but carries serious implications. "Slower growth means less money flowing into state coffers and increasing pressure on central bank reserves," she explained. "Revenue collection is at its weakest point in a decade, with an execution rate of just 39.6%, compared to the 10-year average of nearly 50%."

According to Van den Heever, the government is seeking new ways to bridge the gap, including proposals for a sugar tax, dividend tax, and stricter tax enforcement. While these may help in the short term, she believes they are not lasting solutions. "Right now, Namibia's revenue performance leans heavily on global demand for gold and uranium," she said. "These are driven by international uncertainty, not by domestic strength. Commodity booms are temporary — they come and go — and they're not a solid base for long-term fiscal planning." Van den Heever emphasized that what Namibia truly needs is



mainly on bond issuance, instead using state guarantees to support commercially viable state-owned enterprises (SOEs). While she sees the logic in diversifying funding sources, she urged caution. "We've walked this path before, Air Namibia serves as a clear reminder," she said. "Without strong governance and realistic planning, these interventions can offer short-term relief without solving long-term structural issues." In closing, Van den Heever said the Mid-Year Budget Review sends a clear message: optimism is welcome, but realism is overdue. "With revenues slipping and expenditures quietly creeping upward, debt will continue to rise," she warned. "We're not heading for an immediate crisis, but the storm clouds are gathering again. It's time to steady the ship before the next wave hits."

Visit our website @ www.namibtimes.net



PUBLIC NOTICE
ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED SOULA GREEN HYDROGEN AND OXYGEN PROJECT, SWAKOPMUND, ERONGO REGION

Notice is hereby given to all Interested and Affected Parties (I&APs) that an application for Environmental Clearance Certificate (ECC) for the above proposed project (REP: APP-006521) will be submitted to the Environmental Commissioner in accordance with the provisions of Environmental Management Act (7 of 2007) and its Regulations of 2012.

Proponent: Odula Hydrogen (Pty) Ltd
 Project Location: Swakopmund Municipal Area (Light Industrial Zone)
 Project Description: Production of compressed hydrogen (H₂) and Oxygen (O₂) directly from seawater using alkaline electrolysis method and to be powered by renewable energy. The project also comprises of reverse-osmosis (RO) desalination plant for purification of service and potable water. Other products include Ammonia, Urea and hydrogen-Pur Gas.

Togreen Consulting CC as appointed Environmental Assessment Practitioner hereby invites all Interested and Affected Parties (I&APs) to public meeting on Thursday 13 November 2025 (17:00 – 18:00), Swakopmund Municipality Head-Office (c/o Rakotse Street & Daniel Kammho Avenue).

Registration and comments should be submitted to the below contact details before 20 November 2025.
 Togreen Consulting CC
 Cell: +264 81 854 4510
 Email: togreen.consulting@gmail.com

PUBLIC NOTICE
ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED OASIS CRUDE OIL REFINERY PROJECT, SWAKOPMUND, ERONGO REGION

Notice is hereby given to all Interested and Affected Parties (I&APs) that an application for Environmental Clearance Certificate (ECC) for the above proposed project (REP: APP-006544) will be submitted to the Environmental Commissioner in accordance with the provisions of Environmental Management Act (7 of 2007) and its Regulations of 2012.

Proponent: Oasis Oil Refinery (Pty) Ltd
 Project Location: Swakopmund Municipal Area (Heavy Industrial Zone)
 Project Description: processing (refining) of crude oil (both imported and potential future local sources) to produce several petroleum products including diesel, gasoline, petrol, jet-fuel, bitumen and lubricants, with overall production capacity of 600,000 to 1,000,000 barrels per day.

Togreen Consulting CC as appointed Environmental Assessment Practitioner hereby invites all Interested and Affected Parties (I&APs) to public meeting on Thursday, 13 November 2025 (18:00 – 19:00), Swakopmund Municipality Head-Office (c/o Rakotse Street & Daniel Kammho Avenue).

Registration and comments should be submitted to the below contact details before 20 November 2025.
 Togreen Consulting CC
 Cell: +264 81 854 4510
 Email: togreen.consulting@gmail.com

Strides for Food

Tuteleni Primary School principal, Neville Visagie, successfully completed a 35-kilometre walk from Swakopmund to Walvis Bay to raise funds for the school's soup kitchen and feeding scheme.

The initiative, themed "Walking for Purpose," aims to upgrade the school's kitchen facilities, construct a dining hall, and enhance the feeding programme to provide more nutritious meals for learners. Tuteleni Primary School is Kuisebmond currently serves around 1 600 learners, of whom more than 600 benefit from the school's feeding scheme.

Visagie began his journey early this morning and arrived at the school about an hour ago, where he was welcomed with cheers, applause, and song from staff, learners, and community members. "This walk is not just about raising funds; it's about raising awareness," said Visagie. "No child should have to go through a school day hungry. We want to give every learner the energy and focus they need to succeed."

As part of the broader fundraising campaign, the school also hosted a braai event to rally additional community support. So far, the initiative has raised N\$20 000 through parent contributions, with each family donating N\$20 per learner. Funds collected will go towards revamping the soup kitchen, improving facilities, and upgrading the menu to ensure that all learners receive healthy, balanced meals each day. Visagie's initiative has drawn widespread praise across the Erongo Region, with many hailing it as a shining example of community-driven action to combat hunger and support education.



Neville Visagie, the principal of Tuteleni Primary School in Kuisebmond, Walvis Bay.

NOTICES

PUBLIC NOTICE

Endavour Fishing (Namibia) (Pty) Ltd hereby gives notice of its intention to utilize the premises situated at Erf 2876, Mile 4, Ocean View, Swakopmund, as contact and administrative offices.

Any person having any objections or comments to the proposed use of land may lodge such objection or comment in writing with the Municipal Council of Swakopmund and with the Applicant, within fourteen (14) days after the publication of this notice.

The premises may be inspected at any unannounced time upon request.

Applicant Contact Details:
Endavour Fishing (Namibia) (Pty) Ltd
 Tel: +27 82 922 2190
 Email: vandenvalden@epfng.com

PUBLIC NOTICE

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED ODULA GREEN HYDROGEN AND OXYGEN PROJECT, SWAKOPMUND, ERONGO REGION

Notice is hereby given of all interested and affected Parties (I&APs) that an application for Endavour's Odula Green Certificate (ODG) for the above proposed project (ODG-APP 002/25) will be submitted to the Environmental Commissioner in accordance with the provisions of Government's Management of Environmental Impacts Regulations 2012.

Project Name: ODG Hydrogen (Pty) Ltd
Project Location: Swakopmund, Namibia (near Light Industrial Zone)
Project Description: Production of compressed hydrogen (H₂) and oxygen (O₂) directly from seawater using alkaline electrolysis and is powered by renewable energy. The project is a complex of a reverse osmosis (RO) desalination plant for production of salt water and potable water. Other products include Ammonia (NH₃) and Hydrogen Fuel Cell (H₂).

Tagwan Consulting CC is appointed EIA consultant. Facilities whereby public consultation or stakeholder engagement, including or through to November 17, 2025, 18:00, Swakopmund Municipality House 01 to (at) Revalber Street, 01 Dorp (Namibia) 08140.

Representations and comments should be submitted to the below contact details before 30 November 2025.
 Regional Council Office
 Ca 1 - 264 81 851 4610
 Email: region@erongo.gov.na

NOTICE

CONSENT USES, ERECTION OF BUILDINGS AND USE OF LAND IN TERMS OF THE SWAKOPMUND ZONING SCHEME

Cerrie Lorck Celamkos herewith intends to apply to the Swakopmund Municipal Council for the "Resident Occupation Special Consent", to operate a "Small Scale Pottery Studio" on the premises of Erf 5673, Swakopmund Extension 18 (19 Tuteleni Street) as provided for in terms of Clause 6 of the Swakopmund Zoning Scheme Details of which are obtainable from the General Manager Engineering & Planning Services.

Any person having any objection against such application should lodge such objections in writing and within 14 days of the last publication to the applicant or the Swakopmund Municipality, during normal business hours.

Closing date for objections or comments: **21st November 2025**

Contact Person:
 Mrs. C. Lorck, Cell: 081 298 7274, email: lorckc@erongo.gov.na
 or
 Mr. J. Hada (Manager: Town Planning) Tel: +264 84 4 104 403
 Email: Jhoda@swakopmund.com.na

MUNICIPALITY OF SWAKOPMUND

RENEWAL OF LEASE PERIOD FOR A PORTION OF THE PAVEMENT SIDEWALK LOCATED ADJACENT TO ERF 2146, SWAKOPMUND

Notice is hereby given in terms of the provisions of Section 62 (2) of the Local Authorities Act 42:23 of 1992, as amended, that the Municipal Council of Swakopmund intends to renew the lease agreement of Johannes Louwrens Twyler Six CC as being an 80 (80) to continue to utilize a portion of the said sidewalk measuring 4,94 m located in front of Erf 2146, Swakopmund for the operation of open air cafe for a further period of 5 years.

Objections

All interested and affected parties in the matter will be invited to lodge their objections at the Main Municipal Office Building, Room 801, 225, between 07:30 - 16:30 weekdays until **Friday 14 November 2025**.

Contact person:
 Ms Margaret Shekema 081 4104213

Any person opposing to the proposed lease may lodge such objections in writing, duly motivated, to the Chief Executive Officer, not later than 12:00 on **Tuesday, 14 November 2025**.

Note that any objection via email will be considered. The objection must be made by a hard copy to the office of the Chief Executive Officer and reaching a return postal address with telephone number:

Room 801 225 Ms Margaret Shekema 081 4104213

Notice No: 7/2025

Alfred Bergman Chief Executive Officer

SWAKOPMUND MUNICIPALITY

RENEWED SALE OF A PORTION OF ERF 2823, EXTENSION 28, SWAKOPMUND FOR THE ESTABLISHMENT OF DESIGNATED SPORTS AND FOOTBALL FACILITIES

Notice is hereby given in terms of the provisions of Section 62 (2) of the Local Authorities Act 42:23 of 1992, as amended, that the Municipal Council of Swakopmund intends to sell a portion of erf 2823 of 10 400 m² (25,99 ares) located within "Residential use" zone. The applicant may 2 000 m² hectares at a purchase price of N\$20 000 000.00. The sale will be held on the establishment of approved football facilities.

The application of the above transaction will be for a portion of the Municipal Office situated at the corner of Revalber Street, Swakopmund, 01's 001 25 (at) Stage 02, between the ground floor, between 07:30 - 16:30 weekdays until **Friday, 14 November 2025**.

Any person opposing to the proposed sale may lodge such objections in writing, duly motivated, to the Chief Executive Officer, not later than 12:00 on **Tuesday, 18 November 2025**.

Please take note that 50% of all bids will be accepted. Copies must be made by enclosing a bank copy to the office of the Chief Executive Officer and by using a return postal address with telephone number:

Room 801 Ms Margaret Shekema 081 4104213

Notice No: 7/2025

Alfred Bergman Chief Executive Officer

NOTICE IN TERMS OF URBAN AND REGIONAL PLANNING ACT, 2018.

There have been due to the Urban and Regional Planning Act, 2018, the following notices to apply, in order of registration, to the Municipal Council of Swakopmund and the Urban and Regional Planning Board for consideration and decision:

Erf 2953 Swakopmund Extension 26 corner of Andriëtte, Tshisa Ya Tshisa and Bernard Kooze-Banawa Streets, Erongo Region, Swakopmund II with a density of 1:5000 to General Residential use with a density of 1:10000.

Consent is proposed with development while the planning is ongoing.

Interested parties are invited to lodge their objections at the Municipal Council Office, 225, between 07:30 and 16:30 weekdays until **Friday, 14 November 2025**.

Take note that:
 The Urban and Regional Planning Board is open for consultation to the Urban Planning Department of the Municipality of Swakopmund, corner of Revalber and Dorp Street, Swakopmund. An electronic copy can be requested from Ms. Margo Mberika, mberikam@swakopmund.com.na.

On a second meeting offered per the Urban and Regional Planning and Council that would be considered, representations, objections and comments to the planning application, together with the grounds thereof, should be submitted to the Chief Executive Officer of the Municipality of Swakopmund and to the Urban Planning Board 14 days after the publication of this notice.

For further information, please contact the following:

APPL NO: 2025/001	CONTACT: Ms MARGO MBERIKA
DATE OF NOTICE: 07/11/2025	CONTACT: Ms MARGO MBERIKA
DATE OF DECISION: 14/11/2025	CONTACT: Ms MARGO MBERIKA
DATE OF APPEAL: 21/11/2025	CONTACT: Ms MARGO MBERIKA

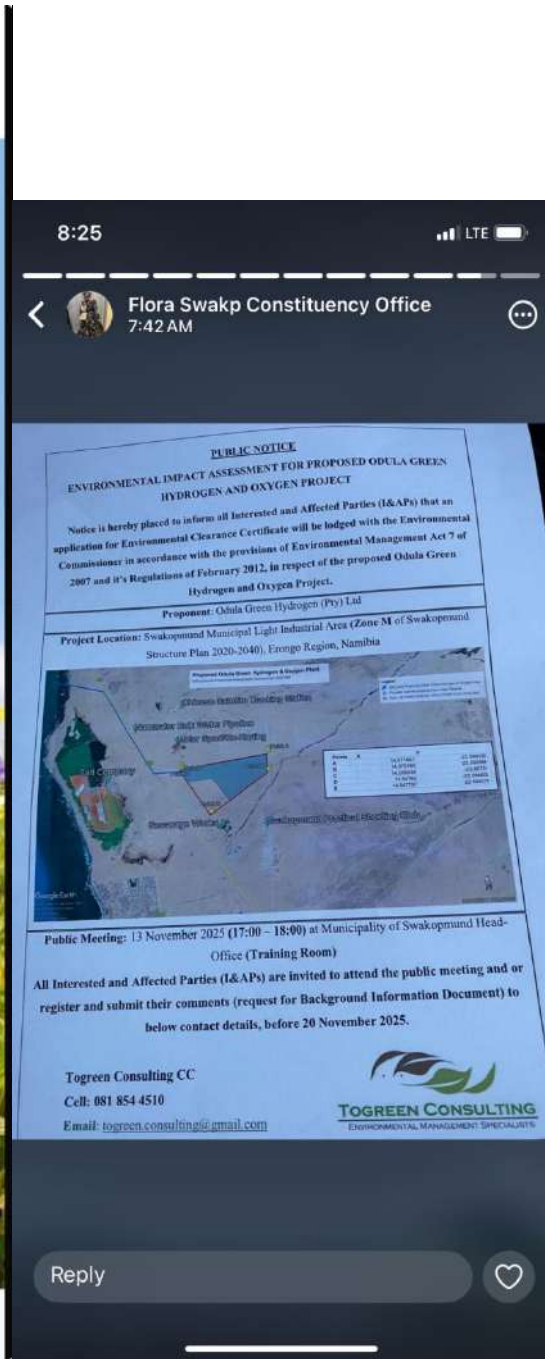
Public Notice Boards: Swakopmund Constituency Office and Food Lover Market



Public Notice at the proposed site



Supplementary Public Notice placed on social Media: Swakopmund Community WhatsApp Group



Annexure EE: Presentation slides for stakeholder engagement

ANNEXURE EE



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)



PROPOSED ODULA GREEN HYDROGEN & OXYGEN PROJECT
SWAKOPMUND MUNICIPAL AREA



OUTLINE

- Environmental Assessment Practitioner
- Project Description and EIA Requirements
- EIA Process
- Why Public Consultation?
- Assessment Criteria
- Impacts Identification and Assessment (High-level)
- Conclusion and Next Steps
- Discussions

TOGREEN CONSULTING CC

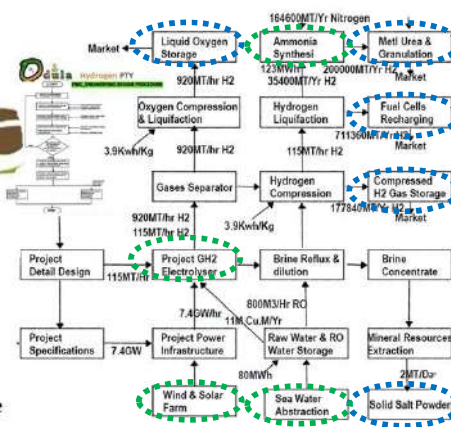
Profile	Project Team & Area of Expertise
<ul style="list-style-type: none"> Namibian registered CC (Reg.No.CC/2015/14230) Provide wide-range of environmental consultancy services: EIAs, EMPs, Waste Management, other Enviro Permitting etc. Appointed as Environmental Assessment Practitioner 	<ul style="list-style-type: none"> Mr. A. Kanime (EAP/Lead Consultant) – M.Eng. in Environmental Engineering, BSc in Natural Resources (Fisheries & Aquatic sciences); Experience in Namibian Enviro & Nat. Res. Management including EIA process coordination, Compliance, Waste Management and Pollution Control. Dr. P. Kainge (Impacts of seawater abstraction) – Season marine scientist with PhD in Marine Science and Fisheries Management. Mr. L. Bengela (Impacts on public and occupational health & safety) – Certified Health and Safety Assessor & Moderator (SADI, NTA, SAMTRAC with NOSA and AIA) Dr. D. Nakwaya-Jacobus (EIA process analyst) – Her PhD is based on several published scientific papers on performance, procedural effectiveness, governance quality of Namibia's Environmental Impact Assessment system.

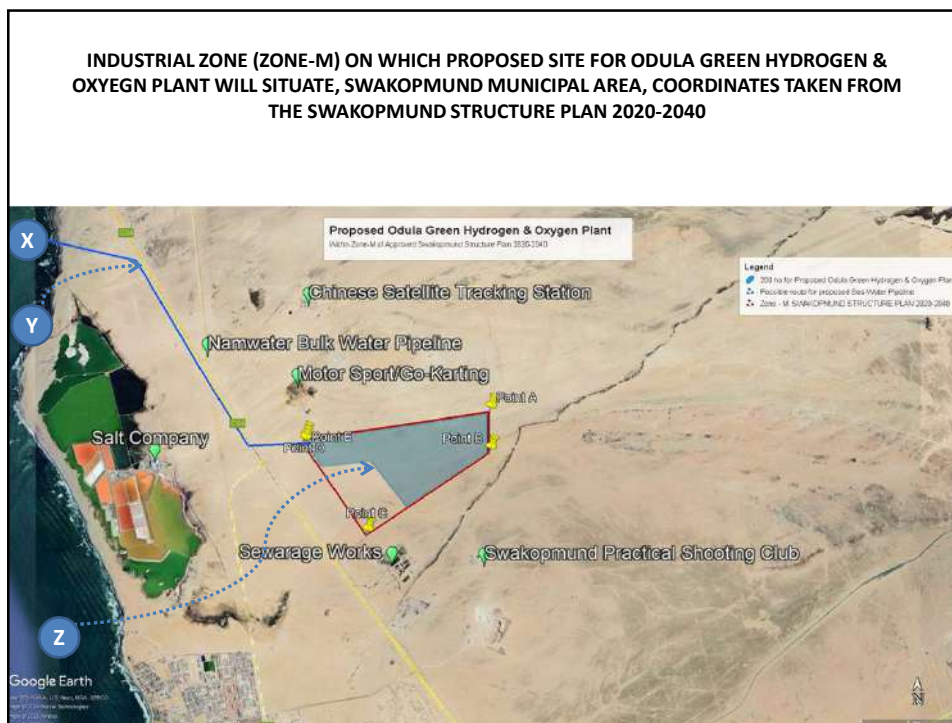
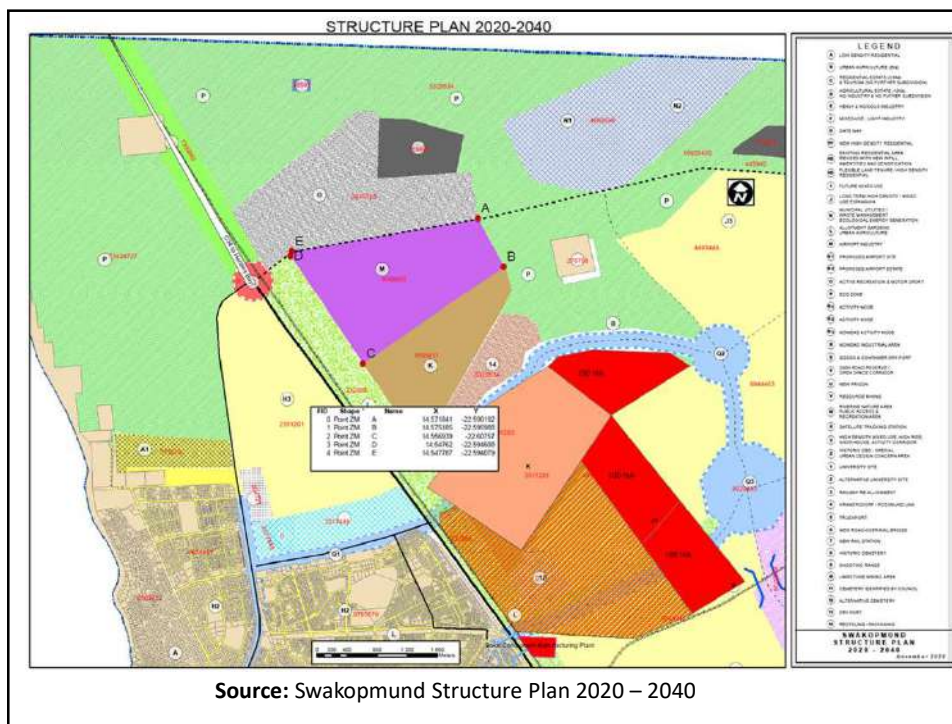
Project Description and Location

Background

- Common knowledge that Impacts of Climate Change are being felt world-wide.
- Global effort to curb effect of climate change through both mitigation and adaptation.
- Namibia is not left behind in this journey.
- Namibia National Green Hydrogen Strategy 2022 with 2040 vision of over 300,000 tons annual production.
- Namibia needs about N\$260 billions to implement her commitments on climate change action (only 10% - Nat. Budget).

Project Process Flow: Odula GHOP





EIA Process

EIA Requirements & Basic Steps

- Requirement for approval of land purchase
- Listed Activities under Environmental Management Act 7 of 2007 & EMA Regulations of February 2012
- Listed activities means activity with potential to harm environment

Steps	Status
1. BID development	Complete
2. Registration	Complete
3. Public (I&APs) invitation to participate	Complete
4. Actual Engagement with I&APs (gather inputs)	In progress
5. EIA Scoping + EMP	In progress
6. Specialist studies	In progress
7. EIA & EMP report submission	
8. EIA Reports Public Scrutiny	
9. Technical review	
10. EC Decision	

Why Public Consultation?

- Compliance to Regulation 21 of Environmental Management Act No.7, 2007

- Promote transparency
- Promote democracy
- Promote participatory governance
- Identify potential issues at project planning phase
- Strengthen co-management of environment
- Ensure social license to operate



Newspapers, Notice Board, Wall at Mall, and on project site

Impact Assessment Criteria

CRITERIA	CATEGORY	DESCRIPTION
Sensitivity or importance/value of receptor	High	National scale: Importance or rarity, and limited/no substitution; Very sensitive to change or little capacity to deal with change.
	Medium	Regional scale: Importance or rarity, and limited substitution; Moderate capacity to deal with change
	Low	Local scale: Importance or rarity on a local scale; Not sensitive to change or has capacity to deal with change.
Extent or spatial influence of impact	National	Beyond a 20km radius of the site
	Regional	Within a 20 km radius of the site
	Local	Within a 2 km radius of the centre of the site
	Site specific	On site or within the boundaries of the property
	Zero	
Magnitude of impact (at the indicated spatial scale)	High	Natural/social functions/processes are <i>severely</i> altered
	Medium	Natural/social functions/processes are <i>notably</i> altered
	Low	Natural/social functions/processes are <i>slightly</i> altered
	Very Low	Natural/social functions/processes are <i>negligibly</i> altered
	Zero	Natural and/ or social functions and/ or processes remain <i>unaltered</i>

Impact Assessment Criteria cont...

CRITERIA	CATEGORY	DESCRIPTION
Duration of impact	Zero	Zero time
	Short Term	Up to 18 months
	Medium Term	0-5 years
	Long Term	5- 10 years
	Permanent	More than 10 years
Probability	Definite	95 % chance of the impact occurring.
	Very likely	50 - 95% chance of the impact occurring
	Fairly likely	5 - 50 % chance of the impact occurring.
	Unlikely	Less than 5 % chance of the impact occurring.
Confidence	Zero	No chance of occurrence
	Certain	Adequate information environmental and social factors potentially influencing the impact.
	Sure	Reasonable information on environmental and social factors potentially influencing the impact.
Reversibility	Unsure	Limited information on environmental factors potentially influencing this impact.
	Irreversible	Impact is permanent.
	Reversible	Impact is reversible, within a period of 10 years.

- The criteria will be subjected to a risk-matrix to determine the significance of each identified impact.
- **High Impacts** need to strictly be considered in decision-making

		Impact				
		Negligible	Minor	Moderate	Significant	Severe
Likelihood	Very Likely	Low Med	Medium	Med Hi	High	High
	Likely	Low	Low Med	Medium	Med Hi	High
	Possible	Low	Low Med	Medium	Med Hi	Med Hi
	Unlikely	Low	Low Med	Low Med	Medium	Med Hi
	Very Unlikely	Low	Low	Low Med	Medium	Medium

Impacts related to Planning & Design

Negative

- Design that lacks engineering controls (missing alignment with required standards)

Positive

- Environmental and social consideration into design
- Green hydrogen and oxygen production a positive move toward achieving green production (decision on renewable energy solar/wind energy)
- EIA a tool to identify impacts early before project commencement



Impacts related to Construction

Negative

- Impacts on flora and fauna
- Impacts on air quality (dust PM¹⁰, PM^{2.5}, noise, smoke)
- Soil contamination (oil spill/leaks from machineries, waste)
- Vibration from excavation
- Impacts on avifauna (local birds and their habitats) and general coastal water ecology (seawater pipeline)
- Impact on traffic on C34 road
- Redirection of district access / restriction
- Migration and competition
- Health issues: HIV/AIDS, Monkey Pox, Covid-19 etc.



Positive

- Support to local, regional and national economy
- Skill transfer (high tech.)
- Employment

Impacts related to Operation

Negative

- Impacts on adjacent flora and fauna
- Impacts on air quality (dust PM10, PM2.5, noise)
- Soil contamination (oil spill/leaks from machineries, waste)
- Impacts on avifauna (local birds and their habitats) and general coastal water ecology (seawater pipeline maintenance and actual sea water abstraction)
- Impact on traffic on C34 road
- Permanent closure of some of the district access roads
- Migration and competition
- Health issues: HIV/AIDS, Monkey Pox, Covid-19 etc.
- Public safety (bulk handling and storage of compressed hydrogen and oxygen)
- Chemical handling (desalination, wastewater treatment related chemicals)



Positive

- Support to local, regional and national economy
- Export and foreign currency
- Skill transfer (high tech.)
- Employment
- Social Corporate Responsibility

Impacts Related to Closure

Positive

- Design, Construction and Operation – Site Rehabilitation Feasibility



Negative

- Permanent structures
- Physical foot-print

Conclusion & Next Steps

- Large-scale investment
- Potential contribution to Namibian development agenda (vision 2030).
- Potential contribution to Namibian Climate Change Action

Next Steps

- EIA Scoping Report and draft Environmental Management Plan
- Sharing EIA report with registered I&APs for additional inputs or confirmation of their inputs
- Submission to Environmental Commissioner
- Public Scrutiny and Technical review
- Decision-making by Environmental Commissioner
- Appeal (optional),
- Commissioning, Monitoring and Reporting

Thank You



Q & A

ANNEXURE -D:



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

PROPOSED ODULA GREEN HYDROGEN AND OXYGEN PROJECT
SWAKOPMUND MUNICIPAL AREA (UNDEVELOPED LIGHT INDUSTRIAL ZONE),
ERONGO REGION, NAMIBIA

PROPONENT: ODULA HYDROGEN (PTY) LTD

TERMS OF REFERENCE: SPECIALIST STUDIES

- A.** Impact Assessment of Seawater Abstraction infrastructure and pipeline on Marine Coastal Ecology including Birds Conservation Area
- B.** Hazard and Operability study (HAZOP) – Quantitative Risk Assessment on public and occupational safety impacts associate with high-pressure gas bulk storage of hydrogen and oxygen

TOGREEN Consulting CC | Environmental Management Specialists
2/23/2026

PART A: IMPACT ASSESSMENT OF SEAWATER ABSTRACTION INFRASTRUCTURE AND PIPELINE ON MARINE COASTAL ECOLOGY INCLUDING BIRDS CONSERVATION AREA

1. Background

This document outlines the Terms of Reference (ToR) for a specialist marine ecology and avifaunal (coastal bird) impact assessment which is required as part of the Environmental and Social Impact Assessment (ESIA) for the proposed Odula Green Hydrogen and Oxygen project and in this case focusing on the associated seawater abstraction infrastructure which includes pumping and pipeline system from the sea to the main project site which is located on land. The main project site is located east of Salt Company operation plant and behind C34 road as shown in the site map.

2. Project component description

Specific infrastructure: The seawater abstraction infrastructure will comprises of construction and operation of seawater pumping station and seawater pipeline (both sub-surface and surface options to be considered) which runs from the abstraction point(s) through coastal water and pass through or at boundary of birds conservation area to the project site.

Study Area: the study area cover the shoreline including intertidal zone behind Salt Company operation, the bird conservation area, area between salt company mining license area and municipal land boundary as well as western reserve of the C34 road to the project site.

Purpose: Assess and evaluate the impact of seawater pipeline and pumping station construction (e.g. noise, seabed disturbance, sediment suspension) and operation focusing on impacts such as impingement and or entrainment of marine life, pipeline leakages) on local marine ecosystems and coastal bird habitats. Note: the proposed operation considered a-no-discharge of brine back to sea.

3. Specific Objectives

- **Baseline Assessment:** Characterize the existing marine benthic and pelagic ecology, intertidal zones, and coastal bird populations (breeding, roosting, foraging).
- **Impact Identification:** Identify potential adverse effects of construction and operational phases on the coastal biodiversity.
- **Impact Assessment:** Quantify the magnitude, duration, and reversibility of identified impacts on receptors.
- **Mitigation Strategy:** Recommend measures to minimize impacts, including technology selection and timing.

4. Scope of Work: Marine ecology study

The Marine Ecology Specialist or Marine Biologist is expected to undertake the following tasks:

4.1 Baseline Environmental Description:

- Marine ecology survey focusing on intertidal and shallow subtidal habitats to identify sensitive species, endemic fauna and benthic communities
- Oceanographic context focusing on existing data on the current velocity, turbidity and salinity (note: may not be applicable since approach is a “no-discharge of brine”)
- Protected Areas focusing on identifying marine protected areas (MPAs), Ramsar sites or other critical habitats

4.2 Impact Assessment on proposed construction and operation:

- Seawater abstraction – assess the potential impacts of water sucking of plankton, larvae and small fish i.e. impingement and entrainment impacts
- Seawater pipeline Installation – assess potential impacts of trenching and seabed disruption on subtidal habitats.

4.3 Mitigation and management

- propose design alternatives e.g. compare and recommend seabed abstraction tunnels versus surface pipes
- Recommend monitoring programs for water quality as may be appropriate to the identified impacts

5. Scope of Work: Avifauna study – coastal bird conservation area

The specialist will focus on the impact on local and migratory avifauna in the following manner:

5.1 Baseline Avifaunal Assessment

- Conduct field surveys to identify key breeding, feeding, and roosting sites in the coastal impact zone and bird conservation area
- Map sensitive habitats for key coastal species (e.g., endemic gulls, shorebirds, flamingos).

5.2 Impact Assessment

- Habitat Loss/Disturbance - assess the impact of pipeline construction on nesting or roosting sites.
- Operational Disturbance - analyze impacts of noise, maintenance traffic, and lighting on behavior.
- Collision Risk - evaluate potential collisions with new infrastructure (e.g., elevated pipe supports).

5.3 Mitigation Management

- E.g. Propose buffer zones around sensitive nesting areas
- Recommend scheduling construction to avoid breeding seasons.

6. Reporting

The specialist reports, as minimum must include the following:

- Non-technical executive summary
- Methodology (data collection, literature review etc.)
- Environmental baseline
- Impact Rating Matrix (significance – duration, magnitude and probability)
- Environmental management plan with actionable mitigation measures
- Cumulative Impact Analysis

7. Expertise required

- **Marine Scientist | Ecologist | Biologist:** Experienced in marine coastal zone ecology. Coastal infrastructure ESIA in Namibia will be added advantage.
 - **Master of Science | PhD** in above field or related
- **Avifaunal Specialist:** Experienced in seabird and shorebird ecology
 - Bachelor of Science | Master of Science** in above field or related

8. Deliverables

- Marine Ecology Specialist Report
- Coastal Bird Impact Study Report

Note: Finalize the above reports with incorporated stakeholder and authority comments e.g. from NatMIRC | NACOMA project | SANUMARC

PART B: HAZARD AND OPERABILITY STUDY (HAZOP) | QUANTITATIVE RISK ASSESSMENT – DETAILED SAFETY ANALYSIS CONCERNING HIGH-PRESSURE GAS STORAGE, FLAMMABILITY, LEAKAGE RISKS, AND SAFETY DISTANCES FROM PUBLIC AREAS.

1. Background

This document outlines the Terms of Reference (ToR) for a specialist Hazard and Operability (HAZOP) study or Quantitative Risk Assessment for a proposed green hydrogen and oxygen production plant to be located in Swakopmund. The study is to focus specifically on the safety risks associated with the compression, storage, and handling of these gases, with particular emphasis on flammability, oxidative risks among others.

2. Project component description

The proponent propose to establish a green hydrogen and oxygen production facility directly using seawater electrolysis method which is to be powered by renewable energy from PV Solar farm. The process produces high-purity hydrogen and oxygen, which will be compressed (i.e. to reduce volume and increase pressure) and stored in bulk tanks. This project is to be constructed within a municipal area currently zoned as “zone –M” and earmarked for light industrial activities as per Structure Plan for Swakopmund Municipality 2020 -2040. Given current and future proximity to the adjacent land uses and nearby existing infrastructure / properties; and the known high-risk nature of handling pressurized, flammable and oxidizing gases, a structured safety study is required to comply with Namibian environmental and labour law as well as industrial safety standards.

3. Specific Objectives

The primary objective of this HAZOP study is to systematically identify potential process hazards and operational problems that potential can lead to accidents (fires, explosions, toxic gases releases).

- **Identify Hazards:** identify potential deviations from design intent i.e. Detect potential causes of leakage, overpressure, and unwanted mixing of hydrogen and oxygen which can lead to fire, explosion or toxic gases release.
- **Evaluate Consequences:** Assess the impact of flammable/oxidizing events on personnel, surrounding communities, and the environment.
- **Review Safeguards:** Evaluate existing design safety measures (e.g., pressure relief, detectors, and interlocks).
- **Provide Recommendations:** Offer actionable recommendations to reduce risks to *As Low As Reasonably Practicable* (ALARP). Provide guidance on the compliance

requirement and available industry practice e.g. ISO 19880 series, NFPA 2, ATEX Directives – guidelines for hazardous area classification.

4. Scope of Work: HAZOP study | Quantitative Risk Assessment

This risk assessment study will cover the entire process flow, this means the consultant will perform a comprehensive HAZOP study on the detailed design of the plant, covering the following components:

4.1 Plant Components:

- Process Units: *Electrolyzer unit*, gas liquid Separators, gas purification system (Deoxo and dryers)
- Storage and handling: Hydrogen buffer tanks, oxygen storage and compression systems
- Safety Critical Systems: Leak detection systems, flame arrestors, fire suppression systems, and emergency shutdown systems (ESD) (in addition also look at utilities such as cooling water systems, nitrogen purging and power supply).
- External factors: evaluate potential equipment degradation due to high salinity / corrosion in Swakopmund which may lead to loss of containment.

4.2 Specific Risks for critical consideration:

- Flammability and Oxidation: The risk of leakage forming explosive mixtures in air (range) and the enhanced fire risks from concentrated gases
- High-Pressure Hazards: Potential for catastrophic failures in compression and storage, including the risk of Deflagration-to-Detonation Transition (DDT) in confined spaces.
- Material Compatibility: Assessing the suitability of materials to withstand hydrogen embrittlement and coastal corrosion.
- Hydrogen/Oxygen Mixing: Specific attention be paid to potential failure of the electrolyser membrane or purification systems leading to oxygen-in-hydrogen or hydrogen-in-oxygen contamination.

4.3 Methodology:

The study must follow world-wide acceptable standard method and guidelines such as IEC61882 or equivalent.

- Preparation - Dividing the plant into logical nodes (e.g., Compression Node, Storage Node).
- Team Formation - HAZOP study team must be a multidisciplinary team (Process Engineer, Safety Officer, Control Specialist, Operator) led by a trained facilitator (i.e. the HAZOP Consultant)
- Guideword application - Using parameters (Flow, Pressure, Temperature) combined with guidewords (No, More, Less, Reverse) to identify deviations.

- Risk Ranking - Assessing the likelihood and severity of each hazard before and after mitigation.
- Reporting - Detailed HAZOP worksheets and a summary report with actionable recommendations.

5. Required Expertise

- Certified HAZOP Facilitator with experience in hydrogen technologies.
- Process Safety Engineer familiar with compressed gas storage (ASME standards).
- Expertise in coastal corrosion and material science.

6. Deliverables

- Preliminary HAZOP Report: Initial findings and high-risk scenarios.
- Final HAZOP Report: Complete, finalized worksheets, risk matrix, and a prioritized list of recommendations for safety upgrades.

7. Regulatory compliance

The study must align with:

- Namibian Environmental Management Act, 2007.
- Draft National Policy on Green Hydrogen and Derivatives (2025).
- International safety standards for hydrogen handling (e.g., ISO/TC 197)

End!

LOCATION AND SITE LAYOUT MAP: PROPOPOSED ODULA GREEN HYDROGEN AND OXYGEN PROJECT, SWAKOPMUND, ERONGO REGION

Note: XYZ – Proposed options for seawater pipeline and abstraction points!

