

APP-006470

**FUEL BUNKERING SERVICES WITHIN THE EXCLUSIVE ECONOMIC
ZONE OF NAMIBIA**

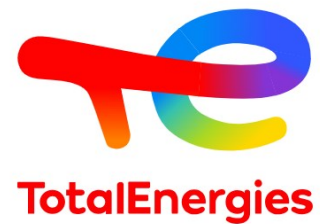
ENVIRONMENTAL CONTINGENCY PLAN



Prepared by:



Prepared for:



October 2025

Project:	FUEL BUNKERING SERVICES WITHIN THE EXCLUSIVE ECONOMIC ZONE OF NAMIBIA: ENVIRONMENTAL CONTINGENCY PLAN	
Report: Version/Date:	Final October 2025	
Application No:	250924006470	
Prepared for: (Proponent)	TotalEnergies Marketing Namibia (Pty) Ltd PO Box 4223 Windhoek Namibia	
Lead Consultant:	Geo Pollution Technologies (Pty) Ltd PO Box 11073 Windhoek Namibia	TEL.: (+264-61) 257411 FAX.: (+264) 88626368
Main Project Team:	André Faul (B.Sc. Zoology/Biochemistry); (B.Sc. (Hons) Zoology); (M.Sc. Conservation Ecology); (Ph.D. Medical Bioscience)	
Cite this document as:	Faul A; 2025 October; Fuel Bunkering Services within the Exclusive Economic Zone of Namibia: Environmental Contingency Plan	
Copyright:	Copyright on this document is reserved. No part of this document may be utilised without the written permission of Geo Pollution Technologies (Pty) Ltd.	

TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	METHODOLOGY.....	1
3	EMERGENCY ENVIRONMENTAL RESPONSE ACTIONS.....	1
4	ENVIRONMENTAL CONTINGENCY PLAN.....	3

LIST OF TABLES

TABLE 7-1	EMERGENCY CONTACT NUMBERS.....	4
TABLE 7-2	CONTINGENCY PLAN.....	7

LIST OF APPENDICES

APPENDIX A:	MAJOR PETROLEUM SPILL REPORT FORM.....	9
APPENDIX B:	EIA AND EMP	12

LIST OF ABBREVIATIONS

EEZ	Exclusive Economic Zone
MGO	Marine gasoil
ECC	Environmental clearance certificate
GPT	Geo Pollution Technologies
EMA	Environmental Management Act
EIA	Environmental impact assessment
EMP	Environmental management plan
SHEQ	Safety, health, environment and quality
MSDS	Material Safety Data Sheet
PPE	Personal protective equipment
HSEMP	Health, safety, and environmental management plan
BTP	Bunker transfer procedures
CCTV	Closed circuit television
NAMPOL	Namibian Police

1 INTRODUCTION

TotalEnergies Marketing Namibia (Pty) Ltd (the Proponent) plans to undertake marine fuel bunkering operations within Namibia's Exclusive Economic Zone (EEZ). Two methods of bunkering will be pursued by the Proponent. Firstly, it can be the ship-to-ship transfer of fuel for refuelling purposes of seafaring vessels such as petroleum, mining, and fishing vessels that do not make regular calls to a port. Fuel will be sourced either from established onshore storage facilities within a port or from offshore barges positioned in designated refuelling areas within or outside the EEZ. When sourced from offshore barges, the bunkering vessel will be refuelled directly from the barge before proceeding to supply the receiving vessel at the agreed offshore transfer location. In both cases, the bunker barge will pump fuel into the receiving vessels whenever the fuel is required. The second method involves supplying fuel to vessels berthed in a port through belowground pipelines that connect to the quayside for bunkering purposes. Bunkering services of the Proponent will only focus on marine gasoil (MGO), and no blending of MGO will take place on the bunkering vessel or at the onshore facilities.

In order to comply with Namibian legislation, and to adhere to all codes and standards applied in their operations, the Proponent wishes to apply for an environmental clearance certificate (ECC) for the fuel installation's operations. The Proponent therefore appointed Geo Pollution Technologies (Pty) Ltd (GPT) as environmental consultant to assist with the ECC application process. In support of the ECC application, the contingency plan will be submitted to the Ministry of Environment, Forestry and Tourism. The contingency plan is designed to mitigate the impacts of natural or human-induced disruptive events on core functions of a facility. It provides management options to ensure corrective action is taken when environmental incidents occur. The environment being defined in the Environmental Management Act (EMA) as "land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values".

The contingency plan is a tool prescribing corrective take action in the event of a future incident or situation. This document should be available throughout operations and will come into action as soon as an incident occurs. The Proponent must appoint suitable personnel to manage, implement and update the contingency plan as may be required. The contingency plan will be used to apply for an ECC in compliance with Namibia's Environmental Management Act (Act No 7 of 2007).

2 METHODOLOGY

The following methods were used to prepare the contingency plan:

1. An environmental impact assessment (EIA) and environmental management plan (EMP) were prepared and used to guide development of the contingency plan (see Appendix B).
2. Potential incidents emanating from the commissioning of the bunker barge and bunkering operations were identified and appropriate corrective action measures listed.
3. The emergency preparedness framework including general measures to manage and mitigate possible scenarios involving emergency environmental incidents were described.

3 EMERGENCY ENVIRONMENTAL RESPONSE ACTIONS

The general measures provided in the sections below apply to all environmental emergency incident scenarios. These measures will be executed in response to an environmental emergency to:

- ◆ Reduce the threat to human life or injury,
- ◆ Protect against environmental damage; and
- ◆ Preserve infrastructure, product, and equipment.

During any environmental, health, or safety emergency on board the bunkering barge, the following general response measures shall be implemented immediately and in a coordinated manner:

1. Evacuate

- ◆ Evacuate all non-essential personnel from the affected area to a safe location (e.g. muster point).
- ◆ Account for all personnel using the vessel's crew and visitor register.
- ◆ Ensure passengers and crew remain calm and await instructions from the Master or Safety Officer.

2. Eliminate / Make Safe

- ◆ Eliminate sources of ignition, sparks, or open flames in the vicinity of the incident.
- ◆ Shut off electrical equipment not rated for hazardous areas.
- ◆ Secure or isolate moving machinery if it poses a risk to personnel or containment efforts.

3. Stop and Coordinate

- ◆ Stop the source of the incident if it is safe to do so (e.g. close valves, shut pumps, or isolate transfer lines).
- ◆ Coordinate the shutdown of bunkering operations, fuel transfer systems, or other relevant equipment.
- ◆ Maintain communication between the barge, receiving vessel, and terminal or port control.

4. Notify

- ◆ Internal Notification: Immediately inform the Barge Master and Safety, Health, Environment and Quality (SHEQ) Officer of the incident.
- ◆ External Notification: Contact the Port Authority, Directorate of Maritime Affairs, and Emergency Services as required by local regulations.
- ◆ Maintain a log of all notifications made, including times and persons contacted.

5. Identify

- ◆ Identify the nature and source of the incident (e.g. spill, fire, injury, gas leak).
- ◆ Refer to the Material Safety Data Sheet (MSDS) for any chemicals or fuels involved to determine hazards and appropriate response.
- ◆ Identify necessary personal protective equipment (PPE) before response actions.

6. Contain / Isolate

- ◆ For spills: Deploy containment booms, absorbent pads, and spill kits to prevent further spread.
- ◆ For fires or leaks: Establish a safety perimeter and isolate the area using barriers or warning tape.
- ◆ Restrict access to essential personnel only.

7. Stabilise and Neutralise

- ◆ Apply absorbents or neutralising agents to contain and stabilise spilled substances.
- ◆ For fires, use appropriate extinguishing agents (foam, CO₂, or dry chemical, depending on the fuel type).
- ◆ Prevent secondary incidents by ensuring good ventilation and continuous gas monitoring where applicable.

8. Clean Up

- ◆ Safely collect and dispose of contaminated materials (absorbents, rags, PPE) in accordance with waste management procedures.
- ◆ Ensure all affected decks, transfer areas, and spill equipment are cleaned and inspected before resuming operations.

9. Investigate and Remediate

- ◆ Conduct a post-incident investigation to determine root causes and contributing factors.
- ◆ Implement corrective and preventive measures.

- ◆ If environmental contamination occurred, conduct remediation under guidance of relevant authorities.

10. Monitor Recovery and Review

- ◆ Continue monitoring of air, water, or surface conditions as required until full recovery.
- ◆ Review and update the Health, Safety, and Environmental Management Plan (HSEMP) and Emergency Response Procedures to incorporate lessons learned.
- ◆ Conduct a debriefing session with crew and stakeholders.

4 ENVIRONMENTAL CONTINGENCY PLAN

The purpose of this section is to list the most pertinent potential environmental incidents that may occur as a result of bunkering operations. Actions to be initiated for each incident are also listed and an emergency contact sheet is provided that should be completed by the Proponent. Roles, responsibilities and accountability under the environmental contingency plan will be assigned by the Proponent.

Table 4-1 Emergency contact numbers

Category	Contact Person / Office	Organisation / Vessel	Telephone (Primary)	Telephone (Alternative Radio)	Email / VHF Channel	Remarks / Role in Emergency
Onboard Contacts	Barge Master					Overall emergency coordinator; initiate response procedures.
	Chief Engineer					Stop fuel transfer, isolate systems, ensure safety of machinery spaces.
	SHEQ Officer					Incident reporting, coordination with authorities, safety supervision.
	Deck Supervisor / Pumpman					Direct spill containment and cleanup operations.
	Medic / First Aider					First response to injuries and medical emergencies.
	Crew Muster Point Coordinator					Conduct head count and ensure safe evacuation.
Shore-Based / Company Contacts	Operations Manager					Overall management oversight and liaison with authorities.
	SHEQ Department					Incident investigation, reporting, and regulatory compliance.
	Fleet Manager					Coordinate support vessels and resources.
	Emergency Response Coordinator					Mobilise emergency response team and equipment.
External Emergency Services	Port Authority / Harbour Master					Directs maritime emergency response and vessel control.
	Maritime Affairs					Coordinates spill response and environmental containment.
	Fire & Rescue Services					Fire suppression, rescue operations.

	Ambulance / Medical Services					Medical evacuation and treatment.
	Police / Marine Unit					Security, crowd control, and investigation support.
	Coastal Radio Station					Emergency communication relay.
	Environmental Authority					Notification of environmental incidents and compliance follow-up.
Support Contractors &	Spill Response Contractor					Provides containment, recovery, and cleanup services.
	Towage / Salvage Company					Assistance with vessel stability, towing, or salvage.
	Fuel Supplier					Product identification, technical support.
	Waste Disposal Contractor					Handles disposal of contaminated materials.

Key to the implementation of the contingency plan are the following:

- ◆ Response and management teams – in this instance the Proponent should provide the details of the manager / responsible party and ensure that contact details are available to all members of the staff.
- ◆ Emergency preparedness plans related especially to fuel spills and incidents of fire should be made available to all staff. Training of such plans will be made available by the Proponent.
- ◆ Emergency equipment such as fire-fighting equipment and communication systems will be kept and maintained.
- ◆ Training on all aspects of the emergency plans will be provided to staff.
- ◆ Communication channels internally and externally will be established and a clear understanding by all staff in terms of protocol should be encouraged for example which authority to call during which incident etc.
- ◆ In the event of any incident, environmental recovery should be documented and remediation of any pollution reported on.
- ◆ Incident investigation reports should be kept on record.

Table 4-2 Contingency plan

Risk	Probability	Preparation	Action
Fuel Transfer Spill / Leak	Medium	Maintain up-to-date Bunker Transfer Procedures (BTP). Inspect hoses, valves, and couplings before each operation. Spill kits and booms available on deck. Crew trained in spill response and PPE use.	Stop transfer immediately. Close all valves and activate emergency stop. Deploy spill booms and absorbents. Notify Barge Master, receiving vessel, and Port Authority. Report spill to SHEQ and Directorate of Maritime Affairs. Initiate cleanup and record incident.
Fire or Explosion	Low	Firefighting plan in place. Fire extinguishers and foam systems inspected monthly. No ignition sources near transfer area. Crew trained in fire response and emergency shutdown.	Sound alarm and evacuate non-essential personnel. Stop transfer and activate emergency shutdown. Attempt to extinguish only if safe using appropriate extinguishers. Notify Fire Services, Port Authority, and SHEQ. Account for crew and secure the area.
Personal Injury (slip, fall, burns, or exposure)	Medium	Crew trained in safe work practices and first aid. Non-slip deck surfaces. PPE (gloves, boots, respirators) readily available. First aid kits and stretcher onboard.	Apply first aid. For serious injuries, notify emergency services and arrange medical evacuation. Report to Master and SHEQ. Record incident and review for root causes.
Collision or Allision (contact with other vessel or structure)	Low	Maintain proper watch and communication with port control. Use fenders and mooring lines correctly. Pre-bunkering safety checklist completed.	Sound alarm. Stop fuel transfer immediately. Assess for spills or damage. Notify Port Authority, receiving vessel, and company. Deploy booms if fuel released. Investigate cause.
Equipment Failure (pump, hose, valve, power loss)	Medium	Preventive maintenance schedule in place. Spare hoses and emergency stop systems tested regularly.	Stop operation safely. Isolate faulty equipment. Notify Chief Engineer and Master. Conduct repairs or arrange support. Resume operations only after safety inspection.
Security Threat or Theft (fuel, equipment, or unauthorized boarding)	Low	Access control in place. Security watch during transfer. CCTV and deck lighting functional.	Report to Master and security contractor. Notify Port Authority and NAMPOL Marine Division. Secure area and prevent unauthorized entry. Record incident.
Severe Weather or Rough Sea Conditions	Medium	Monitor marine forecasts. Suspend operations when wind or swell exceed safe limits. Mooring lines checked frequently.	Suspend bunkering and secure hoses. Isolate fuel system. Evacuate exposed areas. Resume only once conditions stabilize. Record delay and weather data.
Pollution from Bilge or Wastewater Discharge	Medium	Bilge water management plan and oil-water separator maintained. Waste stored in designated tanks.	Stop discharge immediately. Contain and clean any release. Notify SHEQ and Marine Pollution Control. Dispose of contaminated water at approved facility.
Noise and Vibration Exposure	Low	Provide ear protection for all machinery spaces. Maintain equipment to reduce noise levels.	Use hearing protection in high-noise areas. Limit exposure duration. Monitor crew fatigue and health.

Human–Wildlife Interaction (e.g. seabirds, marine mammals)	Low	Crew awareness training to avoid disturbing wildlife. Report sightings to environmental authority.	Suspend operations if wildlife is in immediate proximity. Avoid any disturbance. Notify Port Environmental Officer if incident occurs.
Crew Fatigue or Human Error	Medium	Duty rotation schedule and rest hours monitored. Alcohol and drug policy enforced.	Relieve fatigued crew members. Report unsafe behaviour. Conduct toolbox talks before each operation. Investigate human factors in incidents.

Appendix A: Major Petroleum Spill Report Form

10. Type of petroleum product involved in petroleum product spill

11. Quantity of the petroleum product spill

12. Indicate whether the petroleum product has or will have any negative effect on the environment and the safety and health of person or the property of persons

13. Provide full details of all remedial actions taken to minimise risks associated with petroleum product spills and all cleaning-up operations taken in connection therewith

DECLARATION

I, _____,
hereby declare that the information submitted by me in this application is true and cor-
rect.

Signature

Place

Date _____

Appendix B: EIA and EMP

APP 006470

**ENVIRONMENTAL SCOPING ASSESSMENT AND ENVIRONMENTAL
MANAGEMENT PLAN FOR FUEL BUNKERING SERVICES WITHIN
THE EXCLUSIVE ECONOMIC ZONE OF NAMIBIA**

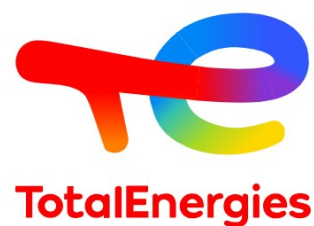
ENVIRONMENTAL ASSESSMENT SCOPING REPORT



Assessed by:



Assessed for:

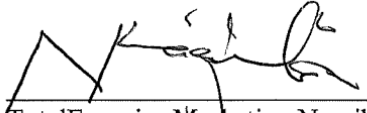


October 2025

Project:	ENVIRONMENTAL SCOPING ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN FOR FUEL BUNKERING SERVICES WITHIN THE EXCLUSIVE ECONOMIC ZONE OF NAMIBIA	
Report: Version/Date:	Final October 2025	
APP No:	250924006470	
Prepared for: (Proponent)	TotalEnergies Marketing Namibia (Pty) Ltd PO Box 4223 Windhoek Namibia	
Lead Consultant	Geo Pollution Technologies CC PO Box 11073 Windhoek Namibia	TEL.: (+264-61) 257411 FAX.: (+264) 88626368
Main Project Team:	André Faul (B.Sc. Zoology/Biochemistry); (B.Sc. (Hons) Zoology); (M.Sc. Conservation Ecology); (Ph.D. Medical Bioscience) Ernest Pelser (B.Sc. Zoology/Microbiology); (B.Sc. (Hons) Environmental Science); (M.Sc. Environmental Science)	
Cite this document as:	Faul A; Pelser E; 2025 October; Environmental Scoping Assessment and Environmental Management Plan for Fuel Bunkering Services within the Exclusive Economic Zone of Namibia	
Copyright	Copyright on this document is reserved. No part of this document may be utilised without the written permission of Geo Pollution Technologies (Pty) Ltd.	
Report Approval	 André Faul Conservation Ecologist	

I Natthal Kakwambi acting as the Proponent's representative (TotalEnergies Marketing Namibia (Pty) Ltd), hereby approve this report and confirm that the project description contained in herein is a true reflection of the information which the Proponent has provided to Geo Pollution Technologies. All material information in the possession of the Proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report.

Signed at Windhoek on the 9th day of October 2025.


TotalEnergies Marketing Namibia (Pty) Ltd

77/01078
Company Registration

TotalEnergies
Marketing Namibia (Pty) Ltd
No. 55 Rehobother Road,
Ausspannplatz
PO Box 4223
Tel: 061 374900
Windhoek

EXECUTIVE SUMMARY

TotalEnergies Marketing Namibia (Pty) Ltd (hereafter referred to as the Proponent) proposes to establish offshore marine gas oil (MGO) bunkering operations within Namibia's Exclusive Economic Zone (EEZ). The service will focus solely on the refuelling of seafaring vessels such as petroleum, mining, shipping, and fishing vessels that do not always make regular port calls. Bunkering operations will be conducted either offshore via ship-to-ship (STS) transfers at designated locations within the EEZ, or quayside within the commercial harbours of Walvis Bay and Lüderitz. Fuel will be sourced from established onshore storage facilities in the Port of Walvis Bay or directly from fuel barges offshore, and transferred to receiving vessels under strict safety and environmental protocols. No blending of MGO will take place either offshore or at the onshore facilities.

The Proponent appointed Geo Pollution Technologies (Pty) Ltd to undertake an environmental assessment for the proposed bunkering operations. The assessment focuses on the operational procedures for STS transfers, quayside bunkering, and supporting onshore fuel loading activities. The study aims to identify and assess environmental, safety, health, and socio-economic impacts associated with the proposed operations. Relevant environmental and marine ecological data has been gathered from secondary sources and site visits, enabling the identification of potential positive and negative impacts, which are addressed in this report.

Given the nature of offshore and port-based bunkering activities, potential impacts on the marine environment, coastal resources, and port surroundings are anticipated. These include risks associated with fuel spills, increased vessel traffic, noise, and air emissions. Conversely, the project is expected to contribute positively to Namibia's position as a regional maritime logistics hub, enhancing the competitiveness of Walvis Bay and Lüderitz as service points for the Southern African Development Community (SADC) shipping industry.

The proposed operations will generate economic benefits through direct and indirect employment, training and skills transfer, and the stimulation of associated marine services such as tug operations, pilotage, stevedoring, vessel maintenance, and supplies. Taxes, levies, and port fees will contribute to the national treasury, while local businesses will benefit from increased demand for goods and services from maritime crews and operators.

Key concerns associated with the project include the risk of marine pollution, impacts on sensitive marine habitats and species (including those within the Namibian Islands Marine Protected Area), navigational safety, and potential disturbance to marine fauna from noise and vessel presence. These risks can be effectively mitigated through adherence to international best practice, including compliance with the International Maritime Organization's (IMO) MARPOL Annex I and other applicable conventions, as well as Namibian maritime, port, and environmental regulations.

The environmental management plan (EMP) in Section 10 of this document provides operational guidelines, spill prevention and response procedures, monitoring requirements, and compliance measures to ensure that potential impacts are minimised. The EMP must be used as a reference during all phases of bunkering operations. All operational records, including fuel transfer logs, spill reports, and training records, must be maintained. Operators and responsible personnel must be trained in the EMP, health, safety, and environmental procedures, and compliance must be monitored by relevant authorities.

TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	SCOPE.....	2
3	METHODOLOGY.....	2
4	PROJECT DESCRIPTION	2
4.1	VESSEL COMMISSIONING	3
4.2	PLANNED OPERATIONS	3
4.2.1	<i>Bunker Loading.....</i>	3
4.2.2	<i>Offshore Ship-to-ship Bunkering.....</i>	4
4.2.3	<i>Quayside Bunkering</i>	4
4.2.4	<i>General.....</i>	5
5	ALTERNATIVES TO THE PROPOSED PROJECT.....	5
6	ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS.....	6
7	ENVIRONMENTAL CHARACTERISTICS.....	11
7.1	LOCALITY AND SURROUNDING LAND USE	11
7.2	CLIMATE.....	11
7.3	CORROSIVE ENVIRONMENT.....	14
7.4	THE MARINE AND COASTAL ENVIRONMENT	14
7.5	TYPICAL FATE OF SPILLED OIL	22
7.6	TYPICAL OIL SPILL IMPACTS.....	25
7.7	DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS	27
7.8	CULTURAL, HERITAGE AND ARCHAEOLOGICAL ASPECTS	29
8	PUBLIC CONSULTATION	29
9	ASSESSMENT AND MANAGEMENT OF IMPACTS.....	30
9.1	RISK ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN	31
9.1.1	<i>Planning.....</i>	32
9.1.2	<i>Employment.....</i>	33
9.1.3	<i>Skills, Technology and Development</i>	34
9.1.4	<i>Revenue Generation</i>	35
9.1.5	<i>Demographic Profile and Community Health.....</i>	36
9.1.6	<i>Health, Safety and Security.....</i>	37
9.1.7	<i>Bunkering Services.....</i>	39
9.1.8	<i>Air Quality Related Impacts.....</i>	40
9.1.9	<i>Fire.....</i>	41
9.1.10	<i>Noise and Vibration.....</i>	42
9.1.11	<i>Waste production.....</i>	43
9.1.12	<i>Ship Traffic and Collision.....</i>	45
9.1.13	<i>Surface Water Contamination and Related Ecological Impacts.....</i>	46
9.2	DECOMMISSIONING AND REHABILITATION	49
9.3	ENVIRONMENTAL MANAGEMENT SYSTEM.....	49
10	CONCLUSION.....	49
11	REFERENCES.....	50

LIST OF FIGURES

FIGURE 1-1	PROJECT LOCATION.....	1
FIGURE 4-1	TYPICAL BUNKERING PROCESS THAT WILL BE USED BY THE PROPONENT (HTTPS://WWW.INATECH.COM/INATECH-FOR-BUNKER-SUPPLIERS/)	4
FIGURE 4-2	MAP INDICATING THE LOCATION OF THE JBS FACILITY IN RELATION TO THE WALVIS BAY HARBOUR.....	5

FIGURE 7-1	MAP INDICATING THE INTERTROPICAL CONVERGENCE ZONE, SUBTROPICAL HIGH PRESSURE ZONE (SAH+), BENGUELA CURRENT AND TEMPERATE ZONE SOUTH OF TROPIC OF CAPRICORN (NOT INDICATED) (FROM: HTTP://WWW.METEOWEB.EU) 12
FIGURE 7-2	MARINE ATMOSPHERIC BOUNDARY LAYER (FROM: CORBETT, 2018) 13
FIGURE 7-3	TWENTY YEAR CORROSION EXPOSURE RESULTS IN SOUTHERN AFRICAN TOWNS (CALLAGHAN 1991) 14
FIGURE 7-4	PROTECTED AND SENSITIVE AREAS 15
FIGURE 7-5	PROCESS ACTING ON MARINE SPILLED OIL (ITOPF; 2002) 22
FIGURE 7-6	A SCHEMATIC REPRESENTATION OF THE FATE OF A CRUDE OIL SPILL SHOWING CHANGES IN THE RELATIVE IMPORTANCE OF WEATHERING PROCESSES WITH TIME - THE WIDTH OF EACH BAND INDICATES THE IMPORTANCE OF THE PROCESS (ITOPF; 2002) 23
FIGURE 7-7	THE TRAJECTORIES OF ALL OF THE NOAA AOML DRIFTING BUOY DATA ASSEMBLY (DAC) CENTER'S ARCHIVED NEAR-SURFACE BUOYS, FROM 1978 TO JUNE, 2003, ARE SHOWN HERE AS A "SPAGHETTI" PLOT. THE DATA DENSITY OR THE AMOUNT OF DRIFTING BUOY DATA IN EACH REGION IS LARGE WHERE THERE IS A LOT OF BLACK SPAGHETTI. (HTTP://OCEANCURRENTS.RSMAS.MIAMIEDU/ATLANTIC/BENGUELA_2.HTML SOURCED ON 15.3.12)..... 24
FIGURE 7-8	THE CORRESPONDING DIRECTION (HEADING/BEARING) OF THE BUOYS IN DEGREES RELATIVE TO NORTH (0/360°) WHICH IS DARK BLUE. DUE SOUTH (180°) IS RED, WHILE DUE WEST (270°) IS YELLOW AND DUE EAST (90°) IS CYAN. SO FOR EXAMPLE, LIGHT BLUE IMPLIES THE BUOY IS HEADING TOWARD THE NORTHEAST AND ORANGE IMPLIES THE BUOY IS HEADING TOWARD THE SOUTHWEST. (HTTP://OCEANCURRENTS.RSMAS.MIAMIEDU/ATLANTIC/BENGUELA_2.HTML SOURCED ON 15.3.12)..... 25
FIGURE 9-1	REGULATED BUNKERING ZONES..... 48

LIST OF TABLES

TABLE 6-1	NAMIBIAN LAW APPLICABLE TO THE FACILITY AND RELATED OPERATIONS 6
TABLE 6-2	MUNICIPAL BY-LAWS, GUIDELINES AND REGULATIONS 8
TABLE 6-3	RELEVANT MULTILATERAL ENVIRONMENTAL AGREEMENTS 9
TABLE 6-4	STANDARDS OR CODES OF PRACTISE 10
TABLE 7-1	KEY BIODIVERSITY AREAS ALONG THE COASTAL REGIONS OF NAMIBIA..... 17
TABLE 7-2	COMPOSITION AND RELATIVE BIODEGRADABILITY OF PETROLEUM PRODUCTS (US EPA; 2004)..... 27
TABLE 7-3	DEMOGRAPHIC CHARACTERISTICS OF WALVIS BAY, THE ERONGO REGION AND NATIONALLY (NAMIBIA STATISTICS AGENCY, 2024) 28
TABLE 7-4.	DEMOGRAPHIC CHARACTERISTICS OF LÜDERITZ BAY, THE //KARAS REGION AND NATIONALLY (NAMIBIA STATISTICS AGENCY, 2024) 28
TABLE 9-1	ASSESSMENT CRITERIA 30
TABLE 9-2	ENVIRONMENTAL CLASSIFICATION (PASTAKIA 1998)..... 31

LIST OF APPENDIXES

APPENDIX A:	PROOF OF PUBLIC CONSULTATION 52
APPENDIX B:	CONSULTANT'S CURRICULUM VITAE 67

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BCLME	Benguela Current Large Marine Ecosystem
DWA	Department of Water Affairs
EBSA	Ecologically or Biologically Significant Area
EIA	Environmental Impact Assessment
EMA	Environmental Management Act No 7 of 2007
EMP	Environmental Management Plan
EMS	Environmental Management System
GPT	Geo Pollution Technologies
HIV	Human Immunodeficiency Virus
IAPs	Interested and Affected Parties
IBA	Important Bird Area
IBL	Internal Boundary Layer
IMO	International Maritime Organization
IUCN	International Union for Conservation of Nature
ITOPF	International Tanker Owners Pollution Federation
KBA	Key Biodiversity Area
m/s	Meter per second
MABL	Marine Atmospheric Boundary Layer
MARPOL	International Convention for the Prevention of Pollution from Ships
mbs	Meters below surface
MEFT	Ministry of Environment, Forestry and Tourism
MGO	Marine Gas Oil
mm/a	Millimetres per annum
mm/a	Millimetres per annum
MSDS	Material Safety Data Sheet
MoU	Memorandum of Understanding
NaCl	Sodium chloride
NAMPORT	Namibian Ports Authority
NIMPA	Namibian Islands Marine Protected Area
PBL	Planetary Boundary Layer
PM	Particle matter
PPE	Personal Protective Equipment
ppm	Parts per million
SADC	Southern African Development Community
SAH	South Atlantic High
SANS	South African National Standards
SO₂	Sulphur dioxide
SOLAS	Safety of Life at Sea
STS	Ship-to-Ship Transfer
TIBL	Thermal Internal Boundary Layer
WHO	World Health Organization

GLOSSARY OF TERMS

Alternatives - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

Assessment - The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.

Ballast Water Record Book - Official logbook in which all ballast water operations are recorded in compliance with IMO requirements.

Competent Authority - means a body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.

Construction - means the building, erection or modification of a facility, structure or infrastructure that is necessary for the undertaking of an activity, including the modification, alteration, upgrading or decommissioning of such facility, structure or infrastructure.

Cumulative Impacts - in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Environment - As defined in the Environmental Assessment Policy and Environmental Management Act - “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, palaeontological or social values”.

Environmental Impact Assessment (EIA) - process of assessment of the effects of a development on the environment.

Environmental Management Plan (EMP) - A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.

Environmental Management System (EMS) - An Environment Management System, or EMS, is a comprehensive approach to managing environmental issues, integrating environment-oriented thinking into every aspect of business management. An EMS ensures environmental considerations are a priority, along with other concerns such as costs, product quality, investments, PR productivity and strategic planning. An EMS generally makes a positive impact on a company’s bottom line. It increases efficiency and focuses on customer needs and marketplace conditions, improving both the company’s financial and environmental performance. By using an EMS to convert environmental problems into commercial opportunities, companies usually become more competitive.

Evaluation – means the process of ascertaining the relative importance or significance of information, the light of people’s values, preference and judgements in order to make a decision.

Hazard - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

IMO D2 Standard - A regulation under the International Maritime Organization’s Ballast Water Management Convention that sets limits on the number of viable organisms allowed to be discharged in ballast water. Vessels must treat ballast water to meet this standard before discharge, using approved ballast water management systems to prevent the spread of invasive aquatic species.

Interested and Affected Party (IAP) - any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

Marine Gas Oil - A type of distillate marine fuel used mainly in ship engines and marine generators.

Mitigate - The implementation of practical measures to reduce adverse impacts.

Namibian Islands Marine Protected Area - A legally protected marine conservation area along Namibia's southern coastline, encompassing islands and surrounding waters.

Proponent (Applicant) - Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act no. 7 of 2007, to undertake an activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment, Forestry & Tourism.

Public - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

Scoping Process - process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.

Significant Effect/Impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

Stakeholder Engagement - The process of engagement between stakeholders (the Proponent, authorities and IAPs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term "public participation".

Stakeholders - A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the Proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (IAPs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Sustainable Development - "Development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs and aspirations" – the definition of the World Commission on Environment and Development (1987). "Improving the quality of human life while living within the carrying capacity of supporting ecosystems" – the definition given in a publication called "Caring for the Earth: A Strategy for Sustainable Living" by the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme and the World Wide Fund for Nature (1991).

1 INTRODUCTION

Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by TotalEnergies Marketing Namibia (Pty) Ltd (the Proponent) to undertake an environmental assessment for proposed marine fuel bunkering operations within Namibia's Exclusive Economic Zone (EEZ) (Figure 1-1). Two methods of bunkering will be pursued by the Proponent. Firstly, it can be the ship-to-ship transfer of fuel for refuelling purposes of seafaring vessels such as petroleum, mining, and fishing vessels that do not make regular calls to a port. Fuel will be sourced either from established onshore storage facilities within a port or from offshore barges positioned in designated refuelling areas within or outside the EEZ. When sourced from offshore barges, the bunkering vessel will be refuelled directly from the barge before proceeding to supply the receiving vessel at the agreed offshore transfer location. In both cases, the bunker barge will pump fuel into the receiving vessels whenever the fuel is required. The second method involves supplying fuel to vessels berthed in a port through belowground pipelines that connect to the quayside for bunkering purposes. Bunkering services of the Proponent will only focus on marine gasoil (MGO), and no blending of MGO will take place on the bunkering vessel or at the onshore facilities.

A detailed project description and commodities list are presented in section 4.

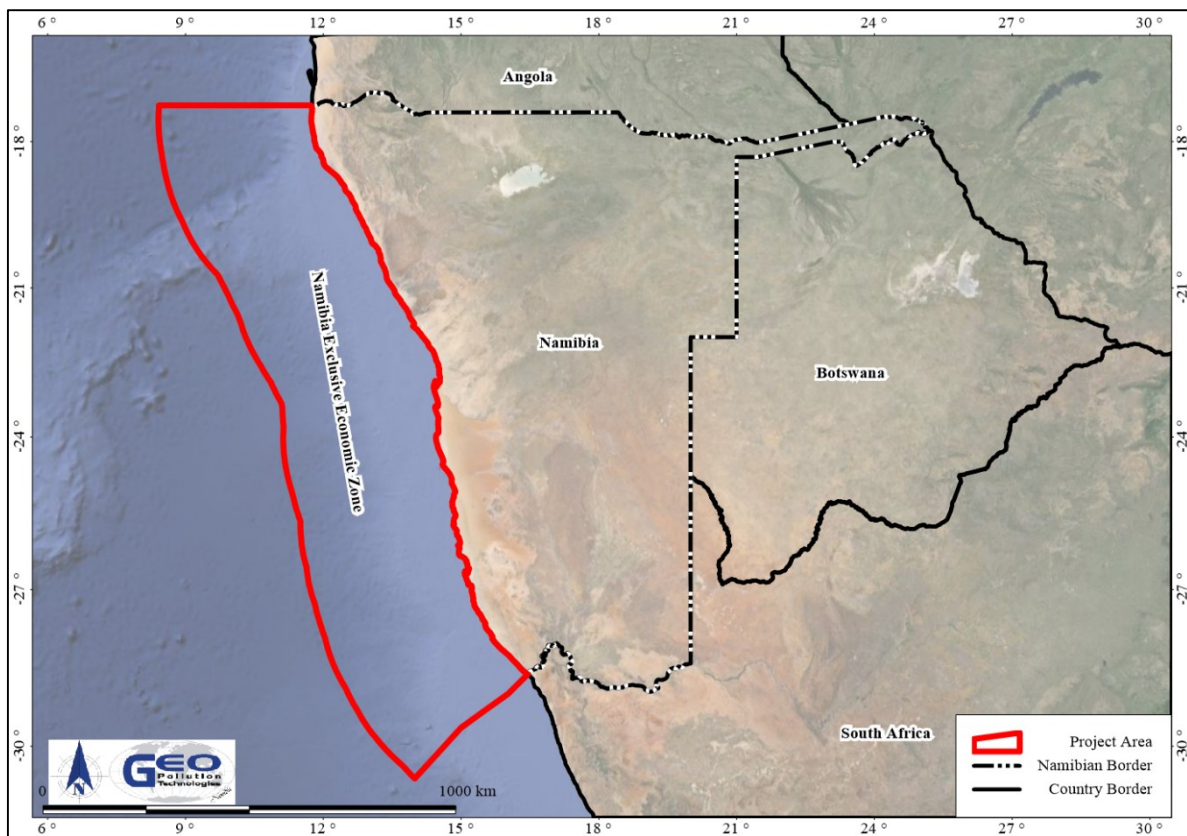


Figure 1-1 Project location

A risk assessment was undertaken to determine the potential impacts of the vessel commissioning, operational and possible decommissioning phases associated with the project, on the environment. The environment being defined in the Environmental Assessment Policy and Environmental Management Act as “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values”.

The environmental assessment was conducted to apply for an environmental clearance certificate in compliance with Namibia's Environmental Management Act (Act No 7 of 2007) (EMA).

Project Justification – The growth of Namibia’s maritime sector and its strategic position along a key west coast shipping route have created a demand for both offshore and quayside marine bunkering services. The Proponent will not be the first bunker barge operator in Namibia’s EEZ, but will contribute to the growing demand for bunkering services, especially in light of the offshore oil and gas developments.

The proposed bunkering operations seeks to establish a controlled and compliant bunkering operation within Namibia’s EEZ, providing safe and efficient refuelling options via offshore ship-to-ship transfers as well as quayside bunkering at the ports of Walvis Bay and Lüderitz. This dual approach will enhance Namibia’s maritime self-sufficiency, support the national blue economy strategy, and contribute to revenue generation, job creation, and broader economic growth. The benefits of the project include:

- ◆ Foreign revenue generation through the offshore sale of marine gas oil (MGO) to international vessels operating within the Namibian EEZ.
- ◆ Support to offshore sectors such as fishing, petroleum exploration, and shipping by reducing reliance on foreign ports for refuelling.
- ◆ Improved logistical efficiency for regional and international vessels transiting the west coast of Africa, reducing fuel costs and emissions.
- ◆ Creation of employment opportunities in the marine services sector, alongside potential for skills development and training in offshore operations.
- ◆ Economic diversification through expansion of Namibia’s blue economy and marine infrastructure.
- ◆ Stimulation of further investment in offshore support services and associated sectors, such as vessel maintenance and maritime safety operations.

2 SCOPE

The scope of the environmental assessment is to:

1. Determine the potential environmental impacts emanating from the activities proposed by the Proponent.
2. Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels.
3. Comply with Namibia’s Environmental Management Act (2007).
4. Provide sufficient information to the Ministry of Environment, Forestry and Tourism (MEFT) and related authorities to make an informed decision regarding the proposed bunkering operations, vessel commissioning activities, and possible decommissioning of the project.

3 METHODOLOGY

The following methods were used to investigate the potential impacts on the social and natural environment due to the planned vessel commissioning and operations of the project.

1. Baseline information about the project area and its surroundings was obtained from existing secondary information.
2. As part of the scoping process to determine potential environmental impacts, interested and affected parties (IAPs) were consulted about their views, comments and opinions and these are put forward in this report.
3. Based on gathered information and public and stakeholder consultation, an assessment of potential impacts was conducted and a management plan prepared.

4 PROJECT DESCRIPTION

The Proponent proposes to establish a marine fuel bunkering operation within Namibia’s EEZ. Bunkering will include both offshore ship-to-ship transfers and quayside bunkering of maritime vessels operating in sectors such as offshore petroleum exploration, shipping, and fishing.

The proposed service aims to support Namibia’s position as a regional maritime logistics hub by providing safe and efficient refuelling options both offshore and at the ports of Walvis Bay and Lüderitz.

Subject to environmental approval, a suitable barge or tanker will be acquired or chartered by the Proponent. The anticipated operational capacity is approximately two million litres of MGO per month, but this may increase with demand. MGO will be sourced either from onshore storage facilities in the Port of Walvis Bay, via quayside infrastructure, or directly from offshore barges positioned within designated refuelling areas in or outside of the EEZ. In the latter case, the bunkering vessel will be refuelled at sea before proceeding to supply client vessels.

4.1 VESSEL COMMISSIONING

The Proponent plans to commission a bunkering vessel once financial and operational strategies are finalised and environmental clearance and petroleum licences are obtained. The vessel will either be procured or chartered. If the bunkering vessel is acquired in a foreign country and sails to Namibia, ballast water will be treated on board to meet the International Maritime Organization's D-2 discharge standard, or exchanged outside Namibia's EEZ at least 200 nautical miles from shore in water deeper than 200 metres. Ideally, an additional ballast water exchange should be conducted at the EEZ border, to further minimise the risk of introducing foreign organisms into Namibian waters. Upon arrival at a Namibian port, no ballast water exchange or discharge will be permitted within port limits unless prior arrangements have been made and all relevant regulations have been followed, with explicit approval from NAMPORT. All ballast water operations will be documented in a ballast water record book, and compliance may be verified by port authorities through inspection and certification.

4.2 PLANNED OPERATIONS

The operational phase will involve two methods of bunkering, the first is the offshore ship-to-ship transfer and the second quayside bunkering of MGO to client vessels within Namibia's EEZ. At start-up, the Proponent plans to deliver approximately two million litres of MGO per month. Operational procedures involved with the Proponent's bunker services are described below.

4.2.1 Bunker Loading

Bunker loading refers to the taking on of fuel to be transported to the clients' offshore vessels. Two methods of bunker loading will be used.

The first will be bunker loading within the Port of Walvis Bay. The bunker barge will dock in the Port of Walvis Bay according to standard shipping procedures. Spill control booms will be deployed around the fuel loading area in order to contain accidental spills. Marine gas oil will be transferred from bulk storage tanks located at the Joint Bunkering Service (JBS) depot within the commercial harbour of the Port of Walvis Bay. The fuel will be conveyed via underground pipelines to the quayside, where the bunker barge is securely berthed for loading. Once the barge is loaded, spill control booms are retrieved and the barge departs.

A secondary fuel loading method will involve offshore bunker transfer from larger bunkering vessels anchored in designated offshore areas. These vessels serve as mobile fuel depots for smaller bunker barges. The Proponent's barge will approach and anchor alongside the supplying vessel at a pre-approved offshore location. Prior to fuel transfer, spill containment booms will be deployed around both vessels to mitigate the risk of marine pollution. Transfer hoses will then be securely connected, and Marine Gas Oil (MGO) will be pumped from the supplying vessel into the Proponent's barge under controlled conditions. Upon completion of the transfer, hoses will be disconnected, containment booms retrieved, and the receiving barge will depart the site.

All operations will be conducted in accordance with international best practices for offshore bunkering, including adherence to MARPOL Annex I requirements and relevant Namibian maritime safety and environmental regulations. Emergency response protocols and spill mitigation measures will be in place throughout the operation to ensure minimal environmental risk.

4.2.2 Offshore Ship-to-ship Bunkering

Once an order for fuel is received by the Proponent, the bunker barge will sail to the predetermined location. The same procedures as for offshore bunker loading will be followed, including all international best practices for offshore bunkering, including adherence to MARPOL Annex I requirements and relevant Namibian maritime safety and environmental regulations. This includes secure mooring using fenders and mooring lines to ensure safe positioning throughout the operation, controlled pumping rates, spill prevention measures, and real-time communication between vessels to ensure safe and efficient fuel transfer.

Pumping of fuel at controlled flow rate and pressure minimises the risk of spills, overfilling, or hose failure. Flow meters and visual monitoring will be used to track transfer volumes and detect any irregularities. Upon completion of the transfer, hoses will be purged and disconnected, and all mooring equipment retrieved. The bunkering vessel will then return to port or proceed to the next operational area. All required documentation, including fuel volumes, transfer logs, and safety checklists will be completed and signed by both parties.

All operations will adhere to strict safety and environmental protocols. Spill prevention measures will include the use of drip trays, absorbents, containment booms, and emergency shut-off systems. No blending will take place on board the bunkering vessel.

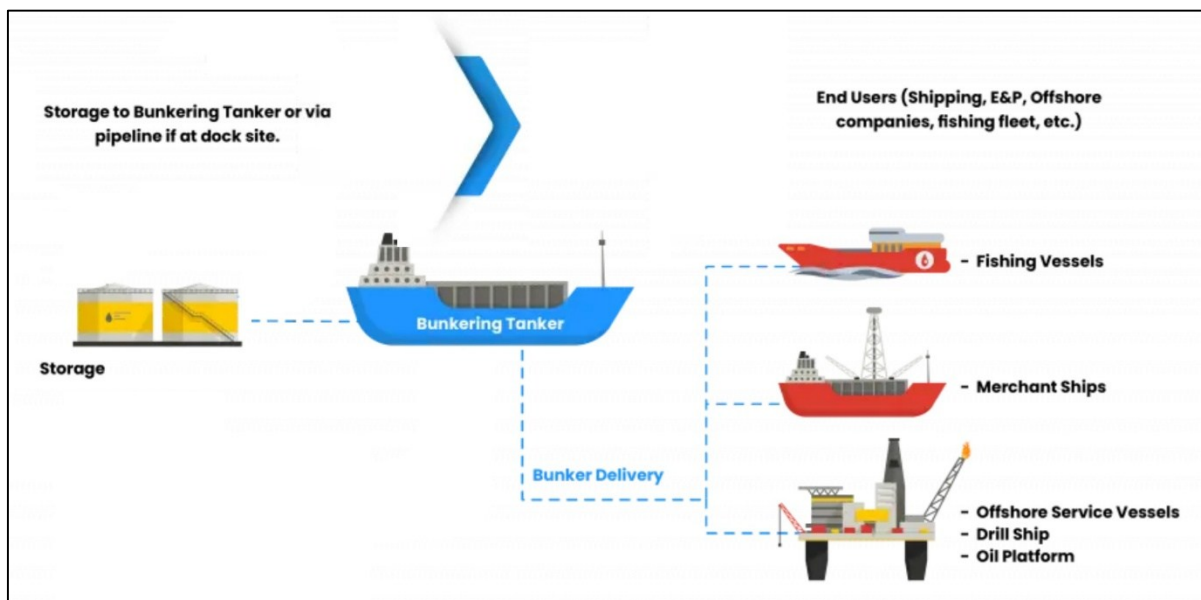


Figure 4-1 Typical bunkering process that will be used by the Proponent
(<https://www.inatech.com/inatech-for-bunker-suppliers/>)

4.2.3 Quayside Bunkering

Quayside bunkering is the process of supplying fuel to a vessel while it is securely moored alongside a quay or dock in port, typically using fixed pipelines or hoses from onshore storage. Quayside bunkering will use the existing JBS infrastructure in the Port of Walvis Bay (Figure 4-2). When the Proponent is contracted to supply MGO to a vessel berthed within the commercial harbour, fuel is delivered from onshore storage tanks through established belowground pipelines to the respective berth. This system allows for efficient and safe transfer of MGO directly to the vessel, with all operations coordinated according to port regulations and JBS procedures. In future, quayside bunkering may also be available at the new fuel terminal in the North Port, once additional pipelines and connection points are in place.



Figure 4-2 Map indicating the location of the JBS facility in relation to the Walvis Bay harbour

4.2.4 General

Since TotalEnergies Marketing Namibia is an existing entity with established offices in Walvis Bay, and the JBS also has established infrastructure, no construction activities are required for the proposed project. The Proponent has also been operational in the petroleum industry in Namibia for many years, with strict compliance to industry standards to protect the environment. This includes subscribing to the International Organization for Standardization (ISO) 14001 Environmental Management System.

Any pollution incidents will be reported to the relevant authorities and will be responded to in line with the National Marine Pollution Contingency Plan of 2017, the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC 1990), and various safety and environmental protection standards and guidelines established under the IMO.

5 ALTERNATIVES TO THE PROPOSED PROJECT

Due to the defined scope of the project, its targeted service area, and the logistical arrangements already in place with Namibian fuel storage and supply systems, no alternative locations, technologies, or delivery mechanisms were considered applicable or feasible. The proposed project design is therefore regarded as the most suitable approach to meet the intended operational and environmental objectives.

6 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided Table 6-1 to Table 6-4 govern the environmental assessment process in Namibia and/or are relevant to the facility.

Table 6-1 Namibian law applicable to the facility and related operations

Law	Key Aspects
The Namibian Constitution	◆ Promotes the welfare of people ◆ Incorporates a high level of environmental protection ◆ Incorporates international agreements as part of Namibian law
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	◆ Defines the environment ◆ Promotes sustainable management of the environment and the use of natural resources ◆ Provides a process of assessment and control of activities with possible significant effects on the environment
Environmental Management Regulations Government Notice No. 28-30 of 2012	◆ Commencement of the Environmental Management Act ◆ List activities that requires an environmental clearance certificate ◆ Provides Environmental Impact Assessment Regulations
Namibia Ports Authority Act Act No. 2 of 1994	◆ Provides for the establishment of the Namibian Ports Authority to undertake the management and control of ports ◆ Outlines the functions of the Namibian Ports Authority among which is the protection of the environment
Petroleum Products and Energy Act Act No. 13 of 1990, Government Notice No. 45 of 1990	◆ Regulates petroleum industry ◆ Makes provision for impact assessment ◆ Petroleum Products Regulations (Government Notice No. 155 of 2000) ◆ Prescribes South African National Standards (SANS) or equivalents for construction, operation and decommissioning of petroleum facilities (refer to Government Notice No. 21 of 2002)
Territorial Sea and Exclusive Economic Zone of Namibia Act Act No. 3 of 1990, Government Notice No. 28	◆ Determine and define the territorial sea, internal waters, contiguous zone, exclusive economic zone and continental shelf of Namibia.
Exclusive Economic Zone of Namibia Act Act 30 of 1991	◆ Establishes Namibia's sovereign rights within its EEZ (up to 200 nautical miles offshore) ◆ Applies Namibian laws to activities within the EEZ, including environmental and marine resource regulations ◆ Grants Namibia exclusive rights to explore, exploit, conserve, and manage marine resources ◆ Provides legal basis for permitting and environmental control of offshore activities such as marine fuel bunkering
Marine Resources Act Act No. 27 of 2000	◆ Provides for the conservation of the marine ecosystem and the responsible administration,

Law	Key Aspects
	conservation, protection and promotion of marine resources on a sustainable basis
Marine Resources Act Act No. 27 of 2000	Provides for the sustainable utilization, conservation, and protection of its marine ecosystem and resources.
Namibian Islands Marine Protected Area Government Notice 316 of 2012	- Declared under the Marine Resources Act - Provides legal delineation, zonation and buffer zones for core conservation areas within NIMPA - Defines core no-go zones and restrictions (e.g. prohibitions on certain extractive and polluting activities in high protection zones). - Establishes a buffer (“all-encompassing buffer zone”) around islands, islets, rocks etc., and includes co-ordinates.
Dumping At Sea Control Act Act No. 73 of 1980, Government Notice No. 1149	Provide for the control of dumping of substances in the sea.
Water Resources Management Act Act No. 11 of 2013	- Provides for management, protection, development, use and conservation of water resources - Prevention of water pollution and assignment of liability
Marine Traffic Act Act No. 2 of 1981, Government Notice No. 282	Regulate marine traffic in Namibia.
Prevention and Combating of Pollution of the Sea by Oil Act Act No. 6 of 1981, Government Notice No. 342	Provides for the prevention of pollution of the sea where oil is being or is likely to be discharged.
Prevention and Combating of Pollution of the Sea by Oil Amendment Act Act No. 24 of 1991, Government Notice No. 150	Amends the Prevention and Combating of Pollution of the Sea by Oil Act of 1981 to be more relevant to Namibia after independence.
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	Defines the powers, duties and functions of local authority councils
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	- Provides a framework for a structured more uniform public and environmental health system, and for incidental matters - Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation
Labour Act Act No 11 of 2007, Government Notice No. 236 of 2007	- Provides for Labour Law and the protection and safety of employees - Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)

Law	Key Aspects
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	• Governs the control of noxious or offensive gases • Prohibits scheduled process without a registration certificate in a controlled area • Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Hazardous Substances Ordinance Ordinance No. 14 of 1974	• Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export • Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings
Marine Notice No. 02 of 2012 Ministry of Works and Transport	• Provides guidance and for the transfer of oil within the prohibited area of the Namibian waters.
Marine Notice No. 04 of 2018 Ministry of Works and Transport	• Provides guidance on shipboard garbage management requirements in Namibia, in terms of the International Convention for the Prevention of Pollution from Ships (MARPOL).
Pollution Control and Waste Management Bill (draft document)	• Not in force yet • Provides for prevention and control of pollution and waste • Provides for procedures to be followed for licence applications
Foreign Investment Act 27 of 1990 (as amended by Foreign Investment Amendment Act 24 of 1993)	• Provides for the promotion of foreign investment in Namibia • Considers environmental impacts associated with foreign investments.
Draft Wetland Policy of 2003	• Considering the proximity of the Walvis Bay Lagoon, a RAMSAR site, the Wetland Policy of 2003 is of importance and includes protection and conservation of wetlands and ecosystems.
National Marine Pollution Contingency Plan of 2017	• Coordinated and integrated national system for dealing with oil and other spills in Namibian waters.

Table 6-2 Municipal by-laws, guidelines and regulations

Municipal By-laws, Guidelines or Regulations	Key Aspects
Integrated Urban Spatial Development Framework for Walvis Bay	• Overall vision to transform Walvis Bay to being the primary industrial city in Namibia • Aims to ensure that appropriate levels of environmental management is enforced for all developments in Walvis Bay
Integrated Environmental Policy of Walvis Bay (Agenda 21 Project)	• Indicates the directions that the Municipality of Walvis Bay will move towards in the forthcoming years to fulfil its responsibilities to manage the environment of Walvis Bay together with the town's residents and institutions • Strong focus on conservation and protection of environment
Municipal By-law 19 and 20 on Effluents Entering Sewers	• Regulates the discharge of effluent into sewers and prohibits the introduction of certain wastes or products including steam into the sewers system.
Town Planning Scheme No. 35	• Manages and regulates development related to land use

Proposes and identifies areas for specific future land use
--

Table 6-3 Relevant multilateral environmental agreements

Agreement	Key Aspects
Benguela Current Convention of 2013	The Convention is a formal treaty between the governments of Angola, Namibia and South Africa that sets out the countries' intention "to promote a coordinated regional approach to the long-term conservation, protection, rehabilitation, enhancement and sustainable use of the Benguela Current Large Marine Ecosystem, to provide economic, environmental and social benefits."
Convention on Biological Diversity (CBD)	- Primary goal is the conservation of biodiversity - Prescribes the precautionary principle - Parties to the convention are obliged to: - Establish a network of protected areas; - Create buffer areas adjacent to these protected areas using environmentally sound and - sustainable development practices; and - Rehabilitate degraded habitats and populations of species.
Convention on Biological Diversity, Rio de Janeiro, 1992	Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity.
The Convention on Wetlands of International Importance especially as Waterfowl Habitat (referred as the RAMSAR Convention)	- It is a framework for international cooperation in the conservation and wise use of wetlands and their resources. - Recognises the Walvis Bay Nature Reserve – a tidal lagoon consisting of Pelican Point, adjacent intertidal areas, sandbars serving as roosting sites and mudflats exposed during low tide (12,600 ha) as a Wetland of International Importance.
Stockholm Declaration on the Human Environment, Stockholm 1972	Recognises the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment
1985 Vienna Convention for the Protection of the Ozone Layer	- Aims to protect human health and the environment against adverse effects from modification of the Ozone Layer are considered - Adopted to regulate levels of greenhouse gas concentration in the atmosphere
United Nations Framework Convention on Climate Change (UNFCCC)	The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention
Abidjan Convention of 1981	- The Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region. - Provides an overarching legal framework for all marine-related programmes in West, Central and Southern Africa.
Convention on the International Maritime Organization (IMO)	- Regulates shipping with respect to, among others, maritime safety and marine environmental protection. - Key IMO conventions include International Convention for the Safety of Life at Sea and

	International Convention for the Prevention of Pollution from Ships and others as discussed below. See www.imo.org for a complete account of all the conventions and treaties.
International Convention for the Safety of Life at Sea (SOLAS 1974)	- With its origins in 1914, it is today regarded as the most important international treaty related to the safety of merchant ships. - Among others deals with fire, life-saving, radio communications, safety and navigation, safe operations, etc.
International Convention for the Prevention of Pollution from Ships (MARPOL 1973)	- Dealing with the prevention of pollution of the sea by oil, sewage and garbage from ships. - Annex I –Regulations for the Prevention of Pollution by Oil. - Annex II –Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk. - Annex III –Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form. - Annex IV –Regulations for the Prevention of Pollution by Sewage from Ships. - Annex V –Prevention of Pollution by Garbage from Ships. - Annex VI –Regulations for the Prevention of Air Pollution from Ships.
International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM 2004)	Aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing standards and procedures for the management and control of ships' ballast water and sediments.
Convention on the International Regulations for Preventing Collisions at Sea (COLREG 1972)	Among others, provides rules related to navigation to be followed by vessels at sea to prevent collisions.
International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC 1990)	International maritime convention establishing measures for dealing with marine oil pollution incidents nationally and in co-operation with other countries.

Table 6-4 Standards or codes of practise

Standard or Code of Practise	Key Aspects
International Dangerous Goods Code (IMDG Version 10 of 2010)	For handling and storage of dangerous cargo
Various Seafaring Codes and Standards	- The transport of cargo at sea is regulated by numerous codes and standards. Key to the Proponent are those pertaining to the loading and transport of cargo like the International Convention for the Safety of Life at Sea (SOLAS), 1974 which has the regulations: - Chapter VI - Carriage of cargoes - Chapter VII - Carriage of dangerous goods
Namport Safety, Health, Environment and Quality Policy	- Provides guidance to all members responsible for managing Safety, Health, Environment and Quality related aspects. - Ensures compliance with all applicable legal SHEQ and related requirements.

The project is listed as an activity requiring an environmental clearance certificate as per the following points from:

Section 9 of Government Notice No. 29 of 2012: Hazardous Substance Treatment, Handling and Storage

- ◆ 9.1 “The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.”

7 ENVIRONMENTAL CHARACTERISTICS

This section lists pertinent environmental characteristics of the study area and provides a statement on the potential environmental impacts on each.

7.1 LOCALITY AND SURROUNDING LAND USE

The proposed bunkering operations are intended to take place within the full extent of Namibia’s EEZ in the Atlantic Ocean. This offshore area encompasses the country’s coastal waters and forms part of a strategically significant maritime region in southern Africa.

Namibia’s coastline extends approximately 1,500 kilometres and is bordered by the hyper-arid Namib Desert along its entire length. The shoreline consists predominantly of sandy beaches (approximately 54%), with mixed sand and rock formations accounting for 28%, and predominantly rocky areas making up the remaining 16%. Rocky outcrops along the coast are typically exposed to strong wave action due to prevailing oceanographic conditions. The continental shelf along the Namibian coast is relatively narrow and is among the deepest globally, with the shelf edge reaching depths of around 350 metres (Van Zyl, 2007).

Namibia’s marine environment lies within the Benguela Current Large Marine Ecosystem (BCLME), which is shared by Namibia, Angola, and South Africa. The BCLME is one of the world’s five major coastal upwelling systems and is recognised for its exceptionally high levels of primary productivity, making it one of the most biologically productive marine systems globally. The Benguela Current sweeps cold, nutrient-rich water northward along Namibia’s coast, fuelling abundant populations of commercially important fish species and supporting diverse marine life. It provides critical migration routes and nursery habitats for a wide range of marine organisms. Oceanographers often distinguish between the southern Benguela region (extending from South Africa to around Lüderitz) and the northern Benguela region (from Lüderitz to the Kunene River at the Angola border), with the strong Lüderitz upwelling cell acting as a natural barrier within the ecosystem. Numerous offshore islands are located along the Namibian coast, particularly in the southern region, many of which fall within a designated marine protected area (see section 7.4). These islands support ecologically significant and sensitive habitats, hosting unique flora and fauna, and especially breeding bird populations.

The terrestrial coastal zone comprises four distinct vegetation types: the Northern, Central, and Southern Namib, as well as the Desert and Succulent Steppe. The Namib Desert, considered one of the oldest deserts in the world, is noted for its high levels of biological specialisation and endemism. It has been identified by the International Union for Conservation of Nature (IUCN) as a habitat with potential for World Heritage Site nomination due to its ecological importance. The majority of the coastline falls within declared national parks (see section 7.4).

Implications and Impacts

The proposed offshore bunkering operations will be supported by bunker loading activities in the Port of Walvis Bay, as well as from offshore barges positioned at approved locations within Namibia’s EEZ. As these activities occur within designated industrial or operational maritime zones, they are consistent with surrounding land uses. All onshore storage and handling of MGO will take place within existing approved infrastructure. Industry compliant offshore transfer systems will be used for bunkering services, minimising potential impacts on the environment.

7.2 CLIMATE

Namibia’s climate is dominated by dry conditions for most of the year and particularly so in the west. The location of Namibia with respect to the Intertropical Convergence Zone, Subtropical

High Pressure Zone and Temperate Zone is what determines the climate, with the Subtropical High Pressure Zone being the major contributor to the dry conditions (Atlas of Namibia Project, 2002; Bryant, 2010), see Figure 7-1.

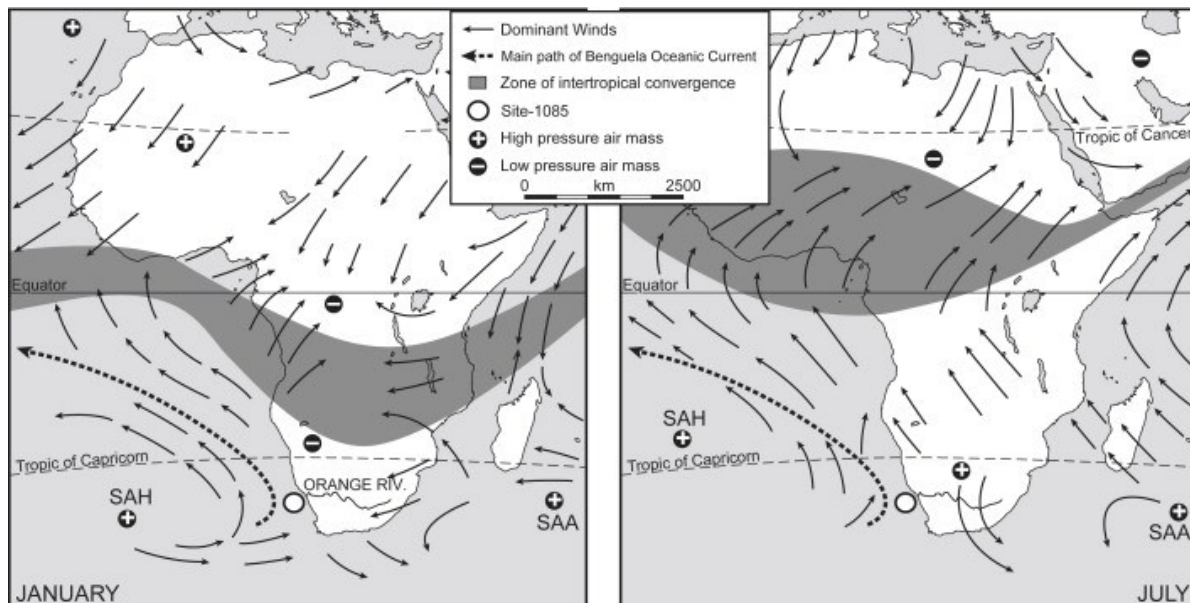


Figure 7-1 Map indicating the Intertropical Convergence Zone, Subtropical High Pressure Zone (SAH+), Benguela Current and Temperate Zone south of Tropic of Capricorn (not indicated) (from: <http://www.meteoweb.eu>)

Precipitation over Namibia is mainly controlled by the South Atlantic High (SAH), a high pressure cell (anticyclone) situated west of Namibia in the Subtropical High Pressure Zone. The SAH shifts during the year and is at higher latitudes in winter and lower latitudes in summer. In winter, as a result of being situated more north, the high pressure cell pushes any moisture originating from the Intertropical Convergence Zone northwards, preventing rain over Namibia. In summer, because the high pressure cell moves further south, and has less of an effect on the Intertropical Convergence Zone, moist air reaches Namibia, resulting in summer rains.

Studies indicate the presence of a thermal inversion layer along the coast. Originally this was thought to be at approximately 500 mamsl (Taljaard and Schumann 1940), but recent studies indicate it as low as 200 mamsl (Patricola and Chang, 2017; Corbett, 2018). A marine atmospheric boundary layer (MBL) exists offshore of the coastline that thins from more than 500 mamsl to 200 mamsl as it nears the coast (Figure 7-2). The MBL is a layer of cool, well-mixed, stable air that is capped by a thermal inversion (Patricola and Chang, 2016; Corbett 2018). This thermal layer or inversion layer will prevent the escape of pollutants such as smoke higher into the atmosphere. The MBL however contribute to high velocity wind speeds by funnelling the winds created by the SAH, resulting in what is referred to as the Benguela Low-Level Coastal Jet (Figure 7-2). Since the MBL overlap partially with the coastal plain, the wind generated by the Benguela Low-Level Coastal Jet also reaches inland, but diminishes relatively quickly further inland.

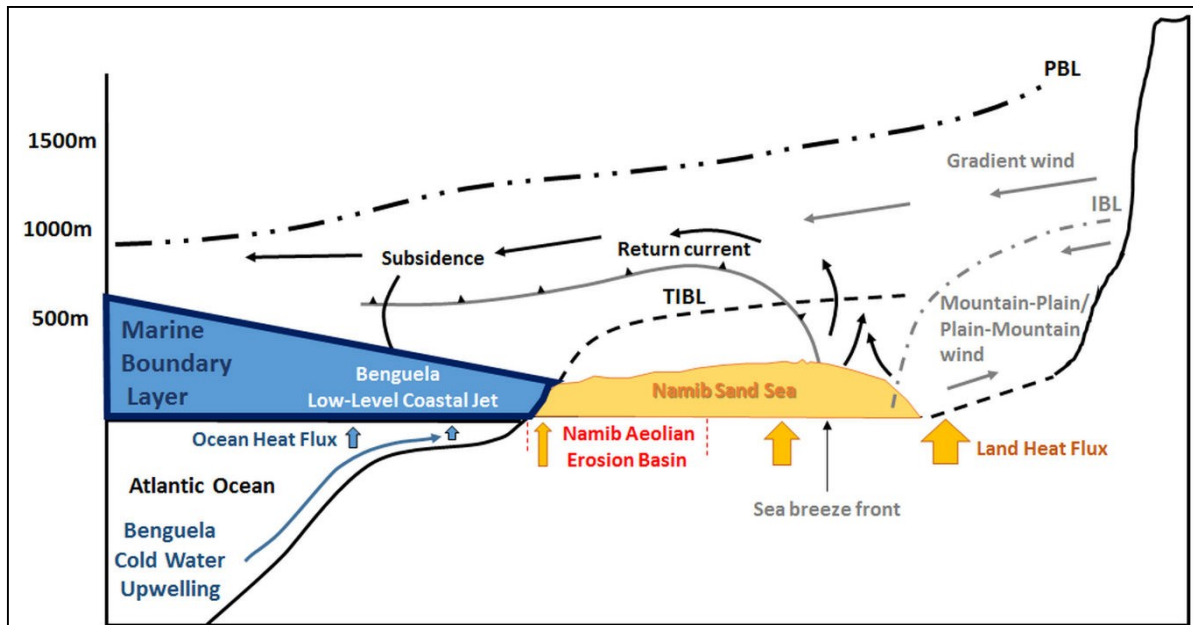


Figure 7-2 Marine atmospheric boundary layer (from: Corbett, 2018)

The climatic conditions on the central Namibian coast, and inland thereof (coastal plains), are strongly influenced by the cold Benguela Current, the SAH and the relatively flat coastal plains that are separated from the central highlands by a steep escarpment.

The anticlockwise circulation of the high pressure SAH and the action of the earth's Coriolis force results in strong southerly (longshore) winds blowing northwards up the coastline of Namibia (Bryant, 2010; Corbett, 2018). This longshore wind is responsible for upwelling of the cold, deep waters of the Benguela Current. As a result of the temperature difference between the cold surface water of the Benguela Current and the warm coastal plains, the southerly wind is diverted to a south south-westerly to south-westerly wind along the coast.

The winds are strongest in early to mid-summer (September to January) when the SAH is at its strongest and most persistent, and the temperature difference between the sea and the desert plains are at its greatest. Wind speeds then occasionally exceed 32 km/hr and usually peaks late morning to early afternoon. In winter, the SAH loses strength and the southerly to south-westerly winds are at their weakest. Winter winds do not have enough strength to reach far inland. Autumn to winter conditions do however promote the formation of east wind conditions (berg winds) that can reach speeds of more than 50 km/hr and transport a lot of sand. East winds occur when the inland plateau is cold with a localised high pressure cell, while a low pressure system is present at the coast. The high pressure cell forces air off the escarpment and as the air descends, it warms adiabatically as well as create a low pressure system due to the vertical expansion of the air column. The warm air flows toward the coastal low and as it passes over the Namib plains, it heats up even further. The wind manifests itself as very strong, warm and dry wind during the mornings to early afternoon, but dissipate in the late afternoon.

Throughout the year the prevailing night time regional wind is a weak easterly wind. This results when the mainland cools to below the temperature of the coastal water. This results in a coastal low versus an onshore high pressure system with first no wind in the early evening, when temperatures between water and land is similar, and then weak easterly winds as the temperature difference increase.

Implications and Impacts

Strong winds may lead to rough seas with safety risks for the crew of the bunkering and receiving vessels. Strong winds and swells may disrupt or prohibit bunkering.

Appropriate containment and spill management measures will be in place to prevent the release of hydrocarbons into the marine environment during adverse weather conditions. All

infrastructure, both onshore and offshore, will be designed and maintained to withstand prevailing wind and weather conditions, minimising the risk of damage and environmental incidents throughout the EEZ.

7.3 CORROSIVE ENVIRONMENT

The Namibian coastline is a very corrosive environment, which may be attributed to the frequent salt-laden fog, periodic winds and abundance of aggressive salts (dominantly NaCl and sulphates) in the soil. The periodic release of hydrogen sulphide (H₂S) from the ocean is expected to contribute to corrosion. See Figure 7-3 for corrosion comparison data of Walvis Bay with other centres in South Africa.

The combination of high moisture and salt content of the surface soil can lead to rapid deterioration of subsurface metal (e.g. pipelines) and concrete structures. Chemical weathering of concrete structures due to the abundant salts in the soil is a concern.

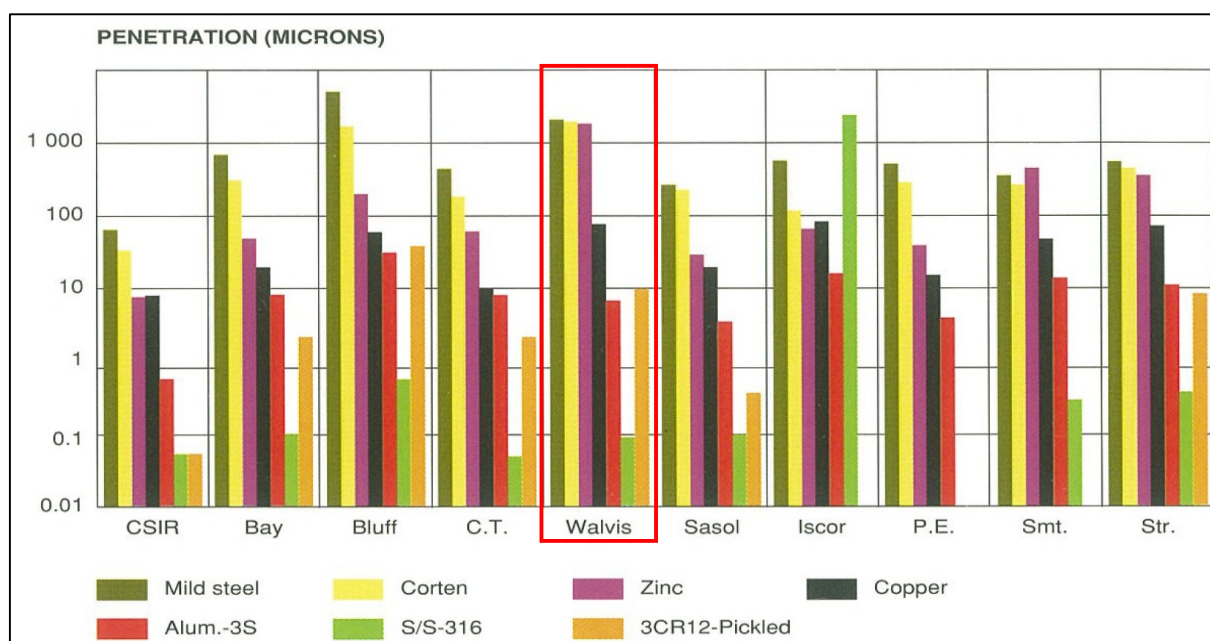


Figure 7-3 Twenty year corrosion exposure results in southern African towns (Callaghan 1991)

Implications and Impacts

Corrosion levels may be high and must be kept in mind when planning the maintenance activities on-board the vessel and its infrastructure as well as for onshore infrastructure and pipelines.

7.4 THE MARINE AND COASTAL ENVIRONMENT

Namibia's marine environment forms part of the Benguela Current system, a biologically rich and economically important oceanographic feature. It forms part of the South Atlantic gyre. The current, flowing in an anticlockwise direction, carries cold, nutrient-rich water northward along the western coast of southern Africa, supporting high levels of primary productivity and diverse marine life. Surface water is driven by the dominant southerly winds (see section 7.2) while it is deflected westwards by the Coriolis force. This results in the dominant physical driver in this system which is wind-induced coastal upwelling. I.e. as the surface water moves away from the shore, it draws deep, cooler water to the surface, and along with it, an abundance of nutrients. Persistent south to south-westerly winds push nearshore surface water offshore, drawing cooler, nutrient-rich water from deeper layers to the surface. This process supports large phytoplankton blooms, which form the foundation of the marine food web. Upwelling is strongest where the continental shelf is narrow and wind conditions are intensified.

The Namibian offshore and coastal environments are dynamic ecosystems with relatively quick recovery after a disturbance. It supports vast fish stocks and rich biodiversity, although these

have been impacted by overfishing and food web imbalances. Even though it is a dynamic ecosystem, it is also host to ecologically or biologically sensitive areas (EBSA), some being protected by National legislation while others are only acknowledged as such. The most important of these are presented in Figure 7-4 and Table 7-1.

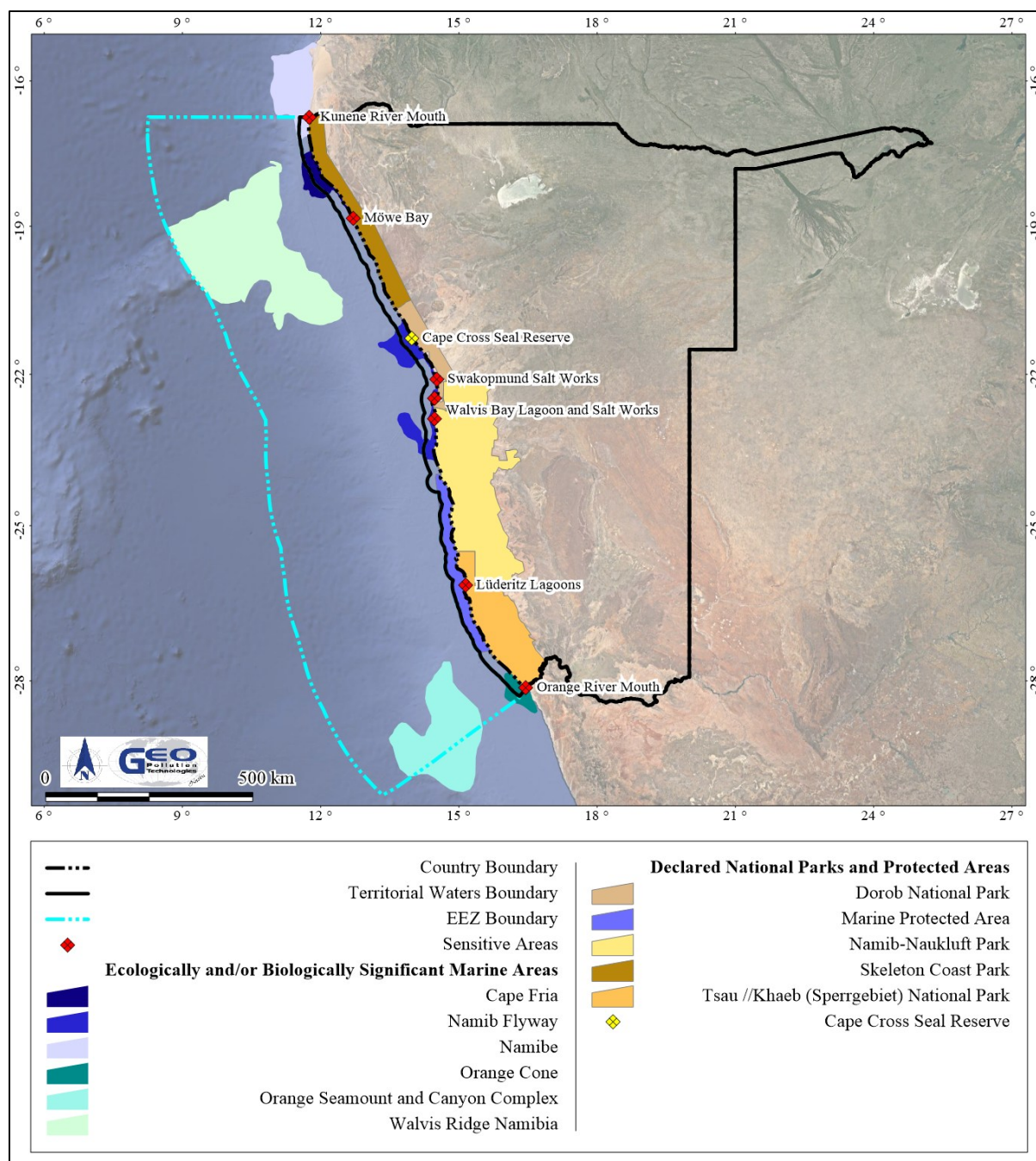


Figure 7-4 Protected and sensitive areas

Figure 7-4 Protected and sensitive areas presents the location of designated protected and environmentally sensitive areas along the Namibian coastline. It is evident from this figure that while a substantial portion of the terrestrial coastal zone falls within proclaimed protected areas, only a limited extent of the adjacent marine environment (i.e. the NIMPA) is currently afforded the same level of protection. Six marine areas have however been adopted as EBSA by the CBD. Some sharing the waters of Angola and South Africa. These are, from north to south, Namibe, Cape Fria, Namib Flyway, Walvis Ridge Orange Cone, and Orange Seamount and Canyon Complex.

Several ecologically sensitive coastal wetlands are situated along the Namibian coast, many of which are particularly vulnerable to oil (hydrocarbon) pollution. These wetlands typically occur within semi-enclosed, sheltered environments and support rich biodiversity, including estuarine fauna and large resident and migratory bird populations. The ecological function and habitat value of these wetlands make them high-priority sites for protection in the event of a marine pollution incident.

Among the key features of Namibia's marine conservation landscape is the Namibian Islands Marine Protected Area (NIMPA), which extends along the southern coast near Lüderitz and encompasses a network of offshore islands, islets, and surrounding marine waters. NIMPA stands as Africa's second-largest marine protected area, covering almost 10,000 km². The reserve was established to safeguard a mosaic of habitats, including rocky islands, kelp forests, and rich upwelling zones that support critical breeding colonies of African penguins, Cape gannets, bank cormorants, and other threatened seabirds. These islands also provide refuge for Cape fur seals and are frequented by several species of whales and dolphins, including the endemic Heaviside's dolphin. The exceptional biodiversity within NIMPA reflects the broader importance of the Namibian coast as a stronghold for globally significant marine and coastal fauna.

Following independence in 1990, Namibia introduced stricter controls over its marine resources, restricting access by foreign fishing fleets. This policy enabled the recovery of fish stocks and contributed to the growth of the national fisheries sector. Continued protection of marine ecosystems is essential to support the long-term sustainability of this industry and the broader blue economy.

Implications and Impacts

Offshore bunkering within the EEZ could interact with these sensitive areas, where fuel spills or operational discharges may have disproportionate impacts on fisheries, marine mammals, seabirds, and nursery habitats. Given the high ecological value and conservation importance of these zones, any degradation could undermine both biodiversity and the economic benefits derived from marine resources, making strict operational controls essential.

Table 7-1 Key biodiversity areas along the coastal regions of Namibia

Site	Key Ecological Values & Key Species	Protection Status / Legal Instruments	Responsible Authority / Managers	Main Threats / Management Gaps
Namibe	High productivity coastal ecosystems; supports commercial fish life stages, migratory and resident seabirds, marine mammals, turtles.	Adopted as an EBSA by CBD; not a formal MPA in full extent. Partial inshore trawl restrictions in Namibian waters. Transboundary EBSA; requires joint Angola–Namibia management plan for offshore/nearshore areas.	Namibian & Angolan Governments; MEFT (Namibia) for national responsibilities.	Fishing pressure, cross-border management coordination needed, pollution, climate stressors.
Kunene River Mouth	Supports Damara Terns, waders, wetland-dependent species; seasonal bird aggregations; freshwater–marine ecological coupling in arid landscape.	Located within Skeleton Coast National Park terrestrial limits; no dedicated marine MPA for the estuary mouth itself.	Ministry of Environment, Forestry & Tourism (MEFT); TFCA collaboration with Angola.	Upstream water abstraction, habitat alteration, seasonal flow variability; limited marine protection. A critical estuarine site – inclusion of marine buffer in TFCA planning recommended.
Cape Fria	Powerful upwelling zone; high primary productivity; overlap of tropical & temperate species; critical Damara Tern habitat; Cape fur seal foraging. Important for top predator foraging;	Adopted as EBSA by CBD; not a formal MPA.	Namibian Government; MEFT	Fisheries impacts, potential offshore exploration, limited marine protection. Monitoring of seabird colonies recommended.
Walvis Ridge	Seamounts, guyots, cold-water corals, gorgonians; migratory marine mammals (whales), foraging corridor for sharks, turtles, seabirds. Deep-sea habitats vulnerable;	Adopted as EBSA by CBD; not a standard MPA; transboundary deep-sea feature.	Namibian Government and international cooperation for deep-sea governance.	Threats from bottom trawling, oil & gas exploration, pollution, climate change impacts. Requires international protection measures and fisheries restrictions.
Skeleton Coast National Park	Unique desert–coast species, adapted plants and animals; wilderness and cultural values.	National Park (terrestrial); MoU with Angola for Transfrontier Park.	MEFT	Mining legacy, tourism pressure, enforcement across remote areas.

Site	Key Ecological Values & Key Species	Protection Status / Legal Instruments	Responsible Authority / Managers	Main Threats / Management Gaps
				Marine extension to be clarified and gazetted where appropriate.
Möwe Bay	Transition zone: Cape fur seals, Heaviside's dolphins, migratory seabirds; adjacent dune and lichen habitats.	Within Skeleton Coast National Park terrestrial protection; no separate marine MPA.	MEFT; Skeleton Coast / Iona TFCA coordination.	Restricted access helps, but marine protection is limited; tourism disturbance risk. Ecological linkage to TFCA increases conservation value.
Namib Flyway	Coastal corridor supporting millions of migratory shorebirds; wetlands, salt pans, estuaries (Walvis Bay, Sandwich Harbour) are key.	Adopted as EBSA by CBD; overlaps IBAs and Ramsar sites. Marine & intertidal zones underprotected. Parts overlap Dorob National Park, Namib-Naukluft National Park and Ramsar sites.	Namibian Government (MEFT), local municipalities, NGOs (bird conservation groups).	Urban expansion, port development, pollution, habitat fragmentation, sea-level rise. Clear need for integrated coastal management.
Dorob National Park	Sandy beaches, dunes, lichen fields; >270 bird species including Damara Terns, flamingos, migratory waders.	Gazetted National Park (since Dec 2010) with multiple-use zoning; coastal/intertidal zones managed under park regulations. Sensitive lichen fields and breeding sites managed as strict reserves within park zoning.	Namibian Government (MEFT).	Off-road driving, tourism pressure, town expansion near coastal zones.
Cape Cross Seal Reserve	World's largest Cape fur seal colony seasonally (~up to 210,000 individuals); associated seabirds and scavengers.	Gazetted as a nature reserve; National Heritage Site designation for cultural values. Seal harvest regulated; ongoing monitoring of population trends advised.	Namibian Government (MEFT)	Tourism disturbance, seal harvesting regulated under quotas, disease and climate-driven food shifts.
Swakopmund Saltworks	Artificial pans support diverse aquatic life and large bird aggregations; historically hosted large Cape Cormorant numbers. Salt pans provide	Privately managed 400 ha aquatic portion; recommended Ramsar listing; no formal MPA.	Private managers; oversight by MEFT for alignment; local municipalities.	Industrial expansion risk, hydrological alteration, pollution, water abstraction.

Site	Key Ecological Values & Key Species	Protection Status / Legal Instruments	Responsible Authority / Managers	Main Threats / Management Gaps
	secondary habitat but change salinity gradients and connectivity			
Walvis Bay Lagoon & Saltworks	Ramsar-listed wetland; mudflats, sandbanks, shallow subtidal areas supporting millions of migratory birds; nurseries for fish and invertebrates.	Declared Ramsar Site; Key Biodiversity Area (KBA). Crucial site for bird migration; management must integrate port and conservation needs.	Namibian Government; local port authorities; MEFT; private saltworks operators.	Port/industrial pressure, pollution, runoff, habitat fragmentation, light/noise disturbance.
Namib Naukluft National Park	Marine-terrestrial interface is one of Namibia's most ecologically dynamic and visually striking conservation zones; blends the Namib Desert's hyper-arid dune systems with the productive Benguela Current marine ecosystem. Encompass a large area of the NIMPA and Sandwhich Harbour.	Declared National Park	Namibian Government	Tourism and climate stressors
Namibian Islands' Marine Protected Area (NIMPA)	First and only marine protected area in Namibia; covers over 9,500 km ² . Within the most intense upwelling zones of the Benguella Current system and thus has exceptionally high productivity. Includes numerous islands and islets and many different ecosystem types - ranging from sandy beaches and rocky reefs to outer shelf benthic zones, with six classified as threatened, including: ● Critically Endangered: Namaqua Intermediate Sandy Beach, Namaqua Reflective Sandy Beach ● Endangered: Kuiseb Mixed Shore ● Vulnerable: Lüderitz Outer Shelf, Namaqua Exposed Rocky Shore, Namaqua Inshore	Adopted as EBSA by the CBD and entirely protected as declared marine protected area	Namibian Government	The key threats are guano harvesting, mariculture illegal fishing, pollution, and climate change also pose risks.

Site	Key Ecological Values & Key Species	Protection Status / Legal Instruments	Responsible Authority / Managers	Main Threats / Management Gaps
	Supports globally significant populations of African penguin (Endangered), Cape gannet, Bank cormorant, Damara tern (Namibian endemic) and marine mammals and turtles. It is the foraging grounds for Heaviside's dolphins, Cape fur seals, and critically endangered leatherback turtles from the Western Indian Ocean. Sheltered bays and rocky reefs support juvenile fish, lobsters, and commercial species, contributing to local fisheries and mariculture.			
Sandwich Harbour	Geomorphologically active tidal lagoon, mudflats, barrier beaches; supports >50,000 birds in summer and very high shorebird densities.	Highly dynamic; shifting sandbars complicate long-term protection; strong Ramsar obligations.	Namibian Government (MEFT); local conservation stakeholders.	Lost marine reserve status historically (1994 legal issue); off-road tourism impacts; dune driving.
Lüderitz Lagoon	Productive estuarine system, supports flamingos, cormorants, Damara Terns; nursery habitats for juvenile fish.	No separate formal protected status (adjacent to Tsau //Khaeb National Park boundary); recognised as IBA.	Namibian Ports Authority; MEFT; local municipalities. Monitoring of industrial development impacts (pipelines, ports) recommended.	Green hydrogen and industrial developments, port encroachment, pollution risks.
Tsau //Khaeb National Park (Sperrgebiet)	Global biodiversity hotspot in the Succulent Karoo; coastal interface supports seabirds, seals, penguins, marine invertebrates.	National Park (formerly Sperrgebiet). Marine extension exists but not fully gazetted. Historical mining gave de facto protection; formal marine management needed.	MEFT; park management agencies.	Mining, potential green hydrogen, climate change; marine extension pending formal gazettement.
Orange Cone & Orange River Mouth	Transboundary river-ocean interface; estuarine and pelagic habitat diversity; key for fish spawning/nurseries and waterbirds.	Orange Cone: EBSA adopted by CBD; Orange River Mouth: Ramsar Site. Rehabilitation efforts underway.	Namibian & South African Governments; transboundary bodies.	Upstream water abstraction, pollution, reduced sediment flows, agricultural/industrial runoff.

Site	Key Ecological Values & Key Species	Protection Status / Legal Instruments	Responsible Authority / Managers	Main Threats / Management Gaps
				Transboundary cooperation essential.
Orange Seamount & Canyon Complex	Deep-sea shelf-edge habitat with coral & sponge assemblages; demersal fish hotspot; fragile benthic communities.	Adopted as EBSA by CBD; not an MPA. Some limited fishery restrictions in Namibian waters.	Namibian & South African Governments.	Bottom trawling, longlining, potential oil exploration. Transboundary management coordination required for effective protection.

7.5 TYPICAL FATE OF SPILLED OIL

A number of physical and chemical processes affect oil spilled into the marine environment, influencing both its persistence and eventual removal from the sea surface. The fate of the spilled oil is determined by several factors, including the volume and type of oil released, its initial physical and chemical properties, prevailing sea and weather conditions, and whether the oil remains offshore or reaches the shoreline.

Weathering processes begin immediately after the spill and can lead to either the natural removal of oil or its transformation into more persistent forms. Processes such as spreading, evaporation, dispersion, dissolution, and sedimentation typically act to reduce the presence of oil on the sea surface, especially in the early stages of a spill. In contrast, the formation of water-in-oil emulsions ("mousse") and the associated increase in viscosity enhance the oil's resistance to natural breakdown, increasing its persistence in the marine environment.

Over time, long-term processes such as oxidation, sedimentation, and particularly biodegradation become the dominant mechanisms responsible for the eventual assimilation of the oil into the environment. The updated National Marine Pollution Contingency Plan (2022) emphasises the importance of understanding these natural processes in conjunction with operational and strategic response measures, to minimise ecological and socio-economic impacts following a marine pollution event.

Figure 7-5 and Figure 7-6 illustrate the progression and relative significance of the various weathering processes acting on spilled oil over time, from the initial release through to long-term environmental recovery.

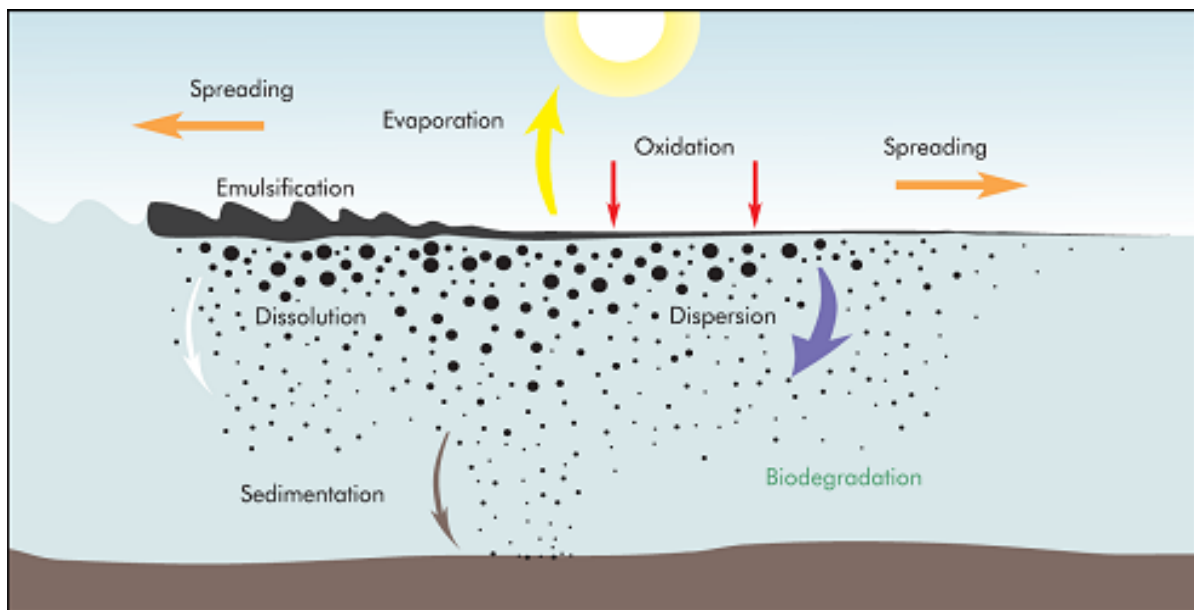


Figure 7-5 Process Acting on Marine Spilled Oil (ITOPF; 2002)

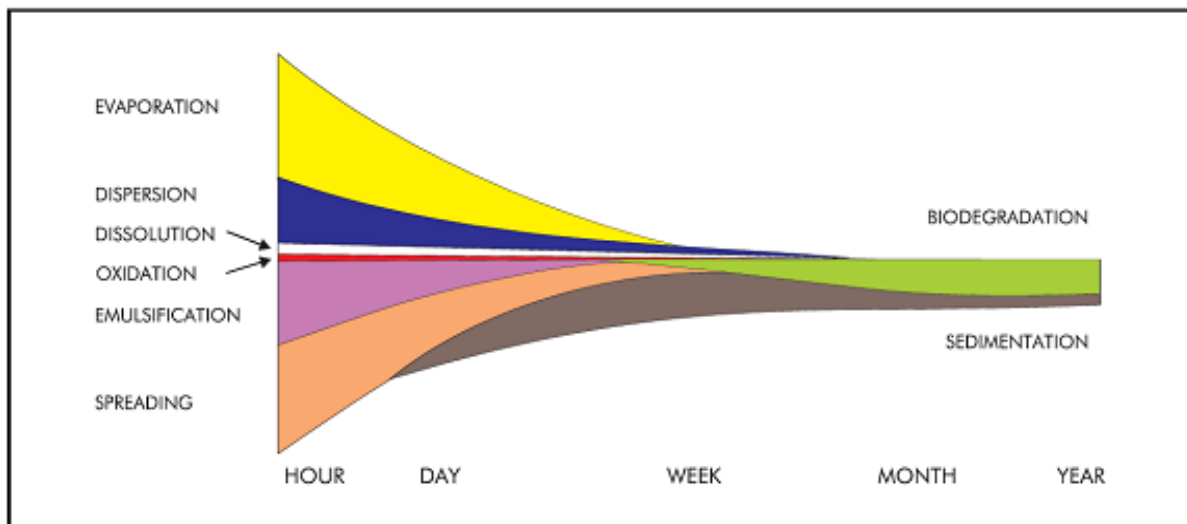


Figure 7-6 A schematic representation of the fate of a crude oil spill showing changes in the relative importance of weathering processes with time - the width of each band indicates the importance of the process (ITOPF; 2002)

According to the National Marine Pollution Contingency Plan (2022), an oil spill occurring in the open ocean has a very low probability of reaching the shoreline, and in such cases, the preferred response strategy may be to allow the oil to undergo natural weathering processes. This is based on the understanding that weathering mechanisms such as evaporation, dispersion, and biodegradation are generally effective in offshore conditions where environmental sensitivity is lower and access for response is limited.

The Plan further outlines expected oil movement behaviours based on the distance of the spill from the shoreline:

Spills within 10 km of the shore are predicted to have an approximate 50% chance of drifting ashore and a 50% chance of moving offshore. The oil may beach either north or south of the spill location, with no strong directional bias.

Spills between 10 and 40 km from the coast are more likely to drift in a north-westerly direction, moving offshore. In these cases, oil typically emulsifies rapidly, forming viscous water-in-oil emulsions. While beaching remains possible, it is likely to occur several days after the spill, by which time the oil would have weathered significantly.

Spills occurring 40 km or more offshore have a less than 3% chance of reaching the shore. Although the probability of beaching increases nearer the coast, it remains relatively low—approximately 40% at 10 km from shore, and even at 5 km, oil may still drift northwest and not reach land. In general, oil tends to move in a northerly to north-westerly direction; however, occasional shifts in wind and current can cause movement southward and potential beaching south of the release point. For spills that occur close to shore but do not beach, natural weathering may again be the most appropriate response option.

Figure 7-7 and Figure 7-8 depict the trajectories of buoys released near the coast, illustrating a general pattern of northward and westward drift, with limited movement to the east and south. These observations support the conclusion that offshore bunkering operations, when conducted well beyond the immediate coastal zone, significantly reduce the likelihood of oil reaching sensitive shoreline environments in the event of a spill.

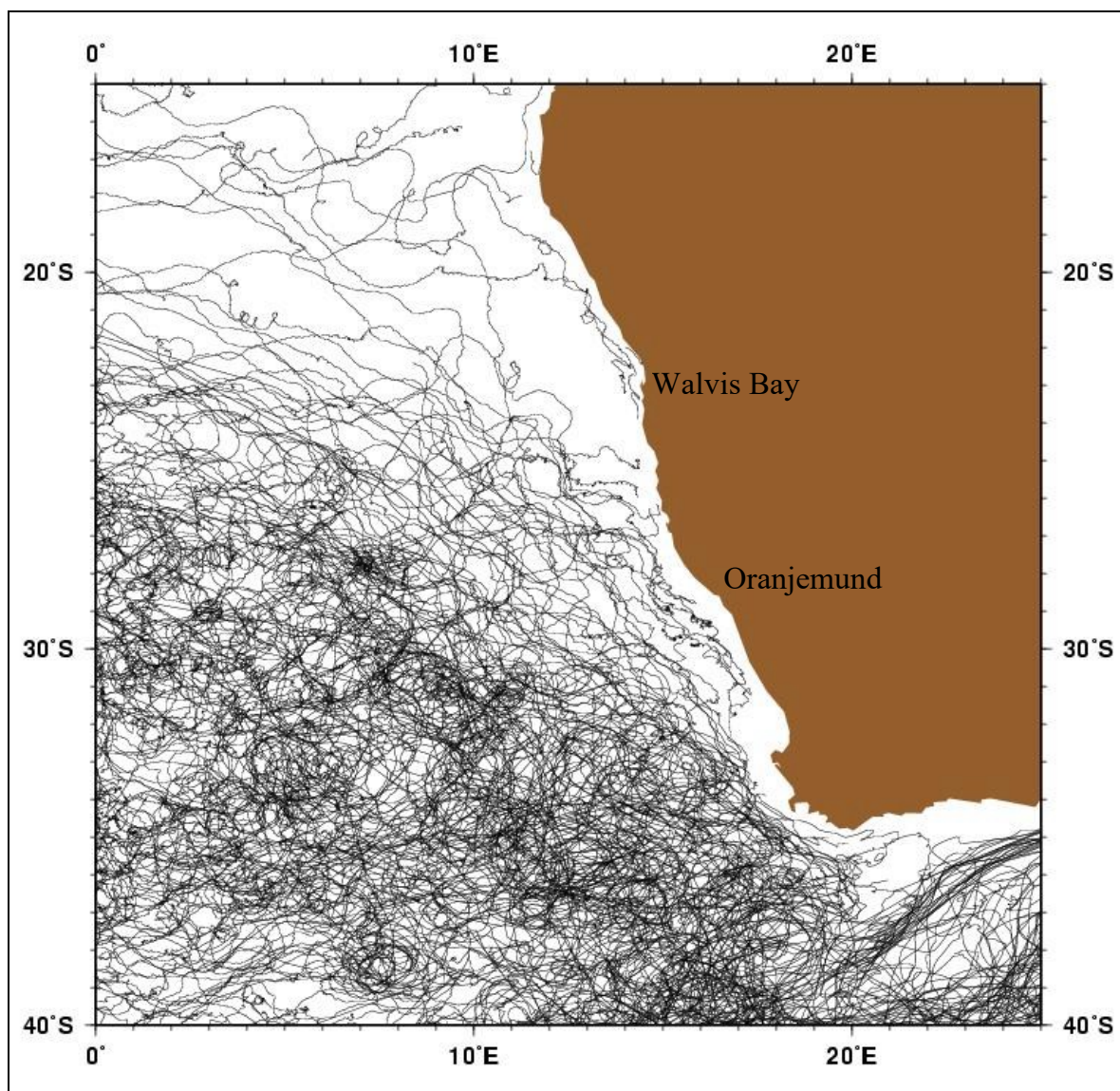


Figure 7-7 The trajectories of all of the NOAA AOML Drifting Buoy Data Assembly (DAC) Center's archived near-surface buoys, from 1978 to June, 2003, are shown here as a "spaghetti" plot. The data density or the amount of drifting buoy data in each region is large where there is a lot of black spaghetti. (http://oceancurrents.rsmas.miami.edu/atlantic/benguela_2.html sourced on 15.3.12)

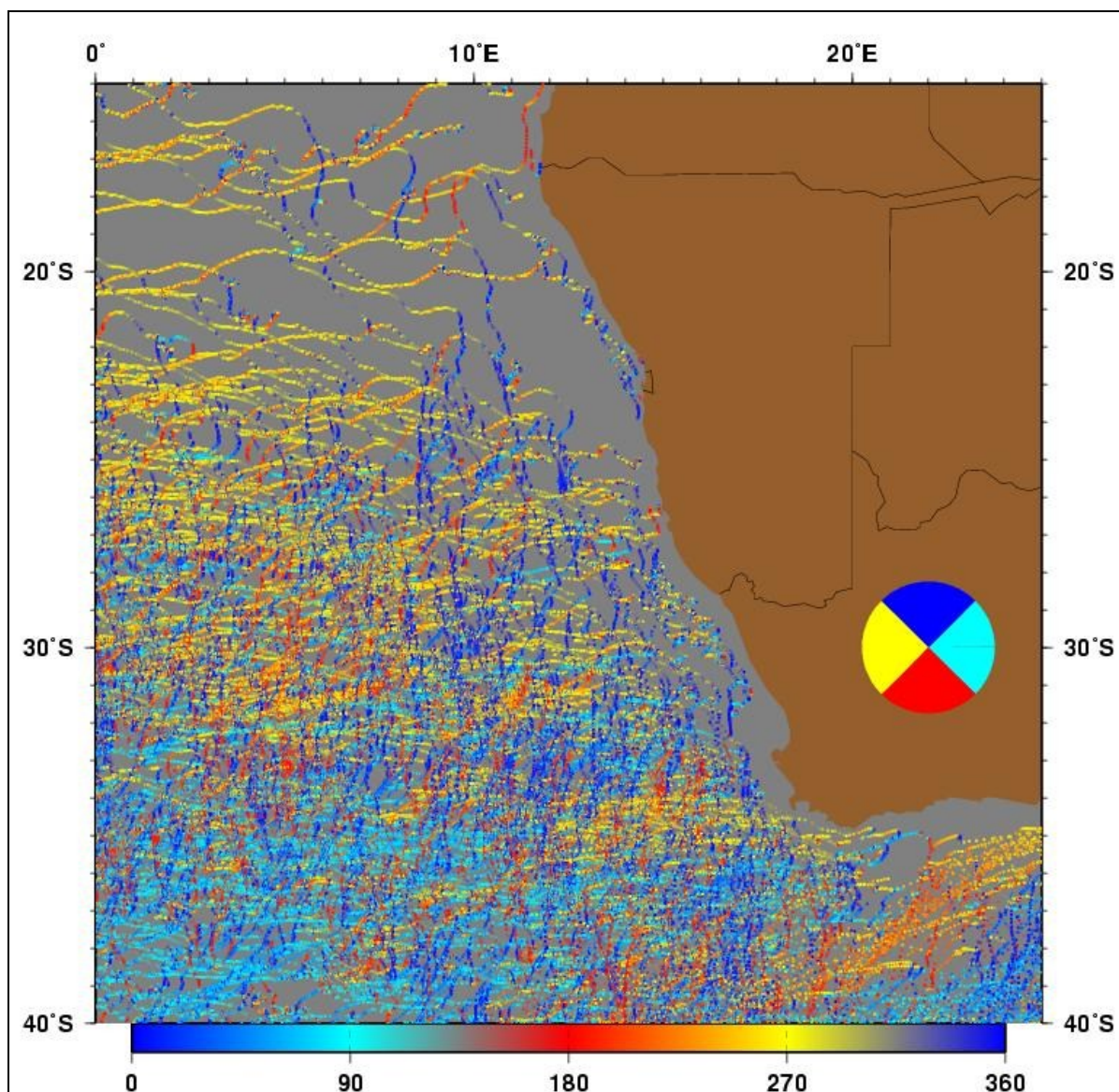


Figure 7-8 The corresponding direction (heading/bearing) of the buoys in degrees relative to North (0/360°) which is dark blue. Due south (180°) is red, while due west (270°) is yellow and due east (90°) is cyan. So for example, light blue implies the buoy is heading toward the northeast and orange implies the buoy is heading toward the southwest. (http://oceancurrents.rsmas.miami.edu/atlantic/benguela_2.html sourced on 15.3.12)

Implications and Impacts

Offshore bunkering beyond 40 km from shore presents a low risk of oil reaching sensitive coastal habitats, with natural weathering processes likely to reduce persistence and toxicity. Spills closer to shore increase the likelihood of beaching, potentially affecting seabirds, marine mammals, and intertidal ecosystems. Spill trajectory modelling and rapid-response measures should be in place to minimise ecological and socio-economic impacts.

7.6 TYPICAL OIL SPILL IMPACTS

The National Marine Pollution Contingency Plan (2022) outlines a range of environmental risks associated with spills from coastal tankers, fishing vessels, and dry cargo ships, particularly those using diesel or heavy furnace fuel (HFF). Spills within the coastal zone have the potential to cause significant ecological disruption, particularly to marine mammals, seabirds, and sensitive shoreline habitats. Fishing activities may be suspended in or near the affected areas, with

commercial operations and vessel traffic requiring rerouting or notification to prevent further risk or exposure.

The Plan acknowledges that the availability of shoreline protection equipment in Namibia is limited. In the event of an imminent coastal impact, response options such as diversion booming may be deployed to protect high-priority areas, such as estuary mouths or ecologically sensitive beach segments. Additionally, the early use of absorbent materials prior to shoreline impact may assist in reducing oil volume, limiting smothering effects, and facilitating subsequent clean-up operations.

Namibia's dynamic coastline presents further complexity. Oil that reaches sandy beaches is often quickly buried below the high tide mark by wave and tidal action, only to be re-exposed by subsequent tidal cycles. Fine-grained beaches tend to retain oil close to the surface, whereas coarser substrates, including pebbles and cobbles, may allow oil to become trapped at greater depths (30–50 cm), rendering detection and removal more challenging. On high-energy rocky shores, wave action can rapidly remove surface oil. However, in the event of a high spring tide combined with storm conditions, oil may be deposited well above the high-water mark, where it can persist for years in the form of tar residues.

Oil that sinks to the seafloor can negatively impact benthic communities. The extent and rate of biodegradation of such subsurface oil remains uncertain, but its potential to harm bottom-dwelling organisms is acknowledged.

The ecological consequences of oil spills are not limited to immediate toxicity or physical smothering. Long-term impacts include disruption of food chains, contamination of reproductive habitats, and the degradation of marine organic substrates. These effects can have persistent consequences for commercial fisheries, aquaculture operations, and marine biodiversity. Fish and other seafood species may suffer both mass mortality and long-term sublethal effects, potentially affecting the viability of entire populations.

Wildlife—including marine mammals, reptiles, and birds—can suffer from a range of acute and chronic oil-related impacts. These include direct toxic exposure, smothering of fur or feathers (leading to loss of thermal insulation), and impairment of reproductive function and behaviour. The cumulative ecological effects may alter species distributions or lead to localised population declines.

Coastal environments often support tourism, recreational use, and conservation areas. Oil contamination in these zones may severely disrupt human activities such as swimming, recreational fishing, and eco-tourism, with long-lasting social and economic consequences for coastal communities. The degree to which oil residues persist onshore depends on the type and volume of oil, the nature of affected coastal substrates, local weather patterns, and the sensitivity of impacted habitats.

The characteristics of the spilled oil—its volatility, emulsification potential, and susceptibility to weathering—play a critical role in determining how quickly or completely it breaks down. Environmental conditions, particularly temperature, wind, and wave action, further influence these processes. See Table 7-2 for an overview of oil behaviour in different coastal environments.

Table 7-2 Composition and Relative Biodegradability of Petroleum Products (US EPA; 2004)

Product	Major Components	Relative Product Biodegradability
Natural Gas	Normal and branched-chain alkanes. One to five carbons in length. Examples: ethane, propane.	Higher
Gasoline	Normal and branched hydrocarbons between 6 and 10 carbons in length. Examples: n-butane, n-pentane, octane, isopentane, methylpentanes, benzene, toluene, xylenes, ethylbenzene.	
Kerosene, Diesel	Primarily 11 to 12 carbon hydrocarbons, although the range of carbons extends well above and below this range. Generally contains low to non-detectable levels of benzene and polyaromatic hydrocarbons. Jet fuel oils have a similar composition. Examples: n-nonane, n-decane, n-dodecane, naphthalene, n-propylbenzene.	
Light Gas Oils (e.g., No 2 Fuel Oil)	Twelve to 18 carbon hydrocarbons. Lower percentage of normal alkanes than kerosene. These products include diesel and furnace fuel oils (e.g., No. 2 fuel oil). Examples: fluorene, naphthalene, phenanthrene, isopropylbenzene.	
Heavy Gas Oils and Light Lubricating Oils	Hydrocarbons between 18 and 25 carbons long.	
Lubricants	Hydrocarbons between 26 and 38 carbons long.	Lower
Asphalts	Heavy polycyclic compounds.	

Implications and Impacts

Oil spills can cause significant harm to sensitive coastal habitats, marine life, and fisheries, with impacts ranging from acute mortality to long-term contamination. Limited shoreline protection in Namibia heightens the risk of oil reaching priority areas, while burial in sediments can prolong persistence. Tourism, aquaculture, and fishing may be disrupted, underscoring the need for strict spill prevention and rapid response measures.

7.7 DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS

Walvis Bay will be the administrative base from which the Proponent will operate, although bunkering operations will occur at sea. According to the results of the 2023 population and housing census, Walvis Bay has an urban population size of 51,618 and a total population (urban and rural combined) of 103,115 (Namibia Statistics Agency, 2024). Walvis Bay is the principal port of Namibia, and is an import/export facility for processed fish, mining products and beef, amongst others. The area is linked to Namibia's air, rail and road network, making the port well situated to service Zambia, Zimbabwe, Botswana, southern Angola and South Africa. The port and related industries provide secure employment to residents of the area. The fishing industry is the major employer of low skilled workers on a permanent and seasonal basis. The total employment of this sector is estimated at 2% of the total Namibian workforce. Based on the 2011 census, unemployment in Walvis Bay was at 21.8%, which is well below the Namibian rate of 37%. Economic activities relate mostly to businesses related to the harbour. The town is known as a business and industrial area.

The waters of the bay and lagoon at Walvis Bay provides the local and national community with a range of benefits. Small scale purse-seine fishing for mainly mullet occurs north of the town. Fish factories make use of the harbours water for the processing of fish. Tourists frequent Walvis Bay and especially the lagoon and bay where sightseeing and sunset boat tours to view seals, dolphins and whales and the rare sunfish (*Mola mola*), are very popular. Bird watching along the eastern shore of the lagoon is also a major tourist attraction. Mariculture, especially for mussels and oysters, has become important for both local and international markets. All the

aforementioned beneficial uses of the bay's natural environment would be seriously jeopardised if major environmental impacts occurred in the bay.

Table 7-3 Demographic characteristics of Walvis Bay, the Erongo Region and Nationally (Namibia Statistics Agency, 2024)

	Walvis Bay Urban	Erongo Region	Namibia
Population (Males)	26,212	122,322	1,474,224
Population (Females)	25,406	117,884	1,548,177
Population (Total)	51,618	240,206	3,022,401
Population Density (persons/km ²)	2,730.8	3.8	3.7

Lüderitz developed in the early 20th century mainly as a result of the diamond mining industry. Today however, the sustaining industries in Lüderitz are fishing and mariculture, mining and tourism. The majority of employment is provided by the fishing industry which mainly exports fisheries products to Europe. Rock lobsters are one of the key fisheries products. Mariculture of abalone and oysters are also actively pursued. Diamond mining used to be a major part of the mining industry with zinc mining being the other major component.

The Port of Lüderitz, operated by Namport, remains central to Namibia's fishing and mining industries. In the 2021/2022 financial year, approximately 95,359 tonnes of zinc – including zinc concentrate and refined ingots – were exported through Lüderitz, along with an estimated 13,000–15,000 tonnes of lead concentrate (Namport, 2022). Zinc oxide continues to be imported in small quantities for local refining at Rosh Pinah. The mines in the Rosh Pinah area require sulphur for ore processing; however, since the Skorpion Zinc refinery ceased operations in 2020, sulphur imports via Lüderitz have declined significantly from the roughly 92,000 tonnes recorded in 2016/2017 (USGS, 2019; Namport, 2022).

The export of manganese ore, sourced from northern Namibia and South Africa, has expanded rapidly since operations commenced in late 2019. By 2021/2022, the port was handling around 768,085 tonnes of manganese ore per year – averaging 64,000 tonnes per month – approaching the initially projected 80,000–90,000 tonnes per month. Manganese ore accounted for approximately 80% of Lüderitz's bulk export volume during this period, underscoring the port's growing significance in the regional mineral trade (Namport, 2022).

Tourism plays an important part in the local economy, unfortunately a very small percentage of tourists visiting Namibia also visits Lüderitz. Main attractions are Kolmanskop, Diaz Point and the historic buildings of the town.

Table 7-4. Demographic characteristics of Lüderitz Bay, the //Karas Region and Nationally (Namibia Statistics Agency, 2024)

	Lüderitz	//Karas Region	Namibia
Population (Males)	7,831	55,670	1,474,224
Population (Females)	8,294	54,223	1,548,177
Population (Total)	16,125	109,893	3,022,401
Population Density (persons/km ²)	59.7	0.7	3.7

Beyond fishing and trade, both ports are playing an increasingly strategic role in Namibia's shipping and offshore oil and gas sectors. Walvis Bay, located along one of the busiest west coast shipping routes, has become a support base for petroleum exploration logistics, offshore supply operations, vessel repairs, and bunkering. Lüderitz, positioned near the NIMPA and offshore exploration blocks, is similarly poised to serve as a logistics node for offshore energy activities in southern Namibia. The expansion of these sectors is one of the main drivers behind the proposed bunkering operations, reinforcing Namibia's blue economy strategy. Offshore oil, gas and shipping not only generate foreign revenue but also create employment in port services,

vessel support, engineering, and marine logistics, while stimulating broader investment in coastal economies.

Namibia's two ports are considered to have a high HIV vulnerability. Local and foreign businessmen, fishermen as well as truck drivers are mobile workers which have been identified to make more use of sex workers. There is a higher concentration of such local and foreign labourers in Walvis Bay and Lüderitz. The town is also a destination site for internal migrants looking for work in the construction and fishing sectors. Such workers also make use of transactional sex which is supplied by mostly women, to supplement their income. The high prevalence to engage in commercial sex, increases the HIV probability and risk profile of the mobile and local community.

Implications and Impacts

Some skills development and training may also result from the operations and revenue will be generated and livelihoods sustained. The spending power of locals is likely to increase which may increase the occurrences of social ills such as alcohol or drug abuse.

7.8 CULTURAL, HERITAGE AND ARCHAEOLOGICAL ASPECTS

Walvis Bay does not have particularly rich heritage features or archaeologically significant aspects. The port area where the Proponent will be located has been developed long ago. No other object or building of specific archaeological or cultural significance is nearby.

Lüderitz and surroundings has a rich history and the town has some of the oldest buildings in Namibia, many declared as National monuments. The proposed bunkering activities of the Proponent will not impact on any of the known archaeological and heritage sites in the town itself.

Along the broader Namibian coastline there are several additional heritage considerations. The coast is well known for its shipwrecks, many of which are historically significant and form part of Namibia's cultural landscape. Early human occupation sites have been recorded near river mouths and palaeo-river systems, where archaeological material may still be preserved.

Implications and Impacts

While offshore bunkering operations are unlikely to physically affect such resources, the potential for oil spills and subsequent clean-up activities could have indirect impacts. For example, the removal of surface sediments during remediation could disturb archaeological deposits or heritage features.

8 PUBLIC CONSULTATION

Consultation with the public forms an integral component of an environmental assessment investigation and enables interested and affected parties (IAPs) e.g. neighbouring landowners, local authorities, environmental groups, civic associations and communities, to comment on the potential environmental impacts associated with projects and to identify additional issues which they feel should be addressed in the environmental assessment.

Public participation notices were advertised twice for two weeks in the national papers: Republikein and Namibian Sun on 20 and 27 August 2025. A site notice was placed On the Municipality of Walvis Bay notice board and on a notice board at the Woermanbrock supermarket in town. Interested and affected parties were identified and notified of the project. Notification letters were hand delivered to available neighbours as well as the Municipality of Walvis Bay and Nampont. The notification letter delivered to the Municipality of Walvis Bay was accepted; however, officials declined to acknowledge receipt by signing the register, and no stamp was available to provide a stamped copy as proof of delivery. Following the site visit, an email was sent to the Municipality of Walvis Bay, emphasising the importance of their participation in the consultation process. See Appendix A for proof of the public participation processes. Officials from the Municipality of Walvis Bay, Nampont and Maritime Affairs

chose to register as IAP for the project and no concerns regarding the project were raised during the public consultation phase.

9 ASSESSMENT AND MANAGEMENT OF IMPACTS

The purpose of this section is to assess and identify the most pertinent environmental impacts that are expected from vessel commissioning (also upgrades, maintenance, etc.), operations, and potential decommissioning activities of the vessel. An EMP based on these identified impacts is incorporated into this section.

For each impact an Environmental Classification was determined based on an adapted version of the Rapid Impact Assessment Method (Pastakia, 1998). Impacts are assessed according to the following categories: Importance of condition (A1); Magnitude of Change (A2); Permanence (B1); Reversibility (B2); and Cumulative Nature (B3) (see Table 9-1).

Ranking formulas are then calculated as follow:

Environmental Classification = $A1 \times A2 \times (B1 + B2 + B3)$.

The environmental classification of impacts is provided in Table 9-2.

The probability ranking refers to the probability that a specific impact will happen following a risk event. These can be improbable (low likelihood); probable (distinct possibility); highly probable (most likely); and definite (impact will occur regardless of prevention measures).

Table 9-1 Assessment criteria

Criteria	Score
Importance of condition (A1) – assessed against the spatial boundaries of human interest it will affect	
Importance to national/international interest	4
Important to regional/national interest	3
Important to areas immediately outside the local condition	2
Important only to the local condition	1
No importance	0
Magnitude of change/effect (A2) – measure of scale in terms of benefit / disbenefit of an impact or condition	
Major positive benefit	3
Significant improvement in status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in status quo	-1
Significant negative disbenefit or change	-2
Major disbenefit or change	-3
Permanence (B1) – defines whether the condition is permanent or temporary	
No change/Not applicable	1
Temporary	2
Permanent	3
Reversibility (B2) – defines whether the condition can be changed and is a measure of the control over the condition	
No change/Not applicable	1
Reversible	2
Irreversible	3

Cumulative (B3) – reflects whether the effect will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition – not to be confused with the permanence criterion.	
Light or No Cumulative Character/Not applicable	1
Moderate Cumulative Character	2
Strong Cumulative Character	3

Table 9-2 Environmental classification (Pastakia 1998)

Environmental Classification	Class Value	Description of Class
72 to 108	5	Extremely positive impact
36 to 71	4	Significantly positive impact
19 to 35	3	Moderately positive impact
10 to 18	2	Less positive impact
1 to 9	1	Reduced positive impact
0	-0	No alteration
-1 to -9	-1	Reduced negative impact
-10 to -18	-2	Less negative impact
-19 to -35	-3	Moderately negative impact
-36 to -71	-4	Significantly negative impact
-72 to -108	-5	Extremely Negative Impact

9.1 RISK ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

The EMP provides management options to ensure impacts of the project is minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The environmental management measures are provided in the tables and descriptions below. These management measures should be adhered to during the various phases of the operations. This section of the report can act as a stand-alone document. All personnel taking part in the operations should be made aware of the contents in this section, so as to plan the operations accordingly and in an environmentally sound manner.

The objectives of the EMP are:

- ◆ to include all components of vessel commissioning activities (acquisition, maintenance, etc.) and operations;
- ◆ to prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- ◆ to monitor and audit the performance of operational personnel in applying such controls; and
- ◆ to ensure that appropriate environmental training is provided to responsible operational personnel.

Various potential and definite impacts will emanate from the commissioning, operations and decommissioning phases. The majority of these impacts can be mitigated or prevented. The impacts, risk rating of impacts as well as prevention and mitigation measures are listed below.

As depicted in the tables below, impacts related to the operational phase are expected to mostly be of low to medium significance and can mostly be mitigated to have a low significance. The extent of most of the impacts are also site specific to local and are not of a permanent nature. However, in the unlikely event of a significant MGO spill, particularly close to the coastline (especially rocky shorelines), offshore islands (with breeding bird colonies) and ecologically significant areas as identified in Table 7-1, the impacts could be catastrophic. Such a spill would not be site-specific and could result in widespread and long-term ecological damage.

9.1.1 Planning

During the phases of planning for vessel commissioning, operations and decommissioning of the vessel, it is the responsibility of Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- ◆ Ensure that all necessary permits from the various ministries, local authorities and any other bodies that govern the project are in place and valid.
- ◆ Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel involved with the project.
- ◆ Make provisions to have a Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance.
- ◆ Make provisions to have a community liaison officer who will handle complaints and community input, and through whom, where reasonable, monitoring data can be requested. Communicate the contact details of the community liaison officer to interested and affected parties when the project is initiated.
- ◆ Among others, have the EMP, emergency response plans, health safety and environmental manuals, spill containment, spill clean-up, and firefighting equipment and materials required for emergencies available.
- ◆ Ensure adequate insurance cover for incidents are in place.
- ◆ Establish and / or maintain a reporting system to report on aspects of commissioning activities, operations and decommissioning as outlined in the EMP.
- ◆ Prepare and submit environmental monitoring reports as per the conditions of the ECC.
- ◆ Appoint a specialist environmental consultant to update the EIA and EMP and apply for renewal of the ECC prior to expiry.

9.1.2 Employment

Diversification of business activities may see a small increase in skilled and professional labour for onshore and offshore activities. Bunkering vessels however often have foreign crews who are trained in bunkering activities. Due to the serious risk of pollution and health and safety of crew at sea, it is paramount that only suitably qualified and experienced employees are employed for specialised tasks. Indirect support for local contractors, such as local ship service, maintenance and repair contractors, will however aid in sustaining and increasing employment of the local workforce. This already materialises during the planning phase when consultants are employed to, for example, ensure compliance to all national legislation.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Planning and Vessel Commissioning	Support for local contractors and consultants. Employment opportunities where the vessel requires new crew members to operate	3	1	2	2	2	18	3	Definite
Daily Operations	Permanent employment on board the vessel and new, or sustaining of existing employment, for onshore operations	3	1	3	2	2	21	3	Definite
Indirect Impacts	Decrease in overall unemployment in Namibia	3	1	3	2	2	21	3	Probable

Desired outcome: Provision of employment, preferably to Namibian citizens where the necessary skills are available.

Actions

Enhancement:

- ◆ Employment of suitably qualified and experienced Namibians where possible.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Bi-annual summary report based on employee records.

9.1.3 Skills, Technology and Development

Due to the specialised nature of bunkering and vessel operations, unskilled labourers are not typically used. Some employees will however still benefit from training and gaining of experience during commissioning and operations of the bunkering barge. New vessel and bunkering technology may be employed to increase safety and reduce the probability of incidents. Development of people and technology are key to economic development.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Technological development and transfer of skills among employees	3	2	3	2	2	42	4	
Indirect Impacts	Supporting of local contractors providing services to the bunkering operations, allows for skills transfer and technological development in such supporting industries	3	2	3	2	2	42	4	Definite

Desired Outcome: To see an increase in skills of local Namibians, as well as development and technology advancements in associated industries.

Actions

Enhancement:

- ◆ If the skills exist locally, contractors and employees must first be sourced in Namibia. Deviations from this practise must be justified.
- ◆ Skills development and improvement programs to be made available as identified during performance assessments of employees.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Record should be kept of training provided.
- ◆ Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- ◆ Bi-annual summary report based on records kept.

9.1.4 Revenue Generation

The Proponent is a Namibian registered company who will generate revenue through the sale of fuel. By ensuring continued and secure supply of fuel to marine traffic, operating in the EEZ of Namibia, sustainability and profitability of operations in the EEZ, is increased. Increased and sustainable economic activities in the EEZ contributes to GDP through various channels. The availability and ease of access of the fuel contributes to the marketability of shipping in Namibia. Operations also support and contribute to the sustainability of Namibian vessels operating in the EEZ, in the fishing, mining or shipping industries. The provision of services which are classified as taxable supplies, contributes directly to Namibia.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Contribution to local and national economy through operations, payment of salaries, procurement of services and goods, etc.	3	2	3	2	2	42	4	Definite
Daily Operations	Sourcing and sale of fuel to vessels to continue operations	3	2	3	2	2	42	4	Definite
Indirect Impacts	Increase in revenue generated in Namibia	3	1	3	2	2	21	3	Definite

Desired outcome: Contribution to national treasury and general economic development.

Actions

Enhancement:

- ◆ Adhere to various legislative requirements pertaining to payment of wages, taxes, levies, etc. Fair and consistent business practices will ensure an overall positive boost to the economy.
- ◆ Priority must be given to preventing oil spills through strict operational controls. If a spill does occur, a rapid and effective response will be essential to minimise impacts on the marine ecosystem and dependent industries.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Namibian legislation

9.1.5 Demographic Profile and Community Health

Impacts related to the demographic profile and community health relate to the influx of people (foreigners and Namibians) to Namibia and specifically the coastal towns, and the potential social ills and deviant behaviour that often accompany such events. This includes the spread of communicable diseases such as HIV/AIDS and increased criminal activities. Additional employment opportunities also mean more spending power which can lead to increased misuse of alcohol and drugs.

Due to the limited crew on bunkering vessels (between 10 and 20) and crew predominantly remaining on board the vessel, it is not foreseen that the influx of people will create a significant or permanent change in the demographic profile of the local community, or result in significant instances of socially deviant behaviour. The potential impact is further minimised as employment will be sourced locally as far as possible.

Positive impacts will relate to employees and contractors' increased economic resilience and improved livelihoods.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Increased economic resilience and improved livelihoods	2	-1	2	2	2	-12	-2	Probable
Daily Operations	Social ills related to increased spending power of employees and cross country transport	2	-2	3	2	2	-28	-3	Probable
Daily Operations	Increased economic resilience and improved livelihoods	2	2	3	2	2	28	3	Definite
Indirect Impacts	The spread of diseases	3	-1	3	2	2	-21	-3	Probable

Desired Outcome: To prevent the in-migration and growth in informal settlements, prevent the spread of communicable disease and prevent / discourage socially deviant behaviour.

Actions:

Prevention:

- ◆ Employ local people from the area where possible, deviations from this practise should be justified appropriately.
- ◆ Adhere to all municipal by-laws relating to environmental health which includes, but is not limited to, sanitation requirements for workers on site.
- ◆ Appointment of reputable contractors.

Mitigation:

- ◆ Educational programmes for employees (especially truck drivers) on HIV/AIDs and general upliftment of employees' social status.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Facility inspection sheet for all areas which may present environmental health risks, kept on file.
- ◆ Bi-annual summary report based on educational programmes and training conducted.
- ◆ Bi-annual report and review of employee demographics.

9.1.6 Health, Safety and Security

Various activities associated with the operational phase is reliant on human labour and therefore exposes workers to health and safety risks. Activities such as the operation of machinery and handling of hazardous chemicals (inhalation and carcinogenic effect of some petroleum products), poses the main risks to employees. Working at sea increases potential risks to employees which may be realised during rough sea conditions. The Namibian coast is characterised by very cold water and rough conditions. Falling overboard and being exposed to cold water will quickly result in hypothermia which may rapidly become fatal. Security risks are primarily associated with unauthorised access to bunkering vessels, which may include theft, sabotage, or piracy. Risks are heightened by the offshore operating environment, where unauthorised persons could attempt to board the vessel and interfere with bunkering operations or steal valuable fuel cargo.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Physical injuries, exposure to chemicals and criminal activities	2	-2	2	2	2	-24	-3	Probable
Daily Operations	Physical injuries, exposure to chemicals and criminal activities	2	-2	3	2	2	-28	-3	Probable

Desired Outcome: To prevent injury, health impacts and theft.

Actions

Prevention:

- ◆ All Health and Safety standards specified in the Labour Act and various maritime procedures and protocols should be complied with.
- ◆ Clearly label dangerous and restricted areas on the vessel as well as dangerous equipment and products.
- ◆ Ensure material safety data sheets for all related materials are kept on board.
- ◆ Provide all employees with required and adequate personal protective equipment (PPE).
- ◆ Ensure that all personnel receive adequate training on operation of equipment / handling of hazardous substances.
- ◆ Implementation of maintenance register for all equipment.
- ◆ Controlled access to the vessel, restricted entry to the bridge and fuel manifolds, and clear security watchkeeping protocols.
- ◆ Maintain adequate vessel lighting, CCTV, alarms, and communication systems as part of standard onboard procedures

Mitigation:

- ◆ Selected personnel should be trained in first aid and first aid kits must be available. The contact details of all emergency services and related protocol must be readily available for sea rescue for in the event of serious injury.
- ◆ Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool.
- ◆ Security procedures and proper security measures must be in place to protect workers, including adherence to the ISPS Code, piracy awareness training, and regular security drills.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Labour Act and relevant maritime procedures and protocols.
- ◆ Audit results (Health and Safety ISO certificates)
- ◆ Any incidents must be recorded with action taken to prevent future occurrences.
- ◆ A bi-annual report should be compiled of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained.

9.1.7 Bunkering Services

The operations of the Proponent will aid in securing fuel supply to marine traffic operating within the EEZ of Namibia. Continued and secure fuel supply supports petroleum, mining, fishing and similar vessels that do not make regular calls to a port.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Fuel supply to ships in the port and EEZ	2	2	3	2	3	32	4	Definite

Desired Outcome: Ensure a secure and reliable supply of fuel remains available for seafaring traffic.

Actions

Enhancement:

- ◆ Ensure compliance to the petroleum regulations of Namibia as well as all marine related standards of operation related to petroleum.
- ◆ Proper fuel management to ensure constant supply.
- ◆ Record supply problems and take corrective actions.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Record supply problems and corrective actions taken.

9.1.8 Air Quality Related Impacts

In terms of air quality, hydrocarbon vapours will normally be released during delivery of bunker fuel to tanks, as liquid displaces the gaseous mixture in the tanks. This will be released through vent pipes on the tanks. The air quality impact will be limited to the bunkering vessel and the receiving vessel. Prolonged exposure of workers to such vapours may have carcinogenic effects. Exhaust emissions from the bunkering vessel engines contribute to greenhouse gases and other pollutants, including nitrogen oxides, sulphur oxides, and particulate matter.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	GHG emissions from sailing the vessel to Namibia	2	-1	2	2	2	-12	-2	Definite
Daily Operations	GHG emissions from sailing the vessel	2	-2	3	2	2	-28	-3	Definite
Daily Operations	Hydrocarbon vapour emissions while bunkering	2	-1	2	2	2	-12	-2	Definite

Desired Outcome: To prevent health impacts related to fuel vapours

Actions

Prevention:

- ◆ Vent pipes must be placed in such a manner as to prevent impact on potential receptors. These include ignitions sources and confined spaces where normally frequented by workers.
- ◆ Regular maintenance of vessel engines must be conducted to ensure efficient combustion and minimise exhaust emissions.
- ◆ Only high-quality, low-sulphur MGO should be used and supplied, in line with MARPOL Annex VI requirements.

Mitigation:

- ◆ Employees should be coached on the dangers of fuel vapours.
- ◆ In the event of accidental over-exposure, immediate medical response protocols must be followed, and protective equipment must be used.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Any complaints received from workers regarding dust or fuel vapours should be recorded with notes on action taken.
- ◆ All information and reporting to be included in a bi-annual report.

9.1.9 Fire

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. The primary causes of such accidents may include human error, technical failures and inadequate maintenance. If precautions are not taken to prevent their ignition, fires and subsequent safety risks may become more probable.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Fire and explosion risk when sailing the vessel from acquired destination	2	-1	2	2	2	-12	-2	Probable
Daily Operations	Fire and explosion risk during bunkering	2	-2	3	2	2	-28	-3	Probable
Daily Operations	Fire and explosion risk while sailing	2	-2	3	2	2	-28	-3	Probable

Desired Outcome: To prevent property damage, possible injury and impacts caused by uncontrolled fires.

Actions:

Prevention:

- ◆ A holistic fire protection and prevention plan must be in use and regularly revised. This plan must include an emergency response plan, firefighting plan and spill recovery plan.
- ◆ All personnel has to be educated on responsible fire prevention measures.
- ◆ Fire-fighting training to be provided to staff.
- ◆ Regular inspections must be carried out to inspect and test fire-fighting equipment.
- ◆ Firefighting equipment must be readily accessible in all operational areas.
- ◆ Fire prevention considerations specifically applicable to engine rooms include fire doors, fire pumps, and emergency fuel-flow stopping devices.
- ◆ Various international occupational health and safety performances should be consulted for specific regulations. The latest version of the Emergency Response Guidebook, material safety data sheets (MSDS) for the various products stored or used on board the vessel, and various petroleum and shipping related procedures and protocols should be consulted.

Mitigation:

- ◆ In case of a fire, the firefighting plan must be initiated immediately and all emergency procedures must be performed as practiced during training.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Emergency Response Guidebook, material safety data sheets (MSDS) for the various products stored or used on board the vessel, and various petroleum and shipping related procedures and protocols.
- ◆ A register of all incidents must be maintained. This should include measures taken to ensure that such incidents do not repeat themselves.
- ◆ A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

9.1.10 Noise and Vibration

Noise generated during operations will mainly originate from bunkering vessel engines, pumps, and auxiliary equipment such as generators and compressors. Additional intermittent noise may result from radio communication, crew activity, and mechanical handling equipment on board.

In addition to noise, vibration from engines and heavy equipment may also occur. Such vibration is expected to be localised to the bunkering vessel and receiving vessel.

As the bunkering activities will take place offshore within Namibia's EEZ, no direct noise or vibration impacts are expected on coastal communities or residential areas. The distance from shore ensures that operational noise and vibration do not contribute to cumulative levels in port areas or populated coastal zones.

Temporary increases in noise and vibration may occur during vessel manoeuvring, refuelling, or maintenance, but these are expected to be localised and short in duration.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Noise and vibrations generated from the vessel	2	-1	2	2	2	-12	-2	Probable
Daily Operations	Noise and vibrations generated from the vessel and pumps while bunkering	2	-1	3	2	2	-14	-2	Probable

Desired Outcome: To prevent any nuisance, hearing loss due to noise, and discomfort from vibration generated.

Actions

Prevention:

- ◆ The Health and Safety Regulations of the Labour Act and World Health Organization (WHO) guideline on maximum noise levels prevent hearing impairment for workers on the vessel should be followed during the and operational phases.
- ◆ Measures should also be applied to reduce vibration exposure from engines and machinery, including equipment design considerations and proper maintenance.

Mitigation:

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.
- ◆ Maintain noise generating activities onboard the vessel as far as possible.
- ◆ All machinery must be regularly serviced to ensure minimal noise and vibration production.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Health and Safety Regulations of the Labour Act and WHO Guidelines.
- ◆ Maintain a complaints register.
- ◆ Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences.

9.1.11 Waste production

Activities on board the bunker barge will create various types of waste. These include oils and greases from maintenance activities, sewerage, kitchen waste from the galleys and plastics and paper from packaging and administration activities. Waste entering the ocean (accidentally or purposefully discarded) can remain there for long periods of time or come ashore and litter the beaches. Hazardous waste may be generated through the handling of hydrocarbon products, such as used oil, filters, and chemical residues. If an oil spill occurs and absorbent materials (e.g. pads, booms, or rags) are deployed, these contaminated absorbents must also be treated as hazardous waste and disposed of at a suitably licensed hazardous waste facility.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Uncontained waste entering the environment	2	-2	2	2	2	-24	-3	Probable
Daily Operations	Uncontained waste entering the environment	2	-2	3	2	2	-28	-3	Probable

Desired Outcome: To reduce the amount of waste produced, and prevent pollution and littering.

Actions

Prevention:

- ◆ Adhere to International Convention for the Prevention of Pollution from Ships (MARPOL) requirements related to waste and sewerage handling and or discharge.
- ◆ Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- ◆ Ensure adequate temporary waste storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Biodegradable sewerage waste may be dumped in the ocean according to accepted maritime standards. The sewage waste discharge from the ship is regulated under MARPOL Annex IV. The regulation states that: – Every ship of 400 GT and above which is engaged in international voyages, and carrying minimum 15 persons on board must be equipped with either a sewage holding tank of appropriate capacity or an approved sewage Treatment Plant (STP) or both. The sewage discharge from the ship is allowed if it has an approved sewage treatment plant, which can treat the raw sewage and discharge comminuted and disinfected sewage. With this arrangement, the discharge is allowed at a distance of more than 3 nautical miles from the nearest land when the ship is proceeding with a speed of 4 knots and above.
- ◆ The support vessel that supplies crew changes should be used to remove all other forms of waste which when brought to land can be dumped at the local landfill.

Mitigation:

- ◆ Employ and maintain spill control measures for accidental hydrocarbon pollution according to industry requirements.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ National Marine Pollution Contingency Plan and relevant maritime procedures (e.g. MARPOL).
- ◆ A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- ◆ Any complaints received regarding waste should be recorded with notes on action taken.
- ◆ Spill control structure should be regularly inspected.
- ◆ All information and reporting to be included in a bi-annual report.

9.1.12 Ship Traffic and Collision

The Proponent operates along the west coast of Africa and mainly within the Namibian EEZ. Collisions between the Proponent's vessel and other vessels in the area may occur.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Increase in seafaring traffic causing traffic accidents	2	-1	2	2	2	-12	-2	Probable
Daily Operations	Increase in seafaring traffic causing traffic accidents	2	-1	3	2	2	-14	-2	Probable

Desired Outcome: To prevent collisions between vessels operating in the area.

Actions

Prevention:

- ◆ Appoint only suitably qualified and experienced personnel versed in the details of, among others, the Convention on the International Regulations for Preventing Collisions at Sea (COLREGs).
- ◆ Ensure all safety and communications equipment on the vessel is regularly inspected and maintained in working order at all times. Relevant crew must also be trained in the use of this equipment, including emergency equipment and procedures to follow when normal systems fail.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ COLREGs and other industry standards and regulations.

9.1.13 Surface Water Contamination and Related Ecological Impacts

Accidental spillages might occur during, not only from the transfer of MGO, but also from the vessels own fuel tanks and contaminated bilge water. Failure of pipes and hoses can result in hydrocarbon spills. Hydrocarbons can affect plants and animals in the marine ecosystem. Especially the heavier fuel oils settles on beaches and can affect birds and other organisms. It also settles on ocean floors and can impact on benthic (bottom dwelling) organisms. Oil impacts algae, disrupts major food chains and decreases the yield of edible crustaceans. It also coats birds impairing their flight or reducing the insulating property of their feathers, thus making the birds more vulnerable to cold. Oil endangers fish hatcheries in coastal waters and contaminates the flesh of commercially valuable fish within the EEZ. Oil spills can harm marine mammals such as seals, whales and dolphins.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Vessel Commissioning	Contamination from hazardous material spillages	2	-1	2	2	1	-10	-2	Probable
Daily Operations	Contamination from hazardous material spillages	4	-3	3	2	1	-42	-4	Probable

Desired Outcome: To prevent the contamination of the marine environment.

Actions

Prevention:

- ◆ Develop an emergency response plan for any accidental spill and ensure contact details of all emergency response teams and the Directorate of Maritime Affairs are readily available.
- ◆ Ensuring all staff are properly trained reduces the potential for impact.
- ◆ Tanks must be fitted with alarms to warn and prevent overfilling.
- ◆ Agreed quantities and pumping rates for bunker fuel transfer to the vessels must be confirmed and communicated properly, to eliminate spillage. Tanks must be inspected before the transfer of fuel commences.
- ◆ Fuel transfer may only be initiated when environmental conditions (e.g. Wind speed and wave heights) are within parameters that allows the safe transfer of fuel to minimise risks of spills.
- ◆ Pipes, hoses must be thoroughly inspected before starting with bunker fuel supply activities.
- ◆ Since accidental spills are always possible, recovery vessels, oil fences, and treatment chemicals must be prepared with a view to minimising dispersal and spills on the surface of the sea.
- ◆ Attempts to mitigate the human error factor would include the engineering of specific technologies that will work even in the event of human error.
- ◆ Impact on the coastal areas can be mitigated through operating preferably more than 20 km off land, so as to reduce the risk of oil being washed onto beaches.
- ◆ The Ministry of Work and, Transport, Directorate of Maritime Affairs, has been designated as the national responsible authority with regard to Oil Spill preparedness, response and cooperation for the Republic of Namibia. The National Marine Pollution Contingency Plan provides a framework for national response to an oil spill. The Plan involves a command structure under which the National Response Team would rapidly respond to any incident with appropriate mechanisms of mobilizing resources in the event of a spill, and even international resources in the event of a major oil spill. This

plan is guided by international norms and practices. The plan outlines the responsibilities for initiating and coordinating the necessary actions to affect protection and clean-up operations.

- ◆ Fuel transfers may not be conducted near any of Namibia's islands and within the NIMPA. Until such time as the NIMPA regulations may outline regulations on where bunkering may occur with respect to the NIMPA, the buffer zones and guidelines proposed in the 2012 EIA prepared by Botha & Hooks for a similar project are to be applied as interim best-practice guidance. These are (Figure 9-1):
 - A 100 km buffer around the islands, isles and rocks in the NIMPA should not be used for bunkering operations.
 - From Conception Bay to Just North of Cape Cross a controlled bunker fuelling buffer zone of 40 km as per the [previous] National Oil Spill Contingency Plan is advised. The greatest risk is during extreme weather conditions (i.e. northwest winds causing southward moving surface current).
 - Whenever the wind direction is towards the land, fuelling should be conducted more than 40 km away from the shoreline.
 - Fuelling along the coastline inside the controlled bunkering zone more than 100 km south of the NIMPA should take place only with special permission from the Directorate of Maritime Affairs.
 - Extra care should be taken whenever fuelling south of Cape Cross and especially so when fuelling closer to the NIMPA areas, when extreme wind conditions prevail or are predicted.
 - Any fuelling within these controlled bunkering zones must have special permission from the Directorate of Maritime Affairs. Onshore wind conditions and rough seas will indicate to the Master of the vessel that no fuelling be carried out even if special permission was granted to fuel closer to the coast. It is important to note that special permission to fuel closer to the coast should not be given for the coastline where the NIMPA exist.

Mitigation:

- ◆ Initiate the emergency response plan without delay.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ National Marine Pollution Contingency Plan, MSDS and related maritime standards.
- ◆ Report all spills, no matter how small, to the Directorate of Maritime Affairs and other relevant authorities.
- ◆ A report should be compiled bi-annually of all spills or leakages reported. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, and a copy of documentation in which spill was reported.

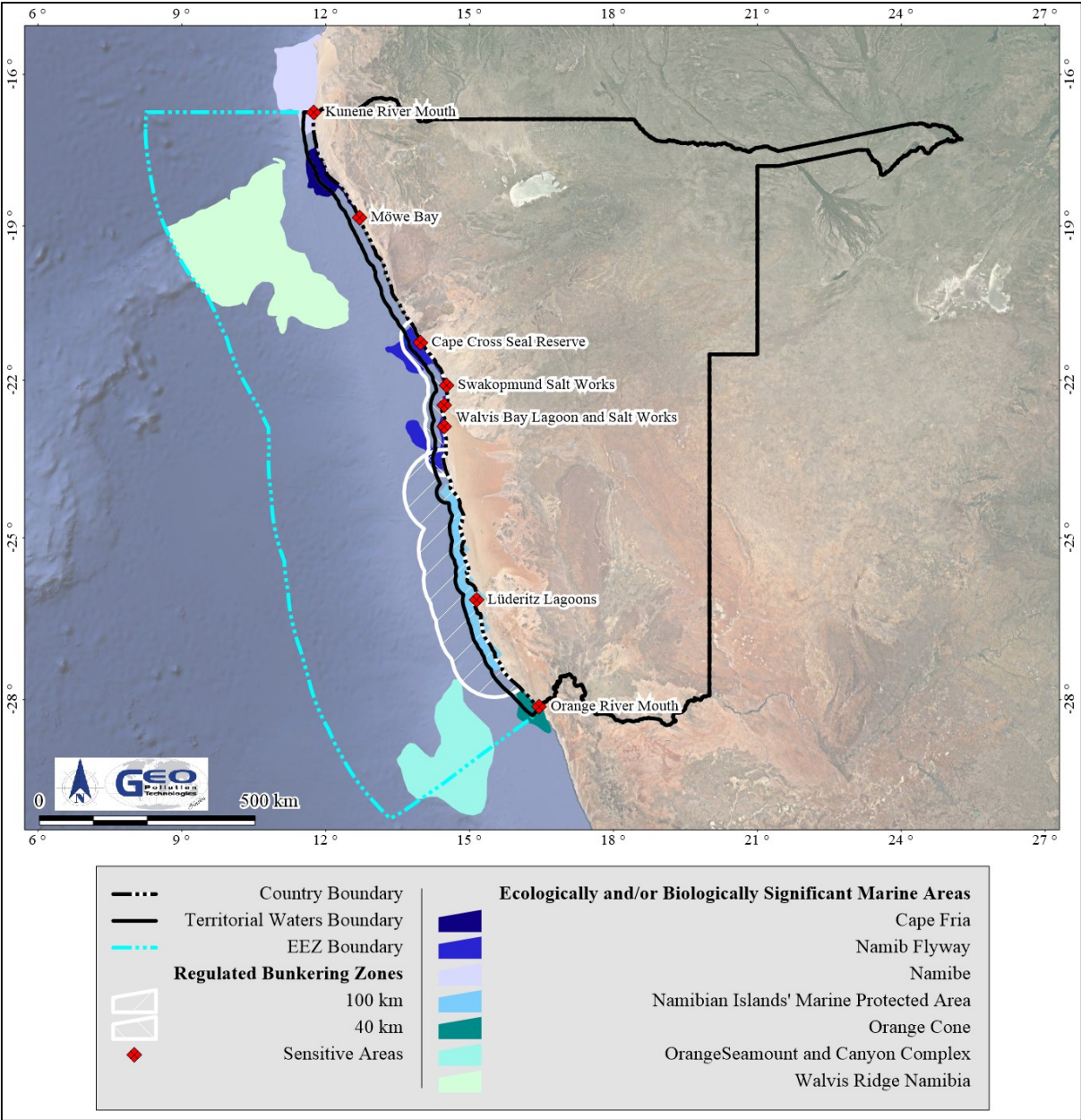


Figure 9-1 Regulated bunkering zones

9.2 DECOMMISSIONING AND REHABILITATION

Decommissioning, as pertaining to bunkering operations, will entail selling or scrapping the bunkering barge. Decommissioning is not anticipated during the validity of the ECC. However, the potential process has been considered should operations cease in the future. If decommissioning occurs, it will involve the withdrawal of all bunkering activities within Namibia's EEZ, including the safe demobilisation and removal of the bunkering vessel. All residual MGO, lubricants, and operational consumables will be offloaded and disposed of in compliance with applicable national and international regulations. At the time of decommissioning, the EMP must be reviewed and updated to address site-specific conditions and ensure that all mitigation measures are implemented effectively and in line with statutory requirements.

9.3 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent operates under the overarching environmental management system (EMS) of the TotalEnergies Group, which is aligned with the internationally recognised ISO 14001 standard. This EMS is an integral component of the company's HSEQ framework and applies to all operational activities, including marine bunkering services within Namibia's EEZ. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- ◆ A stated environmental policy which sets the desired level of environmental performance;
- ◆ An environmental legal register;
- ◆ An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- ◆ Identification of environmental, safety and health training needs;
- ◆ An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy;
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS; and
- ◆ The EMP.

10 CONCLUSION

The Proponent's offshore MGO bunkering operations within Namibia's EEZ will contribute positively to the national economy. The project will support employment in the maritime, logistics, and associated service sectors, while also generating opportunities for skills development and training in line with international marine fuel handling standards. Ancillary industries, including vessel supply, maintenance, and marine services in Walvis Bay and Lüderitz, will benefit from increased demand. The Port of Walvis Bay, Port of Lüderitz, and contracted marine service providers such as stevedores, tug operators, and pilots will play key roles in supporting operations. The project will further contribute to the national treasury through the payment of taxes, levies, and permitting fees.

All operational activities must comply with applicable Namibian legislation, and where no specific national standards exist, international best practice must be applied. This includes adherence to the IMO requirements for bunkering operations and marine environmental protection. All fuels must be handled in accordance with MSDS requirements, ensuring storage on impenetrable surfaces during onshore handling and the segregation of incompatible substances.

Noise emissions from operational vessels and associated equipment must comply with the Health and Safety Regulations of the Labour Act and WHO standards to minimise nuisance and prevent hearing loss. Fire prevention systems must meet statutory requirements and relevant international maritime safety standards, with adequate firefighting and spill response equipment maintained on board. Any waste generated from bunkering operations must be collected and disposed of at approved waste management facilities, with hazardous waste sent to a licensed hazardous waste disposal site in Namibia or an approved facility abroad, as appropriate.

The EMP (Section 9) should be used as an on-site reference document for the bunkering operations. Parties responsible for transgressing of the EMP should be held responsible for any rehabilitation that may need to be undertaken. The Proponent could use an in-house Health, Safety, Security and environment management system in conjunction with the EMP. All operational personnel must be taught the contents of these documents.

Should the Directorate of Environmental Affairs (DEA) find that the impacts and related mitigation measures, which have been proposed in this report are acceptable, an ECC may be granted to the Proponent. The ECC issued, based on this document, will render it a legally binding document which should be adhered to. Focus could be placed on Section 9, which includes an EMP for this project. It should be noted that the assessment process's aim is not to stop the activity, or any of its components, but to rather determine its impact and guide sustainable and responsible development as per the spirit of the EMA.

11 REFERENCES

- Atlas of Namibia Project. 20022. Directorate of Environmental Affairs, Ministry of Environment and Tourism (www.met.gov.na). [Accessed from http://www.unikoeln.de/sfb389/e/e1/download/atlas_namibia/index_e.htm]
- Botha P, Hooks P. 2012. Environmental Impact Assessment for a Proposed Bunker Fuel Mixing, Storage and Dispensing Facility Operation in the Namibian Exclusive Economic Zone
- Bryant R. 2010. Characterising the Wind Regime of Sand Seas: Data Sources and Scaling Issues. Global Sand Seas: Past Present and Future. Working Group Conference: Royal Geographical Society in London.
- Callaghan B. 1991. Atmospheric corrosion testing in Southern Africa – results of a twenty-year national programme. Nickel Development Institute. http://www.nickelinstitute.org/~Media/Files/TechnicalLiterature/StainlessSteelsinABC_GuidelinesforCorrosionPrevention_11024_.pdf Accessed 08/05/2013
- Corbett I. 2018. The Influence of the Benguela Low-Level Coastal Jet on the Architecture and Dynamics of Aeolian Transport Corridors in the Sperrgebiet, Namibia. Unpublished Report. https://pdfs.semanticscholar.org/a036/eb86ca35ceee1f19198d2735c93d36f9ac35.pdf?_ga=2.153498104.1710554377.1586180758-213198396.1586180758 Accessed on 7 April 2020
- <http://www.meteoweb.eu/2012/11/litcz-scivola-a-sud-dellequatore-nellafrica-australe-prende-vita-la-stazione-delle-piogge-levoluzione-per-i-prossimi-mesi/166037/> accessed 8 April 2020
- https://www.windfinder.com/windstatistics/walvis_bay_airport accessed 8 April 2020
- Mendelsohn J, Jarvis A, Roberts C, Robertson T. 2002. Atlas of Namibia: A Portrait of the Land and its People. David Philip Publishers, Cape Town.
- Namibia Statistics Agency. Namibia household Income and Expenditure Survey 2023.
- Namibia Statistics Agency. Namibia 2023 Population and Housing Census Main Report.
- Namport (2022) Annual Report 2021/2022. Walvis Bay: Namibian Ports Authority.
- Pastakia, C.M.R.; 1998; The Rapid Impact Assessment Matrix (RIAM) – A new tool for Environmental Impact Assessment.
- Patricola C, Chang P. 2017. Structure and dynamics of the Benguela low-level coastal jet. Climate Dynamics 49: 2765–2788.

- Petzer, G. & von Gruenewaldt, R., 2008. Air Quality Specialist Assessment for the Proposed Paratus Power Plant Extension in Walvis Bay, Midrand: Airshed Planning Professionals.
- Resitoglu, I.A., Altinisik, A.K. 2015. The pollutant emissions from diesel-engine vehicles and exhaust after treatment systems. *Clean Technologies and Environmental Policy* 17: 15-27.Ja
- Taljaard JJ and Schumann TEW. 1940. Upper air temperatures and humidities at Walvis Bay, South West Africa. *Bulletin of the American Meteorological Society* 21: 293 – 296.
- uMoya-NILU. 2020. Air Quality Specialist Study for the EIA and Clearance for the NamPower Firm Power Project in Walvis Bay, Namibia, Report No. uMN059-2020, 17 March 2020.
- USGS (2019) 2019 Minerals Yearbook: Namibia [Advance Release]. Reston, VA: United States Geological Survey.

Appendix A: Proof of Public Consultation

Notified IAPs

Name	Position	Organisation
David Uushona	Manager: Solid Waste and Environmental Management	Municipality of Walvis Bay
Nangula Amutenya	Environmental Coordinator	Municipality of Walvis Bay
Lovisa Hailaula	Environmental Officer	Municipality of Walvis Bay
Ephraim Nambahu	Town Planning Officer	Municipality of Walvis Bay
Jamie-Lee Lawrence	Town Planning Officer	Municipality of Walvis Bay
Stefanus Gariseb	SHEQ Manager	Namport
Gerhard Gonteb	Site Manager	JBS / HFO Site - NAMCOR
Daniel Matsuib		JBS / HFO Site - NAMCOR
Shapua Kalomo	Acting Deputy Director	Ministry of Works and Transport
A.Konstantinus		Nambaza

Registered IAPs

Name	Position	Organisation
Stefanus Gariseb	Executive: Risk Management	Namport
Rauna Shikwaya	Environmental Coordinator (EMS)	Namport
Lukas Kufuna	Walvis Bay Port Captain	Namport
Geas Shatika	Senior Pilot	Namport
Shapua Kalomo	Acting Deputy Director: Marine Pollution Control & SAR, Directorate of Maritime Affairs	Ministry of Works and Transport
Sheyouyuni Fikunawa	Directorate of Maritime Affairs	Ministry of Works and Transport
Anna Efraim	Directorate of Maritime Affairs	Ministry of Works and Transport
Candida Ngola	Directorate of Maritime Affairs	Ministry of Works and Transport
Petrina Kapembe	Directorate of Maritime Affairs	Ministry of Works and Transport
Environmental Management	Environmental Management Department	Municipality of Walvis Bay
Town Planning Department	Town Planning Department	Municipality of Walvis Bay
Environmental Health Practitioner	Environmental Health Practitioner	Municipality of Walvis Bay
David Uushona	Manager: Solid Waste and Environmental Management	Municipality of Walvis Bay
Nangula Amutenya	Environmental Coordinator	Municipality of Walvis Bay
Lovisa Hailaula	Environmental Officer	Municipality of Walvis Bay
Ephraim Nambahu	Town Planning Officer	Municipality of Walvis Bay
Jamie-Lee Lawrence	Town Planning Officer	Municipality of Walvis Bay



Public Participation Notification: Environmental Assessment

TotalEnergies Marketing Namibia – Fuel Bunkering Services, Namibian EEZ

[illegible]

Geo Pollution Technologies
Environmental Scoping Assessment and Environmental Management Plan for Fuel Bunkering Services within the Exclusive Economic Zone of
Namibia

Authorities Notification by email
Municipality of Walvis Bay



Tue 2025/09/09 12:53

ernest@thenamib.com

TotalEnergies Bunkering EIA Notification

Privacy Block

Message

 20250908 Notification Total_Fuel Bunkering Services_EEZ.PDF (189 KB)

 20250908 BID_Total_Fuel Bunkering Services_EEZ.PDF (530 KB)

Dear All,

Please find attached the letter delivered to the Department of Solid Waste and Environmental Management, together with a copy for your records and the Background Information Document for your perusal. Kindly forward these documents to any other departments that may have an interest in this project.

Please confirm receipt of this email.

If you require further information, wish to submit questions, comments or concerns, or would like to be registered as an Interested and Affected Party (to receive updates and the final EIA for comment), please reply to this email or contact us at bunkering@thenamib.com .

Thank you for your assistance.

—
Groete / Kind regards
Ernest Pelsner

Geo Pollution Technologies (Pty) Ltd
PO Box 11073
Windhoek, Namibia
Tel: +264-61-257 411
Cell: +264-81-4487166

No unauthorised copying, disclosure, conversion to hard copy, distribution or use of any part of this email is allowed. This email is confidential. Please notify the sender immediately and destroy this email and all attachments, should you have received this email in error.



Privacy Block

FW: Total Energies Bunkering C/A Notification

To: ernest@thenamb.com; bunkering@thenamb.com

Cc: Jamie-Lee Lawrence; David Uushona; Ephraim Nambahu; Nangula Amutenya; Henok Shikongo

 You replied to this message on 2025/09/25 15:25.
This message was sent with High importance.

 **Message**  20250908 Notification Total_Fuel Bunkering Services_EEZ.PDF (185 KB)  20250908 BID_Total_Fuel Bunkering Services_EEZ.PDF (527 KB)

Dear Ernest

I acknowledge receipt of your email and documents.

Kindly register the emails below as i&APs for updates on the project.

Privacy Block

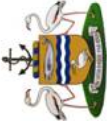
@walvisbaycc.org.na

@walvisbaycc.org.na

baycc.org.na



Kind Regards



Lovisa Hailaula
Environmental Officer, Environmental Management Section, Municipality of Walvis Bay



Privacy Block



Namport



Tue 2025/09/09 13:01

ernest@thenamib.com

TotalEnergies Bunkering EIA Notification

Privacy Block



Message



20250908 BID_Total_Fuel Bunkering Services_EEZ.PDF (530 KB)



20250908 Notification Total_Fuel Bunkering Services_EEZ.PDF (189 KB)

Good afternoon Stefanus,

I hope you find this well.

Please find attached the letter delivered to the NAMPORT office (reception), together with a copy for your records and the Background Information Document for your perusal. Kindly forward these documents to any other departments that may have an interest in this project.

Please confirm receipt of this email.

If you require further information, wish to submit questions, comments or concerns, or would like to be registered as an Interested and Affected Party (to receive updates and the final EIA for comment), please reply to this email or contact us at bunkering@thenamib.com.

Thank you for your assistance.

--

Groete / Kind regards

Ernest Pelsner

Geo Pollution Technologies (Pty) Ltd

PO Box 11073

Windhoek; Namibia

Tel: +264-61-257 411

Cell: +264-81-4487166

No unauthorised copying, disclosure, conversion to hard copy, distribution or use of any part of this email is allowed. This email is confidential. Please notify the sender immediately and destroy this email and all attachments, should you have received this email in error.

Marine Bunkering - Contingency Plan - Oct 2025

Geo Pollution Technologies (Pty) Ltd

Ministry of Works and Transport



Tue 2025/09/09 14:09

ernest@thenamib.com

TotalEnergies Bunkering EIA Notification

To

Cc

Privacy Block

 Message

 20250908 BID_Total_Fuel Bunkering Services_EEZ.PDF (530 KB)

 20250903 Notification Total_Fuel Bunkering Services_EEZ.PDF (189 KB)

Good afternoon,

I hope you find this well.

Please find attached the notification letter for Environmental Scoping Assessment and Environmental Management Plan for Fuel Bunkering Services within the Exclusive Economic Zone of Namibia for your records and the Background Information Document for your perusal. Kindly forward these documents to any other departments that may have an interest in this project.

Please confirm receipt of this email.

If you require further information, wish to submit questions, comments or concerns, or would like to be registered as an Interested and Affected Party (to receive updates and the final EIA for comment), please reply to this email or contact us at bunkering@thenamib.com .

Thank you for your assistance.

--

Groete / Kind regards
Ernest Pelsler

Geo Pollution Technologies (Pty) Ltd
PO Box 11073
Windhoek, Namibia
Tel: +264-61-257 411
Cell: +264-81-4487166

No unauthorised copying, disclosure, conversion to hard copy, distribution or use of any part of this email is allowed. This email is confidential. Please notify the sender immediately and destroy this email and all attachments, should you have received this email in error.

Comments and/or Concerns Received

IAP Details	Comment / Concern	Response
Stefanus Gariseb Email: 11/09/2025	<u>Initial Query:</u> Dear Ernest I have received the documents, thank you. In addition, about the offshore bunkering, please register me as an Interested and Affected Party for the project. Other colleagues who are equally to be registered are: Rauna Shikwaya (rshikwaya@namport.com.na) Lukas Kufuna (lkufuna@namport.com.na) Geas Shatika (gshatika@namport.com.na) Kind regards, Stefanus Gariseb	<u>Initial Response:</u> Good afternoon Stefanus, Thank you for your correspondence. We will proceed to register you and your colleagues as IAPs for this project. Should you have any questions or comments that you would like us to address in the EIA, please do not hesitate to contact us via email. The completed EIA will also be shared with you for review and input once it is finalised. -- Groete / Kind regards Ernest Pelser
Shapua Kalomo Email: 16/09/2025	<u>Initial Query:</u> Good Day Please ad myself and the colleagues in copy as I&AP for this project on behalf of the Competent Authority for Marine Offshore Bunkering in Namibia (Ministry of Works and Transport). Furthermore, please provide information on the exact bunkering methods to be employed by the operator, and proposed locations at sea and all other relevant information. Kindest Regards Shapua Kalomo	<u>Initial Response:</u> Good morning Mr Kalomo, I apologise for the delay in responding. I was in the field with limited access to my emails. We will register you as an interested and affected party for this project. With regard to your questions: •Bunkering methods: The operational phase will involve two methods of bunkering. The first is offshore ship-to-ship transfers at designated locations within Namibia's Exclusive Economic Zone. The second is quayside bunkering at the ports of Walvis Bay, using established Joint Bunkering Services (JBS) infrastructure. •Proposed locations and related information: Offshore bunkering will take place at pre-approved locations within the Namibian EEZ, depending on client requests and Proponent operations. Fuel will either be sourced from existing onshore storage facilities in the Port of Walvis Bay via quayside pipelines, or from offshore supply barges anchored in designated areas. Quayside bunkering will make use of the existing JBS pipelines and berths in Walvis Bay, and in future potentially also at the new North Port fuel terminal once commissioned. We will share the full Environmental Impact Assessment with you shortly, which should

IAP Details	Comment / Concern	Response
		address most of your questions in more detail.-- Groete / Kind regards Ernest Pelser
Lovisa Hailaula Email: 25/09/2025	<u>Initial Query:</u> Dear Ernest I acknowledge receipt of your email and documents. Kindly register the emails below as I&APs for updates on the project. Privacy Block @walvisbaycc.org.na g@walvisbaycc.org.na sbaycc.org.na Lovisa Hailaula Environmental Officer, Environmental Management Section, Municipality of Walvis Bay	<u>Initial Response:</u> Dear Interested and Affected Party Please see the Environmental Scoping Assessment and Environmental Management Plan for Fuel Bunkering Services within the Exclusive Economic Zone of Namibia attached for your consideration. Should you have any questions, comments or concerns, please address them to either myself or Andre before Thursday the 2nd of October 2025. Groete / Kind regards Ernest Pelser

NEWS IN SHORT

Herbalists sue Unam for N\$35b for 'stealing formula'

Two herbalists have filed a N\$35 billion lawsuit in the Windhoek High Court, alleging that the University of Namibia (Unam) stole their medicinal invention intended to treat cancer, diabetes, hypertension, cholesterol, and septic wounds.

Michael Nenkavu and Benedictus Nashenda claim that they developed a powdered medicinal formula 14 years ago, which they submitted to Unam for scientific testing. The university reportedly attempted to secretly patent the invention, withheld crucial test results, and blocked the release of N\$210 000 to the pair's company, Katakura Company cc. The herbalists further contend that the withheld results blocked a potential N\$1 billion investment from China's Beijing Cancer Hospital, which had required certified reports before proceeding. Cited in the lawsuit are Vice-Chancellor Kenneth Matengu and Chancellor Nangolo Mbumba.

- RITA KAKELO

Ngcove Junior Primary School struggles with water shortages

Ngcove Junior Primary in Ndama, Kavango East, has struggled with water shortages and has only two pit latrines for over 400 learners since opening in 2019.

The principal, Bernolda Munkanda, told the Namibian Sun yesterday that the overcrowded, congested zinc sheet classrooms, with one holding 92 pupils, have led to an increase in the number of children falling ill. She also said poor road access forces teachers to walk long distances, worsening conditions she calls "unbearable for both staff and learners."

- PHILLIPUS JOSEF

Kavango West investment committee set to unlock untapped potential

• 'INVESTOR-FRIENDLY REGION'

Kavango West governor Verna Sinimbo says while agriculture remains the region's greatest asset, **the time is ripe for unlocking opportunities in other sectors.**

PHILLIPUS JOSEF
NKURENKURU

The Namibia Investment Promotion and Development Board (NIPDB) has reiterated its commitment to decentralising investment across Namibia with the establishment of regional investment committees (RICs).

The latest was launched this week in Nkurenkuru, Kavango West.

According to NIPDB's acting executive for investment and local content, Ndapewa Hangula, the RICs are designed to highlight opportunities in

each of Namibia's 14 regions and ensure that development is driven from the ground up.

"For the past four years, we have witnessed that many investments are concentrated in the Khomas, Erongo and more recently the //Karas regions," she said.

"Through the regional investment committees, we aim to revive economic activity in all regions, create jobs locally and support communities to profile their own strengths," Hangula told Namibian Sun.

She stressed that Kavango West, despite being one of the regions with the highest unemployment rates in the country, offers vast untapped potential in agriculture and agro-processing.

"The goal is not just to produce raw products, but to establish agro-processing centres that diversify the local economy, create jobs and build skills," Hangula explained.

Ready to go

Echoing this sentiment, Kavango West



BOOST: The RIC will serve as a crucial bridge between national investment structures and local stakeholders. PHOTO: PHILLIPUS JOSEF

governor Verna Sinimbo said the creation of the RIC comes at a crucial time for the region's 123 266 inhabitants.

"This committee will ensure that we know where to direct investors and that we are organised to receive them. Agriculture remains our greatest asset, but we must also unlock opportunities in tourism, hospitality and manufacturing," she said.



WATCH NIPDB acting executive Ndapewa Hangula. Video: Phillipus Josef

Sinimbo highlighted that Kavango West's natural resources which include fertile soils, perennial rivers and rich biodiversity, can be leveraged for both agricultural and tourism ventures.

She called for investment in agro-processing plants, hospitality facilities, river-based tourism and even innovative projects such as crocodile farming to boost the local economy.

"This is a very investor-friendly region, and if we bring in the right investors, we can address unemployment, especially among our youth," she noted.

Bridging the gap
During the presentation, NIPDB outlined four key functions of the investment committees: coordinating regional investment opportunities, profiling priority sectors, facilitating investor-community dialogue, and aligning projects with socio-economic needs.

With key stakeholders already identified, the Kavango West RIC is expected to be operational soon.

1 061 CADET CONSTABLES BEGIN BASIC TRAINING IN OSHANA

TUYEIMO HAIDULA
ONDANGWA

More than 1 000

cadet constables officially began their nine-month police basic training at the Ruben Danger Ashipala Police Training Centre in Ondangwa on Monday.

The ceremony was officiated by Oshana police regional commander Commissioner Naftal Lungameni Sakaria, on behalf of Namibian Police Inspector General Joseph Shikongo.

Sakaria hailed the recruits for choosing a career dedicated to "the noble cause of law" and pledged that the training would transform them into guardians of justice and protectors of peace.

"I express my profound appreciation and gratitude to these courageous men and women paraded before us for having chosen the police as their career. They have dedicated their lives to

the noble cause of law," he said.

Sakaria said the new intake comprises 666 men and 395 women.

Similar training is taking place at Pius Joseph Kaundu Police Training Centre in Omaheke and Simon Mutumba Mutumba Police Training Centre in Zambezi, bringing the combined total to 2 004 cadet constables nationwide.

Holistic training

Sakaria said the course, which runs for seven months of combined theoretical and physical training followed by two months of work-integrated learning at police stations, will equip recruits with tactical, legal and administrative skills.

Modules include law basics, policing, charge office management, musketry, public order management, ICT, traffic law enforcement and first aid.

"Contemporary issues such as stress management,

emotional intelligence and financial literacy are also part of the curriculum," Sakaria noted.

Protecting lives

He reminded the cadets that their mandate under the Police Act includes preserving internal security, maintaining law and order, investigating crime, preventing offences, and protecting life and property.

"Policing requires unwavering commitment, integrity and genuine passion to make a positive difference in the lives of others," Sakaria said.

He further stressed discipline, accountability and adherence to the police's core values of synergy, ethics, efficiency, patriotism, accessibility, innovation and customer centricity.

Addressing instructors, Sakaria urged them to serve as role models and ensure the transformation of recruits into disciplined and skilled officers.

PUBLIC PARTICIPATION NOTICE ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR FUEL BUNKERING SERVICES WITHIN THE EXCLUSIVE ECONOMIC ZONE OF NAMIBIA

Geo Pollution Technologies (Pty) Ltd was appointed by TotalEnergies Marketing Namibia (Pty) Ltd (the Proponent), to undertake an environmental assessment (EA) for fuel bunkering services within the exclusive economic zone of Namibia. Fuel bunkering involves the ship-to-ship or shore to ship transfer of fuel for refuelling purposes of seafaring vessels. The Proponent will focus on bunkering of marine gas oil (MGO) only. Additional information pertaining to the project and proposed operations can be obtained at:

<http://www.thenamib.com/projects/projects.html>

The environmental assessment will be conducted according to the Environmental Management

Act of 2007 and its regulations as published in 2012. Interested and affected parties are invited to register with the environmental consultant to be provided with the opportunity to share comments, issues or concerns related to the project, for consideration in the EA.

Requests for additional information and comments and concerns should be submitted to Geo Pollution Technologies by 02 September 2025.

André Paul
Geo Pollution Technologies
Tel: +264-61-257411
Fax: +264-88626368
E-Mail: bunker@thenamib.com





LOGISTICS HUB NAMIBIA

+264 61 330 500
+264 81 774 9777
info@lhn.com.na
Logistics Hub Namibia

**CHEAPEST IN NAMIBIA FOR
DAILY PARCEL**

deliveries before
13h00

TO YOU



NEWS IN SHORT

Nandi-Ndaitwah meets Zambezi chiefs

President Netumbo Nandi-Ndaitwah met with traditional authorities in the Zambezi Region on Monday, before addressing the Heroes Day commemoration at Katima Mulilo on Tuesday.

Nandi-Ndaitwah met chief Gilbert Mutwa of the Masubia Traditional Authority, chief George Mamili III of the Mafwe Traditional Authority, chief Joseph Mayuni of the Mashi Traditional Authority, and chief Boniface Shufu of the Mayeyi Traditional Authority.

The Presidency quotes Nandi-Ndaitwah saying that it was important to first honour traditional leaders before commencing with official Heroes Day events.

- PHILLIPUS JOSEF

Sinchembe wins Katima Mulilo Swapo ticket

Denis Mukena Sinchembe and his supporters celebrated a landslide victory of 104-45, which ended incumbent Warden Simushi's 15-year reign as the Katima Mulilo Rural Constituency councillor and Zambezi Regional Council chairperson. The Ministry of Information and Communication Technology Zambezi regional office confirmed the outcome on its social media platforms this week, noting that Swapo will now field Sinchembe as its candidate for the November regional and local authorities elections.

- PHILLIPUS JOSEF



PHOTO: PHILLIPUS JOSEF

Farmers' union calls for solutions as rural internet access gaps persistFRANCOISE STEYNBERG
WINDHOEK

The agricultural sector continues to face challenges due to shortcomings in telecommunications, with proposed mobile satellite applications seen as unaffordable for farmers.

"Internet connectivity in rural areas is no longer a luxury but an absolute necessity for conducting daily business. Farmers need solutions, please," said Namibia Agricultural Union (NAU) CEO Roelie Venter during a public discussion on mobile satellite applications hosted by the Communications Regulatory Authority of Namibia (CRAN) in Windhoek last week.

Four Namibian-registered service providers – Echo Namibia, Oblixx Communications, Rocketnet Internet, and Blue Telecommunications, a subsidiary of Radio Electronics – presented proposals to facilitate the local market in collaboration with Starlink competitor OneWeb.

During the event, Eutelsat OneWeb was highlighted as a company operating more than 630 low-Earth orbit satellites at an altitude of approximately 1 200 km. This allows users, even in the most remote locations, to access reliable, high-speed data and voice telecommunications worldwide.

OneWeb is still negotiating with the government for an exemption from the rule that 51% of local internet providers must be owned by Namibians. The four companies are also seeking a spectrum allocation from CRAN to sell OneWeb connectivity in Namibia.

CRAN confirmed that Starlink's application is still under review by the Ministry of Information and Communication Technology and that no final decision has yet been made.

Outdated systems

During a meeting earlier in August between the agricultural union, CRAN and Telecom, the phase-out of WiMAX technology was specifically discussed. The retirement of this outdated system will take place over 24 months and is scheduled to conclude in September 2026.

"WiMAX equipment and components can no longer be obtained or replaced, raising the question of what alternatives are available for current WiMAX users," the NAU said.

"The representatives from Telecom stated that alternatives are being explored, but no decisions have been finalised. This leaves the agricultural sector – and others – in a difficult position," the union added.

NAU has urged Telecom to demonstrate commitment and



SCAN QR CODE

COURT AFFIRMS DIGNITY RIGHTS IN WORKPLACE**Man ordered to pay N\$230 000 to former employee**

A woman has won a civil claim in which she had accused her former boss of forcing her to leave her workplace covered only in a piece of fabric.

ELIZABETH KHEIBES
WINDHOEK

A Windhoek High Court judge has ordered Chinese businessman Li Bailong to pay N\$230 000 in damages to former employee Itaakeya Ruth George, after finding that he subjected her to cruel and degrading treatment in violation of her personal dignity.

The case stemmed from a November 2021 incident at Li's shop in Windhoek's Chinatown, when George was abruptly dismissed from her job.

According to court documents, instead of being allowed to leave with dignity after her dismissal, Li ordered George, who had no other clothing at hand, to remove her uniform on the spot.

To cover herself, she said she was forced to choose between a cardboard box or a piece of fabric.

The dismissal, carried out in public view, left George exposed and humiliated, her lawsuit noted.

She testified that after initially being told to cover herself with a cardboard box, her employer then offered



PERSONAL DIGNITY UPHELD: A High Court judge has awarded a woman N\$230 000 in her civil claim against a former employer. PHOTO: FILE

her a piece of fabric.

The judgment noted that George had testified that she undressed herself in "full view of other staff members, clients and passersby and in full view of [her employer]... and covered herself in a piece of fabric."

She then left the premises. Her legal team argued that the manner of termination violated her constitutional rights to dignity and protection against cruel, inhuman and degrading treatment.

On 22 August, High Court judge Thomas Masuku delivered judgment, ruling in George's favour.

"Li Bailong is ordered to pay N\$230 000 in constitutional damages for the violation of dignity and for subjecting [George] to cruel, inhuman, and degrading treatment," the ruling stated.

The court further ordered Li to cover George's legal costs. His counterclaim of defamation against her was dismissed.

In a letter to George following the ruling, HS Law emphasised that the outcome reaffirmed the fundamental importance of dignity in employment. "The case is a clear affirmation of the constitutional protection against degrading treatment in the workplace," Kagola said.

Pit latrines, overcrowding undermine learner dignity, health in Kavango schoolsPHILLIPUS JOSEF
RUNDU

Struggling and under-resourced schools across the Kavango regions are forcing learners and teachers to rely on pit latrines as their only form of sanitation, while hundreds of children share dilapidated classrooms already filled to capacity.

Namibian Sun observed the conditions during a tour of the Kavango West and East regions by the parliamentary standing committee on education, youth, civic relations and community development last week.

Following the visit, the committee acknowledged some positive aspects of the regional education system but noted that conditions in Kavango schools are hindering service delivery and violating learners' dignity.

At Ngove Junior Primary School in Ndama, Kavango East, more than 400 learners have relied on just two pit latrines in addition to a lack of running water since the school opened in 2019.

Principal Bernolda Munkanda said the situation has become "unbearable".

"Our classrooms are overcrowded; one classroom alone holds 92 children in a corrugated-iron structure. Many learners are falling sick because of the conditions, yet we have no choice but to continue teaching like this," she said.

Ngove is not an isolated case. Schools such as Mupapama Combined School, Tuhingireni Secondary School and Siguruguru Primary School also face dire conditions, with learners using broken or filled pit latrines while waiting for government interventions.

Deputy chairperson of

the committee, Austin Samupwa, said the conditions they observed were shocking and dangerous.

"The buildings leave a lot to be desired because there has been no single renovation since this school [Ngove] was opened in 1967," he said. "We have observed serious cracks that must be closed; otherwise, there is danger that something can befall the learners and teachers."

He said the state of abatement blocks was especially concerning.

"We have also seen the abatement blocks, which are mainly composed of pit latrines. These pit latrines seem like they are already full, but they are still being used because the teachers and learners have no other choice."

He warned: "It is in a very bad state, and we need to attend to these schools very seriously."

Budgeting and accountability

Samupwa added that unless the education budget is decentralised, schools in rural regions will continue to be neglected.

"The budget must be decentralised so that regional directorates, with the support of regional councils, can implement projects based on the money that has been appropriated in that particular year. That is our appeal," he said.

For now, teachers and pupils continue to share overcrowded classrooms and pit latrines that pose health and safety risks.

The situation has left communities questioning how long children in the two Kavango regions will have to wait before they learn in safe and dignified environments.

philippus@nmh-hub.com.na

**PUBLIC PARTICIPATION NOTICE
ENVIRONMENTAL ASSESSMENT
AND MANAGEMENT PLAN FOR FUEL
BUNKERING SERVICES WITHIN THE
EXCLUSIVE ECONOMIC ZONE OF NAMIBIA**

Geo Pollution Technologies (Pty) Ltd was appointed by TotalEnergies Marketing Namibia (Pty) Ltd (the Proponent), to undertake an environmental assessment (EA) for fuel bunkering services within the exclusive economic zone of Namibia. Fuel bunkering involves the ship-to-ship or shore to ship transfer of fuel for refuelling purposes of seafaring vessels. The Proponent will focus on bunkering of marine gas oil (MGO) only. Additional information pertaining to the project and proposed operations can be obtained at:

<http://www.thenamib.com/projects/projects.html>

The environmental assessment will be conducted according to the Environmental Management Act of 2007 and its regulations as published in 2012. Interested and affected parties are invited to register with the environmental consultant to be provided with the opportunity to share comments, issues or concerns related to the project, for consideration in the EA. Requests for additional information and comments and concerns should be submitted to Geo Pollution Technologies by 02 September 2025.

André Faul
Geo Pollution Technologies
Tel: +264-61-257411
Fax: +264-88626368
E-Mail: bunker@thenamib.com



Press Notice: Die Republiekin 20 and 27 August 2025

2 NUUS	Republiekin	Woensdag 20 Augustus 2025																																								
KONTAKPERSONE NUUSREDAKTEUR Henriette Lamprecht 081 350 3801 / 061 297 2000 henriette@republiekin.com.na	GENL. MURTALA MUHAMMEDRYLAAN, POSBUS 3436, WINDHOEK TEL: 061 297 2000 VOLG ONS OP: ISSN 1560-9448 Skandeer die QR-kode of WhatsApp #Rep na +264 85 785 6231 om ons te kontak. SCAN & WIN Gebruik die kode om aan die daaglikse kompetisie in Sport Wrap deel te neem. WEBWERFKODE: 7896	WEER BINNELAND: Sonlig en warm, maar baie warm in die Ooste en Noorde. KUS: Gedeeltelik bewolk en matig met miskolle. GETYE BY WALVISBAAI: L: 07:36 H: 14:00 L: 20:01 VOORUITSIGTE <table border="1"> <tr> <td>WINDHOEK</td> <td></td> <td>12°</td> <td>27°</td> </tr> <tr> <td>RUNDU</td> <td></td> <td>11°</td> <td>33°</td> </tr> <tr> <td>OSHAQATI</td> <td></td> <td>11°</td> <td>33°</td> </tr> <tr> <td>GOBABIS</td> <td></td> <td>7°</td> <td>33°</td> </tr> <tr> <td>MARIENTAL</td> <td></td> <td>10°</td> <td>30°</td> </tr> <tr> <td>KEETMANSHOOP</td> <td></td> <td>8°</td> <td>28°</td> </tr> <tr> <td>WALVISBAAI</td> <td></td> <td>7°</td> <td>21°</td> </tr> <tr> <td>LUANDA</td> <td></td> <td>20°</td> <td>22°</td> </tr> <tr> <td>JOHANNESBURG</td> <td></td> <td>11°</td> <td>24°</td> </tr> <tr> <td>KAAPSTAD</td> <td></td> <td>14°</td> <td>17°</td> </tr> </table>	WINDHOEK		12°	27°	RUNDU		11°	33°	OSHAQATI		11°	33°	GOBABIS		7°	33°	MARIENTAL		10°	30°	KEETMANSHOOP		8°	28°	WALVISBAAI		7°	21°	LUANDA		20°	22°	JOHANNESBURG		11°	24°	KAAPSTAD		14°	17°
WINDHOEK		12°	27°																																							
RUNDU		11°	33°																																							
OSHAQATI		11°	33°																																							
GOBABIS		7°	33°																																							
MARIENTAL		10°	30°																																							
KEETMANSHOOP		8°	28°																																							
WALVISBAAI		7°	21°																																							
LUANDA		20°	22°																																							
JOHANNESBURG		11°	24°																																							
KAAPSTAD		14°	17°																																							
REPUBLIEKIN@REPUBLIEKIN.COM.NA 'n Publikasie van REPUBLIEKIN PUBLICATION (Pty) Ltd, gedruk deur PMH PRINT MEDIA HUB (Pty) Ltd.																																										

OneWeb wink vir Namibië

VAN BL. 1

OneWeb is 'n mededinger van Starlink, wat steeds met die regering onderhandel vir vrystelling van die vereiste dat 51% van plaaslike internetskaffers aan Namibiërs moet behoort.

Intussen soek die vier ondernemings in spektrumtoekenning by Cran om OneWeb-verbinding in Namibië te kan verkoop.

"Hulle [OneWeb] is gewillig om saam met derdepartydiensverskaffers, soos ons, te werk en die vennootskap sal neederheid Namibiëse eienaarskap geniet," sê Radio Electronic se uitvoerende hoof, Francois du Toit.

Marc Gregan van Echo Namibia verduidelik dat Starlink direkte internetgebaseerde betaling van plaaslike kliënte sou versoen, sonder om selfs Namibiëse bankrekeninge te gebruik. Hy het uitgebrei oor die OneWeb-aanbieding vir besighede, wat beskikbaar sou wees teen 'n belegging van N\$90 000 vir toerusting en teen



Toerusting om Namibiërs aan OneWeb se satelliete te verbind, is in die land en Cran besluit hoe die spektrum tussen mededingers verdeel sal word.

FOTO AUGETTO GRANG

sowat N\$4 000 per maand vir dienste. OCN se Maarten Venter sê hulle teiken die regering, banke en die sektore van landbou, mynbou, olie en gas en kleinhandel met hul enkele koepelinstallasies, wat breedband-dienste met 'n aflaaspoe van 75

Mbps en 'n oplaaspoe van 15 Mbps moontlik maak. Die toerusting verbind kliënte met OneWeb se konstellasie van 648 satelliete wat sowat 1 200 km bo die aarde wentel. OCN gebruik sy eie sagteware om die gehalte van

die dienste te monitor en by die diensverskaffer in te gryp indien diensvlakke dalk verswak.

"Dit is 'n soortgelyke verhouding soos met ons ander VSAT-dienverskaffers," verduidelik hy.

Ook gemik op ondernemings, sal OCN se verbruikersterminale en produk sowat N\$150 000 beloop, volgens Venter.

GELISENSIEERD

Volgens Cran se uitvoerende beaampte vir ingenieurswese en tegniese dienste, Ronel le Grange, is al vier mededingers gelisensieerd uit 67 lisensiehouers wat internetdienste in Namibië mag verskaf.

Rocketnet se Xander Erasmus sê hulle fokus meestal op veseloptiese-tegnologie, maar wil van OneWeb gebruik maak om oplossings te kan bied, veral vir afgeleë boere. Rocketnet trek voordeel uit sy verhouding met Q-kon, wat tot vier gigagrepe vanaf OneWeb aan hulle vrystel.

Volgens Du Toit bied Blue Telecommunications se vennootskap met KVVH end-to-end-enkripsie en wolkgebaseerde bestuurs- en monitorvermoë deur bykomende hardeware.

Sy fokus is egter eers op die spektrum-lisensie voordat pryse vasgestel sal word. "Dit sal goedkoper wees," sê hy egter.

Op navrae vanaf teenwoordigers van Paratus Namibia, het Le Grange erken dat Cran toepaslike satelliet-foeie sal moet hersien, aangesien die tegnologie aansienlik verbeter en verander het.

MTC se hoofbestuurder vir netwerke, Ludwig Tjittandi, het gevra dat Cran satellietregulasies moet hersien, omdat satellietdienste 'n onvergelykbare voordeel teenoor ander dienste met hoër infrastruktuurkoste het.

"Ons moet die implikasies verstaan. Daar is verreikende gevolge," het hy bygevoeg.

"Hoe sal ons dit tot die landelike gebiede beperk?" wou hy ook weet.

Namens die Namibië Landbou-unie (NLU) het sy uitvoerende hoof, Roelie Venter, egter die voorstelle as onbepaald beskryf en gepleit: "Ons benodig oplossings. Data is nie meer 'n luskie nie, maar 'n sakebehoefte. Ons boere het oplossings nodig, asseblief," het hy gesê.

- augetto@nmh-hub.com.na

PUBLIC PARTICIPATION NOTICE ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR FUEL BUNKERING SERVICES WITHIN THE EXCLUSIVE ECONOMIC ZONE OF NAMIBIA

Geo Pollution Technologies (Pty) Ltd was appointed by TotalEnergies Marketing Namibia (Pty) Ltd (the Proponent), to undertake an environmental assessment (EA) for fuel bunkering services within the exclusive economic zone of Namibia. Fuel bunkering involves the ship-to-ship or shore to ship transfer of fuel for refuelling purposes of seafaring vessels. The Proponent will focus on bunkering of marine gas oil (MGO) only. Additional information pertaining to the project and proposed operations can be obtained at:

<http://www.thenamib.com/projects/projects.html>

The environmental assessment will be conducted according to the Environmental Management Act of 2007 and its regulations as published in 2012. Interested and affected parties are invited to register with the environmental consultant to be provided with the opportunity to share comments, issues or concerns related to the project, for consideration in the EA. Requests for additional information and comments and concerns should be submitted to Geo Pollution Technologies by 02 September 2025.

André Faul
 Geo Pollution Technologies
 Tel: +264-61-257411
 Fax: +264-88626368
 E-Mail: bunker@thenamib.com



Vyf weke se gewag

VAN BL. 1

"Jy as pasiënt moet as jy wil was jou eie emmer of bak saambring en warm water in die gang by die urn gaan haal. Van die pasiënte lê op matrasse in die gange.

"Waarom dan nie 'n pasiënt soos ek vinnig help en nie vir weke op 'n bed los nie, sodat daar beddens vir hierdie pasiënte beskikbaar is nie?" Sy erken die emosionele en finansiële impak op haar en haar familie was geweldig. Hulle moes telkemale uitgawes aangaan om Windhoek toe en terug te reis, asook vir verblyf in die hoofstad, aangesien sy en haar ouers in die Suide woon.

As enkelouer moes haar seun by haar pably terwyl haar ma haar in die hospitaal ondersteun het en was sy noodgedwonge weke laas by die werk, met haar siekverlof wat lankal uitgeput is.

"My operasie is vier keer gekanselleer. Die finansiële en emosionele tol wat dit op my en ook my



Wanneer skoonmakers glo gevra word waarom die kamers nie ordentlik skoonmaak is nie, was die antwoord volgens 'n pasiënt "ons verdien mahala, so ons maak net mahala skoon".

familie geëis het, was geweldig. "Emosioneel is ons verwoes, ons moes om hulp smeek en is afgejak wanneer ons net antwoorde

wou hê." Sy sonder die leerlingdokters Nekale en Kirsten uit vir hul omgee en versorging, asook susters Muti en Noah wat

"buitengewone susters is en regtig lief is vir hul werk en daar is vir hul pasiënte".

Ook die aspirant-verpleegsters van die Universiteit van Namibië (Unam), wat die res van personeel volgens haar "lul, arrogant en duidelik net daar vir 'n salaris eerder as pasiëntensorg" laat lyk.

Van die dokters sou glo operasies maak soos "moenie ons pla met julle vroeë nie", "dink jy jy is spesiaal?" en "jy sal respek van my kry wanneer jy dit verdien het".

"Die hospitaal self is blink-skoon, die diens by noodgevalle by die Katutura-staats-hospitaal was uitstekend en daar is wonderlike personeel wat verdien om uitgesonder en geprys te word."

Die pasiënt is intussen vir ses weke afgeboek omdat sy so 'n ernstige operasie moes ondergaan en dit op die ou einde nie laparoskopies gedoen kon word nie.

Klik op die video toe die ministerie van werke en vervoer gister ná 15 jaar warm waterkraane weer by Windhoek Sentraal oopgedraai het: <https://q.my.na/BELR>

- henriette@republiekin.com.na

LHN
LOGISTICS HUB NAMIBIA

+264 61 330 500
+264 81 774 9777
info@lhn.com.na
Logistics Hub Namibia

CHEAPEST IN NAMIBIA FOR DAILY PARCEL

deliveries before **13h00**

TO YOU

Woensdag 27 Augustus 2025

Republiek

NUUS 3

>> **Nahas: Politieke** verskille wysig sy pad

Mishake Muyongo, 'n held of verraaier?

Die regering het onlangs gewaarsku hy nie sal huiwer om die 'volle mag van die gereg' te gebruik om hernieuwe oproepe vir die afstigting van die Zambezistreek van Namibië te onderdruk nie.

Nikanor Nangolo

s Mishake Muyongo – 'n vryheidsvegter, 'n voormalige politikus en later 'n afstigtelingsleier – 'n held of 'n verraaier?

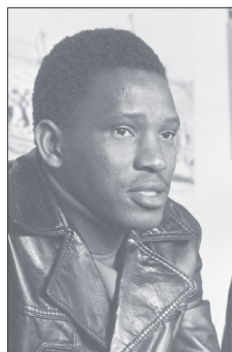
Die voormalige eerste minister Nahas Angula sê die antwoord lê in die tragedie van 'n man wat sy reputasie opgebou het net om dit te vernietig.

"Die storie van Muyongo is as 't ware 'n tragiese storie. Ek het saam met hom in Lusaka gewoon toe hy die visepresident van Swapo was. En toe ons in 1975 'n ernstige konflik binne Swapo gehad het, het hy 'n groot rol gespeel om die beweging te red," het Angula tydens 'n onlangse onderhoud op Network Television (NTV) se *Evening Review* gesê.

Oor die breër kwessie van dapperheid het Angula gesê: "Jy bou 'n reputasie op en dan vernietig jy dit. Sodra jy dit vernietig het, is dit weg. Niemand sal jou respekteer nie. Niemand sal aanhou om jou bydrae te sien. Ons mag dit dalk steeds erken, maar met 'n knippie sout, wat die geskiedenis sal jou op 'n ander vlak plaas. Dis betreuenswaardig."

In daardie stadium was die meeste van Swapo se leierskap nie in Lusaka teenwoordig nie.

"Muyongo het dus verantwoordelikheid geneem om te verseker dat Swapo nie vernietig word nie. Hy het selfs die Zambiese regering



'n Jong Mishake Muyongo FOTO VERSKAF

oortuig om in te gryp en die lede wat in stedelike gebiede gewapen was, te ontwapen.

"Dit was 'n groot rol wat hy gespeel het. Ons was daar om hom te ondersteun. Sommige van ons het net ingekom, hy was destyds 'n skoolhoof, maar hy het ons ingespan."

Uiteindelik is die Ya Otto-kommissie in die lewe geroep om te ondersoek wat gedurende daardie onstuimige dae gebeur het.

"Wyse Theo-Ben Gurirab was daar; hy het daardie rol gespeel," het Angula gesê.

Politieke verskille het later Muyongo se pad verander. Hy het Swapo verlaat, by die Demokratiese Turnhalle Alliansie (DTA) aangesluit en selfs die president van dié party geword. By

die grondwetgewende vergadering, onthou Angula, het Muyongo passievol oor eenheid gepraat.

"As jy die verklaring lees wat hy namens die DTA by die grondwetgewende vergadering gemaak het toe ons op die punt gestaan het om die Grondwet op te stel, het hy 'n baie sterk stelling gemaak: Namibië moet 'n eenheidsstaat, 'n demokratiese staat wees."

'SKOKKEND'

Dit was dus skokkend toe Muyongo later op afstigting aangedring het.

"'n Persoon wat daardie soort stelling maak, sou 'n mens nooit verwag dat hy later afstigting sou bevorder nie. Maar uiteindelik het sy komplekse karakter die oordadige gekry en hy het besluit hy wou 'n afstigting hê," het Angula gesê.

Die afstigtingveldtog het die destydse Caprivistreek, wat geskiedkundig verbind is aan die Lozi-mense wat kulturele bande met gemeenskappe in Zambië, Angola, Botswana en Suid-Afrika deel, in onrus gedompel.

Muyongo, wat eens op 'n tyd in 1980 uit Swapo verdryf en in Zambië en Tanzanië aangehou is, se politieke loopbaan het in ballingskap in Europa geëindig nadat hy in 1998 uit die land verban is.

"Ek is jammer dat hy nou op sy oudag in Europa woon. Dis nie lekker om 'n burger in daardie stadium van sy lewe in 'n vreemde land te hê nie, maar hy het die verkeerde besluite geneem," het Angula gesê.

Tog het Angula dit duidelik gestel Muyongo se rol kan nie misgekyk word nie, alhoewel dit

deur sy ondergang oorskadu word.

"Ons moet sy bydrae erken. Maar soos ek gesê het, dis 'n tragiese verhaal."

ONLANGSE PROTESOPTOG

Die regering het onlangs gewaarsku hy nie sal huiwer om die "volle mag van die gereg" te gebruik om hernieuwe oproepe vir die afstigting van die Zambezistreek van Namibië te onderdruk nie. Dit volg op 'n protesoptog op Katima Mulilo in Junie, wat deur die United Democratic Party (UDP) gereël is. Die party, wat onwettig verklaar is, het deur die strate gemarsjeer en geëis dat beweerde politieke onderdrukking, menseregteskendings en ongeregteerdhede in die streek beëindig word.

Nahas Angula
OUD- EERSTE MINISTER

"Ek is jammer dat hy nou op sy oudag in Europa woon. Dis nie lekker om 'n burger in daardie stadium van sy lewe in 'n vreemde land te hê nie, maar hy het die verkeerde besluite geneem."

Die kern van die UDP se klagskrif, wat deur die voorsitter, Vasco Kabata, onderteken en deur die sekretaris Ronnicah Sipihoo voorgelees is, was 'n versoek vir Zambezi se onafhanklikheid, die onttrekking van die weermag

uit die streek en die terugkeer van die verbanne UDP-leier, Muyongo, wat in Denemarke woon.

Die groep het beplan om hul klagskrif aan die goewerneur van die Zambezistreek, Lawrence Sampofo te oorhandig, wat nie teenwoordig was nie.

In reaksie hierop het die regering die skuif bestempel as 'n direkte poging om afstigtingretoriek te laat herleef met herinneringe aan die mislukte gewapende rebellie van Caprivi in 1999.

Die regering het die UDP gemaak "alle opsies is op die tafel" om Namibië se territoriale integriteit te verdedig.

REBELLIE IN 1999

In Augustus 1999 het gewapende mans wat aan die Caprivi Liberation Movement (CLM) behoort het, 'n aanval op regeringsinfrastruktuur op Katima Mulilo geleëds in 'n poging om die destydse Caprivistreek (nou Zambezistreek) van Namibië af te stig.

Die Namibiese weermag en polisie het die rebellie vinnig onderdruk, met ten minste 14 mense wat dood is en meer as 140 wat in hegtenis geneem is. 'n Noodtoestand is verklaar, wat die eerste groot interne konflik van onafhanklike Namibië gemaak het.

Tog, twee dekades later, voer ontleders aan die Namibiese regering het nie daarin geslaag om betekenisvol betrokke te raak by die bevordering van vrede in die streek nie. In plaas daarvan het militêre reaksies ooreers, wat die gevoelens van afstigting onder die oppervlak laat prut het.

Veiligheidsrolspelers het erken dat die konflik, onder die regte omstandighede, weer in die toekoms kan uitbreek tensy die regering van koers verander.

- republiek@republiek.com.na

Vermiste veewagter ná 10 jaar eers begrawe

Aurelia Afrikaner

Die oorsok van die veewagter Filippus Juris wat op 4 Augustus 2015 by die Onamatanga-veepes in die Omusati-streek vermis geraak het, is uiteindelik Saterdag ter ruste gelê.

Juris, wat vanjaar 35 sou geword het, is byna 'n dekade gelede as vermis

aangemeld. Sy oorsok is 12 dae later op die plaas van die voormalige minister van inligting en kommunikasietegnologie, Joel Kaapanda, ontdek waar hy laas gesien is terwyl hy gewerk het.

Volgens 'n nadoodse ondersoekverslag wat deur Network Media Hub (NMH) gesien is, is die lykskouting op 20 Oktober

2015 uitgevoer, maar die uitslae wat die oorsok as dié van Juris bevestig, is eers op 18 Augustus 2025 – 10 jaar later – vrygestel.

Toe wyle Juris se tante, Frieda Muuluts, gevra is hoekom dit so lank geneem het, het sy aan NMH gesê die polisie het die familie in kennis gestel dat daar destyds geen toetsstelle beskikbaar was nie. "Hulle het dit meestal na Suid-Afrika of Kenia gestuur. Hulle het nie vir ons gesê of hulle dit gestuur het nie. Al wat hulle gesê het, is dat hulle

dit na Windhoek gestuur het, maar hulle het wel bevestig hulle het nou die volledige stel om die toets te doen," het sy gesê.

In 'n onderhoud met NMH het Muuluts gesê die familie voel 'n swaar gewig is van hul skouers af gelig en het bygevoeg: "Ons kan

hom nou ter ruste lê, 10 jaar later."

Toe 'n polisiebeampte om kommentaar gevra is, het hy bevestig die proses behoort nie langer as 'n dekade te sloer nie. Hy het verder verduidelik resultate is destyds gewoonlik na die buiteland gestuur, maar Namibië het nou 'n

forensiese laboratorium waar sulke ontledings plaaslik uitgevoer kan word.

Muuluts het verder bevestig dat Kaapanda glo twee mans gestuur het om hom te verteenwoordig en Juris se oorsok terug na Onamatanga te vervoer om begrawe te word.

In 'n vorige artikel wat deur NMH in Januarie 2016 gepubliseer is, is berig Kaapanda is daarvoor beskuldig dat hy Juris se ma, Elizabeth Akoko, gedreig het om op te hou om met die media oor haar vermisde seun te praat.

- republiek@republiek.com.na



Familie en gemeenskapslede het uiteindelik ná 'n dekade van wyle Filippus Juris by die Onamatanga-begraafplaas afskeid geneem. FOTO VERSKAF

PUBLIC PARTICIPATION NOTICE ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR FUEL BUNKERING SERVICES WITHIN THE EXCLUSIVE ECONOMIC ZONE OF NAMIBIA

Geo Pollution Technologies (Pty) Ltd was appointed by TotalEnergies Marketing Namibia (Pty) Ltd (the Proponent), to undertake an environmental assessment (EA) for fuel bunkering services within the exclusive economic zone of Namibia. Fuel bunkering involves the ship-to-ship or shore to ship transfer of fuel for refuelling purposes of seafaring vessels. The Proponent will focus on bunkering of marine gas oil (MGO) only. Additional information pertaining to the project and proposed operations can be obtained at:

<http://www.thenamib.com/projects/projects.html>

The environmental assessment will be conducted according to the Environmental Management Act of 2007 and its regulations as published in 2012. Interested and affected parties are invited to register with the environmental consultant to be provided with the opportunity to share comments, issues or concerns related to the project, for consideration in the EA. Requests for additional information and comments and concerns should be submitted to Geo Pollution Technologies by 02 September 2025.

André Faul
Geo Pollution Technologies
Tel: +264-61-257411
Fax: +264-88626368
E-Mail: bunker@thenamib.com



PUBLIC PARTICIPATION NOTICE ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION AND OPERATIONS OF A FUEL RETAIL FACILITY IN ONAYENA, OSHIKOTO REGION

Geo Pollution Technologies (Pty) Ltd was appointed by Tradevest Holdings Group (Pty) Ltd to undertake an environmental assessment for the construction and operations of a fuel retail facility in Onayena, Oshikoto Region. The environmental assessment will be according to the Environmental Management Act of 2007 and its regulations as published in 2012.

The fuel retail facility will aid in providing fuel for the surrounding community. It will comply with industry standards, specifically South African National Standards (SANS), as prescribed by Namibian law. Daily operations will involve the receipt of fuel from road tankers, storage of fuel in underground storage tanks, dispensing of fuel to customers' vehicles, and daily activities involved with tank dips, fuel reconciliations and cleaning of the site. More details regarding the project is available at:

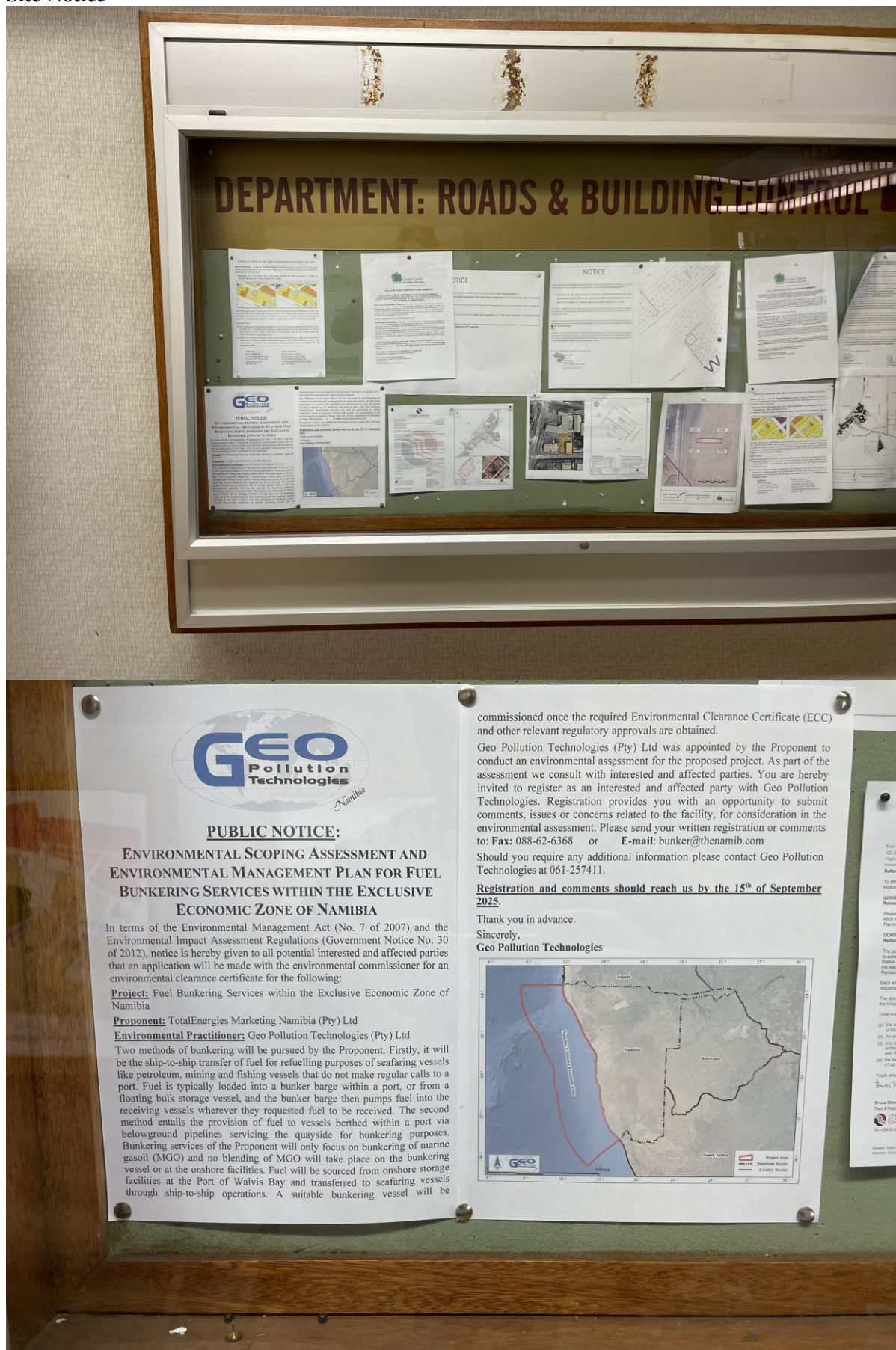
<http://www.thenamib.com/projects/projects.html>

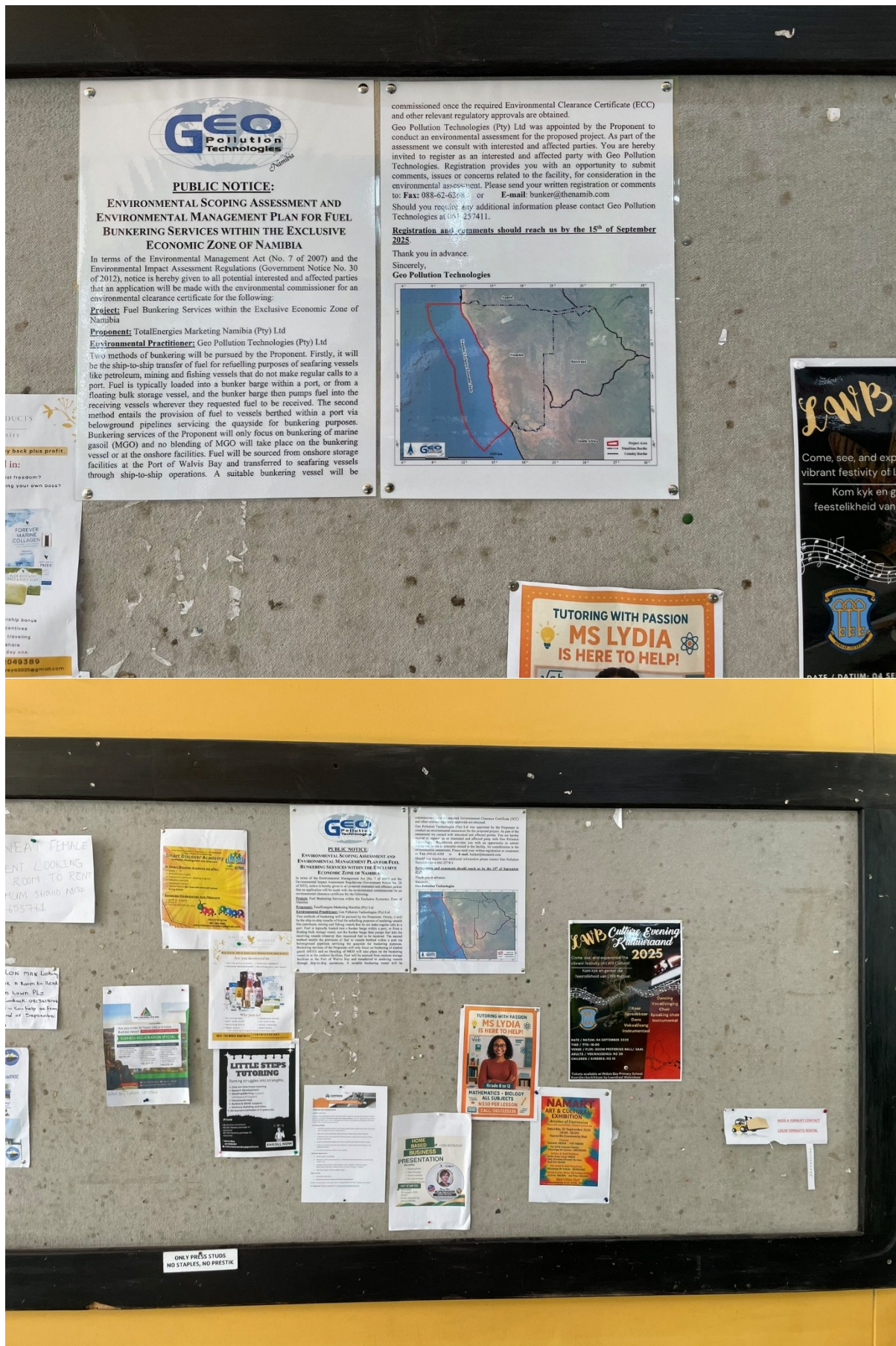
All interested and/or affected parties are invited to register with the environmental consultant. By registering you are provided with the opportunity to share any comments, issues or concerns related to the project, for consideration in the environmental assessment. Please register with, and provide comments to, Geo Pollution Technologies by 01 September 2025.

André Faul
Tel: +264-81-1452164
Fax: +264-88626368
E-Mail: onayena@thenamib.com



Site Notice





Appendix B: Consultant's Curriculum Vitae

ENVIRONMENTAL SCIENTIST**André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 250 Environmental Impact Assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

CURRICULUM VITAE ANDRÉ FAUL

Name of Firm	:	Geo Pollution Technologies CC.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	24
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent

EDUCATION AND PROFESSIONAL STATUS:

B.Sc. Zoology/Biochemistry	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	EMTSS, 2017, OSH-Med 2022
Basic Fire Fighting	EMTSS, 2017, OSH-Med 2022

PROFESSIONAL SOCIETY AFFILIATION:

Environmental Assessment Professionals of Namibia (Practitioner)

AREAS OF EXPERTISE:

Knowledge and expertise in:

- ◆ Water Sampling, Extractions and Analysis
- ◆ Biomonitoring and Bioassays
- ◆ Biodiversity Assessment
- ◆ Toxicology
- ◆ Restoration Ecology

EMPLOYMENT:

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

PUBLICATIONS:

Publications:	5
Contract Reports	+250
Research Reports & Manuals:	5
Conference Presentations:	1