

Liquefied Natural Gas (LNG) Supply Options for Walvis Bay, Namibia

Early Market Engagement

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1. INTRODUCTION

The Namibian Power Corporation (Pty) Ltd (NamPower), hereby invites your organization to participate in an Early Market Engagement for the supply of Liquefied Natural Gas (LNG) to the Anixas II Power Station in Walvis Bay, Namibia.

The Early Market Engagement documents consist of the following:

- The Early Market Engagement (this document in pdf format)
- Appendix A: Participant's Details (Word format);
- Appendix B: Confidentiality Agreement (Word format); and
- Appendix C: Response Form (Word format).

2. BACKGROUND

2.1. Namibia's power system context

NamPower, as Namibia's national power utility, is a state-owned enterprise reporting to the Ministry of Industries, Mines and Energy and is regulated by the Electricity Control Board of Namibia. Its core operations encompass the generation, transmission, and energy trading of electricity both within Namibia and across the Southern African Power Pool (SAPP).

With the global shift towards renewable energy, Namibia faces challenges in managing renewable energy variability, ensuring grid stability and meeting the supply of peak demand. To support dispatchable, firm power, NamPower completed the 54MW Anixas II dual-fuel power station in Walvis Bay during 2024 which currently runs on VLSFO and Diesel. The intent is to develop a competitively priced LNG supply chain to the power station, which is ready to receive natural gas to supply the dual-fuel internal combustion reciprocating engines (ICRE).

2.2. Anixas II Power Station Overview

The Anixas II Power Station is a 54 MW dual-fuel Internal Combustion Reciprocating Engine (ICRE) plant located at the NamPower's Walvis Bay site. An overview of the site is shown in Figure 2.1. The red

boundary depicts the boundary of the complete site, and marker A shows the location of Anixas II within the site.



Figure 2.1: NamPower Walvis Bay Site

Key characteristics Anixas II are:

- **Location:** Walvis Bay, Erongo Region, Namibia, within an industrial area near existing bulk fuel storage.
- **Technology:** 3x 18.6MW dual fuel Internal combustion reciprocating engines, MAN model V 51/60 DF, capable of operating on liquid fuels (VLSFO / HFO and diesel) and natural gas (NG).
- Net export capacity is 54 MWe.
- **Current fuel supply:** Very low sulphur fuel oil (VLSFO), with diesel as pilot fuel.
- **Existing capacity factor:** < 5%

Anixas II future operation:

- **Fuel option:** Receive and operate on natural gas with VLSFO as backup fuel.
- **Capacity factor:** 25 – 50% depending on gas price competitiveness against import contracts

2.3. Rationale for LNG

Transitioning Anixas II from VLSFO to LNG has the potential to:

- Reduce operating costs (subject to LNG pricing and logistics);
- Reduce emissions relative to VLSFO;
- Improve heat rate, flexibility and potential capacity factor; and
- Contribute to Namibia's broader energy transition.

Namibia currently does not have an operational LNG import terminal. Proposals and concepts for gas/LNG infrastructure at or near Walvis Bay, together with regional gas developments, indicate potential for LNG import solutions that could serve Anixas II and possibly other users.

This market sounding therefore seeks to understand how the market would structure an integrated LNG supply chain and associated infrastructure for Walvis Bay to supply Anixas II from around 2028 onwards.

3. OBJECTIVES

This Early Market Engagement is an information-gathering process in which NamPower seeks to collect insights and feedback from LNG suppliers or technology providers regarding various aspects of the LNG supply chain and logistics, design and safety standards, environmental and licensing requirements, project timelines, and other relevant considerations.

Participants are encouraged to complete the questions outlined in Appendix C. However, respondents are not limited to these questions and may provide additional information as deemed necessary to support the development of the project.

Through this process, NamPower aims to:

1. Gauge **market appetite** to supply LNG and to develop, operate and maintain associated LNG receiving, storage, regasification and gas delivery infrastructure to Anixas II.
2. Understand feasible supply options and logistics chains, including:
 - LNG sourcing regions;
 - Shipping options and vessel sizes;
 - Receiving, storage and regasification concepts at or near Walvis Bay (e.g., Floating LNG, FSU plus onshore regasification, onshore LNG terminal, small-scale LNG, trucked LNG, ISO-containers, etc.).
3. Obtain indicative views on annual contract quantities (ACQ), flexibility, gas supply volumes associated with the power station capacity factor increasing from 10% up to 70% over time, and **minimum economic volumes** associated with serving a 54 MW peaking/mid-merit plant.

4. Explore possible **contractual and commercial structures** for an integrated solution, including:
 - LNG supply agreements;
 - Port terminal capacity agreements;
 - Fully integrated “**LNG + terminal + gas delivery**” service structures;
 - Options to interface with potential domestic gas developments in the longer term.
5. Identify key risks, preconditions, regulatory requirements (environmental clearance certificate, storage license, safety / ATEX) as seen by market participants for the Namibian landscape.
6. Collect suggestions for **innovative and scalable structures** (e.g. multi-user terminal, aggregation, hybrid fuel solutions) that could improve the viability of LNG-to-power at Anixas II and potentially beyond.

4. SCOPE OF INFORMATION REQUESTED

Respondents are requested to provide information, on a **non-binding basis**, covering (as applicable):

- Company profile and LNG / gas-to-power track record;
- **LNG supply capability** (portfolio, sources, volumes, tenors);
- **Marine transport** capabilities and preferred shipping arrangements;
- Receiving, storage and regasification solutions for Walvis Bay;
- **Gas transmission / distribution** and interface options at Anixas II (gas pressure, quality, metering, redundancy);
- Any limitations or upgrades required to port infrastructure that may be required to facilitate the import of LNG
- Indicative **commercial structures** and **price indexation options** for an integrated LNG-to-power solution;
- Approaches to **risk allocation and partnership**; and
- **Regulatory and permitting assumptions**, as well as any other suggestions or constraints relevant to such a solution.

The detailed questionnaire is provided in **Annexure B**.

5. NON-BINDING NATURE, NO LIABILITY AND CONFIDENTIALITY

5.1. Non-binding

- I. This RFI is solely for information gathering and market consultation.
- II. NamPower is under **no obligation** to proceed with any LNG procurement, infrastructure development, or subsequent competitive process.
- III. NamPower may, at its sole discretion, decide **not to proceed**, or to proceed on the basis of a **different structure** to that contemplated in this market sounding.

5.2. No liability

- I. While this market sounding has been compiled from information believed to be reliable, no representation or warranty (express or implied) is given as to its completeness or accuracy.
- II. NamPower and its advisers accept no responsibility for any loss or damage arising from the use of this market sounding or any information contained herein.

5.3. Confidentiality

- I. Responses may contain confidential and commercially sensitive information.
- II. NamPower will use reasonable efforts to treat such information as confidential, subject to applicable laws, regulations, and any obligations toward public disclosure or oversight bodies.
- III. Respondents should **clearly mark** any information they regard as confidential.

5.4. Voluntary participation

It is important to emphasize that participation in this Early Market Engagement is voluntary. Participants shall bear full responsibility for all costs incurred in the preparation and submission of their responses, including any costs associated with the clarification of submissions. NamPower shall not, under any circumstances, be held responsible or liable for any costs or expenses incurred by participants in relation to this Early Market Engagement.

6. INSTRUCTIONS TO RESPONDENTS

6.1. Who may respond

NamPower welcomes responses from:

- LNG producers and portfolio traders;
- LNG aggregators and wholesalers;
- FLNG / FSRU / FSU and LNG terminal developers and operators;

- Shipping companies and shipowners with LNG expertise;
- Integrated LNG-to-power solution providers; and
- **Consortia** combining such capabilities.

6.2. Form of response

Respondents are requested to:

- Complete the **Questionnaire in Annexure B** (adapting where questions are not applicable); and
- Provide any **supporting material** (schematics, reference project summaries, etc.) as appendices.

6.3. Language

All responses shall be prepared in **English**.

6.4. Submission method and deadline

- Responses should be submitted by **17h00 (GMT+2) on 27 November 2026**.
- Mode of submission:
 - By email to: LNGMarketSounding@nampower.com.na
- The subject line (for email) should state: “Market Sounding Response – LNG Supply and Integrated Solution for Anixas II Power Station – **[Respondent Name]**”.

6.5. Clarification questions method and deadline

- All questions or requests for clarification should be submitted by **17h00 (GMT+2) on 13 November 2026**.
- Mode of submission:
 - By email to: LNGMarketSounding@nampower.com.na
- The subject line (for email) should state: “Market Sounding Clarification Request – LNG Supply and Integrated Solution for Anixas II Power Station – **[Respondent Name]**”.

NamPower will issue **anonymised clarifications** to all respondents for each clarification sought.

7. ANIXAS II POWER STATION – TECHNICAL SUMMARY FOR LNG CONCEPT

This section provides **indicative information** to help respondents frame their LNG solutions. It does not replace formal technical specifications.

7.1. Plant characteristics

- **Technology:** Internal combustion reciprocating engines (ICRE), dual fuel; initially configured for VLSFO/HFO and diesel, with capability to switch to natural gas.
- Net capacity: 54 Mwe, 3x 18.6 MW MAN V 51/60 DF engines.
- Availability (design): 92% or higher.
- Heat rate on LHV at ISO conditions:
 - 8106 kJ/kWh on VLSFO
 - 7684 kJ/kWh on NG
- Cooling: Dry cooling with adiabatic assist.

7.2. Fuel requirements (indicative)

Given the peaking duty, **annual gas consumption** may be modest relative to base-load plants. Respondents are requested in Annex B to:

- Provide minimum economic LNG volume / send-out thresholds;
- Indicate what **capacity factor / operating regime** is typically required for LNG to be competitive under their proposed structures; and
- Suggest ways to **aggregate demand** (e.g. other users in Walvis Bay or the wider region) to achieve economies of scale, if required.
- Indicate price range of LNG delivered to site for each solution: 8 – 11 USD/GJ (expected)
- Fuel supply off-take term (e.g 5 years or 10 years), currency and escalation.
- Capex contribution options to reduce NG fuel price (e.g for site-base storage and regassification).

8. INDICATIVE LNG-TO-POWER CONCEPT AT WALVIS BAY

This section describes **conceptual options only**. Respondents are encouraged to propose alternatives. The figure below indicates the north port facilities in relation to the power station:

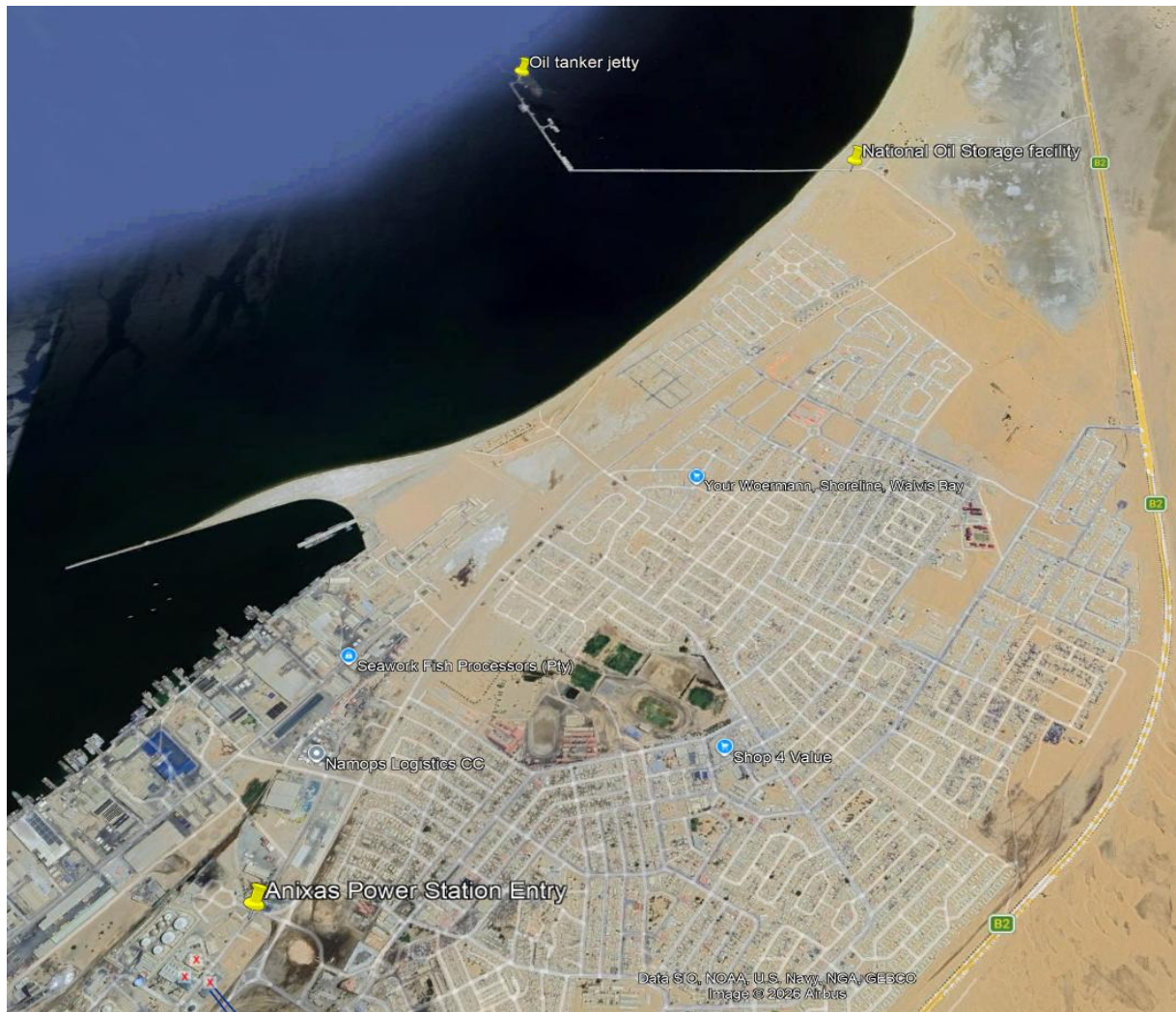


Figure 8.1: NamPower Walvis Bay port facilities in relation to the power station

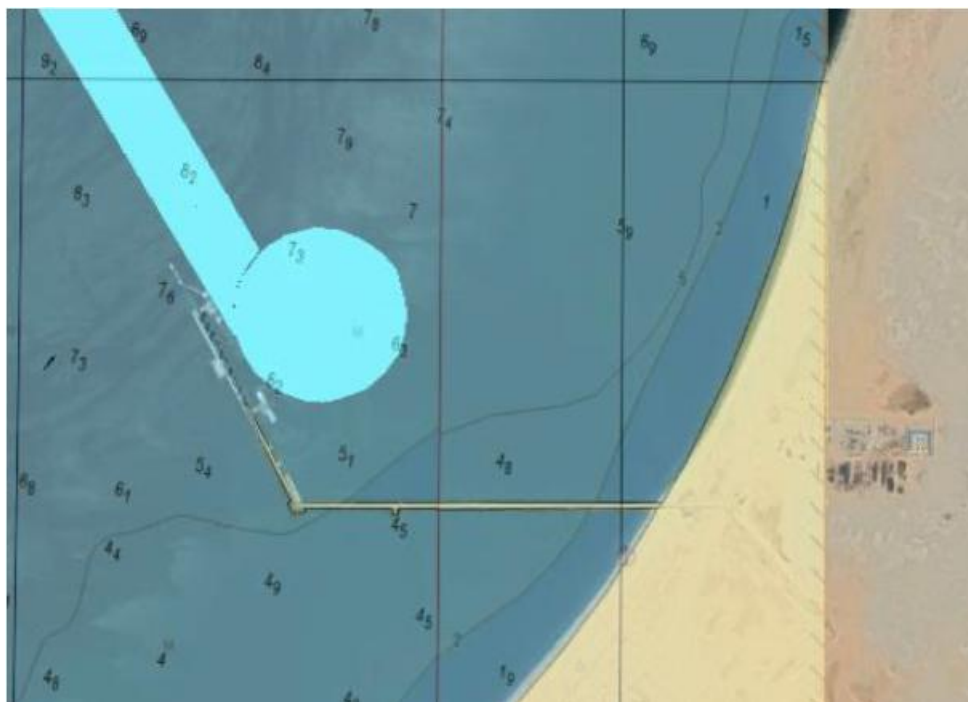


Figure 8.2: Available bathymetry at oil tanker jetty

Potential elements of an integrated LNG chain could include:

1. Upstream / Liquefaction / LNG source
 - Regional or global LNG supply from respondents' portfolios;
 - Potential future integration with **domestic gas developments**, if and when such gas becomes available on commercial terms.
2. Marine transport to Walvis Bay
 - Conventional LNG carriers (e.g. 125k–170k m³) if a larger-scale terminal solution is adopted.
 - Smaller LNG vessels / shuttle tankers for small-scale solutions.
 - Potential use of **multi-user facilities**, if developed at Walvis Bay.
3. Receiving, storage and regasification
 - Floating Storage Unit (**FSU**) plus onshore regasification.
 - Onshore LNG tanks with regasification at the power station site.
 - Trucked or **ISO-container LNG** with local regasification (e.g. satellite regasification at or near Anixas II).
 - Other concepts proposed by respondents.

Respondents are invited to comment on synergies with other existing or planned fuel / bulk liquid infrastructure at Walvis Bay.

4. Gas transmission / distribution to Anixas II
 - Short high-pressure pipeline from the receiving terminal to Anixas II; and/or
 - Local regasification units located near or within the Anixas II site for small-scale concepts.

Respondents should use **Annexure B** to describe their preferred configuration(s), including rough order-of-magnitude capacities and layouts.

9. NEXT STEPS

Following receipt and analysis of responses, NamPower may:

- Organise **clarification meetings** (virtual or in person);
- Prepare a high-level **market sounding report** summarising anonymised findings; and
- Decide whether and how to proceed towards a **formal procurement process** (e.g. EOI / RFP) for LNG fuel supply and/or LNG infrastructure and services related to Anixas II.

Respondents will be informed in due course of any subsequent steps in which they may be invited to participate.

APPENDIX A – RESPONDENT INFORMATION TEMPLATE

Respondents are requested to provide the following information as a cover section to their RFI response.

A1. Company details

Name of Participant (Company Name):	
Address of Registered Office:	
Telephone:	
Facsimile:	
Email:	
Website:	
Name of Contact Person:	
Contact Person Telephone:	
Contact Person Cell Phone:	
Contact Person Email:	

A2. Business profile and experience

1. Brief description of main business activities (e.g. LNG production, trading, shipping, terminal development, EPC, O&M, integrated solutions).
2. Overview of LNG-related assets and capabilities (liquefaction, regasification terminals, FSRUs, FSUs, LNG carriers, small-scale LNG assets, etc.).
3. Experience in small-scale **LNG-to-power** and **gas-to-power** projects, especially in:

- Sub-Saharan Africa; and/or
 - Emerging markets with similar regulatory or port environments.
4. References for **up to five** small-scale **LNG** projects (project name, country, capacity, role, start date, current status).

APPENDIX B – RFI QUESTIONNAIRE

Please answer all questions that are relevant to your role (supplier, trader, shipowner, infrastructure developer, integrated solution provider). If questions are not applicable, please indicate “N/A”.

B1. LNG supply capability

1. From which **LNG liquefaction plants / regions** could you supply LNG to Walvis Bay for Anixas II?
2. What **volumes** could you make available (minimum, typical and maximum annual quantities) for a dedicated 54 MW peaking / mid-merit plant?
3. What is the **earliest date** from which you could realistically commence LNG supply to Namibia (noting the target start from around **2028**), and what **contract tenors** (e.g. 5, 10, 15 years) would you typically consider?
4. How would you characterise your **preferred contracting model** for LNG?
 - Term portfolio-based supply;
 - Plant-specific Sale and Purchase Agreement;
 - Aggregated supply to multiple Namibian or regional demand centres; and/or
 - Spot / short-term basis.
5. What degree of **volume flexibility** (e.g. swing, make-up, carry-forward) could you offer for a plant with variable utilisation?

B2. Marine transport and logistics

6. What **ship sizes** and LNG carrier types would you envisage for deliveries to Walvis Bay (conventional, mid-size, small-scale vessels, bunkering vessels, ISO Container Carriers, etc.)?
7. What is your typical **minimum cargo size** (m³) for economic LNG deliveries?
8. Are there any **marine or navigational constraints** that you foresee at Walvis Bay for LNG carriers, based on your experience (e.g. drafts, turning circles, weather, port services)?
9. Would you propose:
 - **DES/DAP** deliveries (supplier arranges shipping);
 - **FOB / ex-shipper's terminal** (buyer arranges shipping); or
 - Both options?

B3. Receiving, storage and regasification options

10. What **receiving terminal concept(s)** would you recommend for a project of this scale and duty, considering (as relevant):
 - FSRU;

- FSU plus onshore regasification;
 - Onshore LNG terminal;
 - Small-scale / satellite LNG facilities; and/or
 - Other concepts.
11. What is the **minimum technical / economic send-out capacity** (in mmscfd or tonnes/day) associated with your proposed solution(s)?
12. What approximate **LNG storage capacity** (in m³) would you consider appropriate for:
- Security of supply;
 - Efficient shipping utilisation; and
 - A peaking / mid-merit plant like Anixas II?
13. Would a **multi-user terminal model** (serving industrial, transport or additional power users) be necessary or desirable to achieve scale? If so, please elaborate.
14. Do you have a preference regarding the **location** of the LNG receiving facility (e.g. South port, North Port, offshore, Anixas II LNG Storage), and why?

B4. Interface with Anixas II – gas delivery and quality

15. What **delivery point** would you propose (e.g. high-pressure flange at the Anixas II boundary, custody transfer at the terminal, etc.)?
16. What **gas pressure and temperature ranges** would you typically deliver, and what are the implications for plant-side pressure regulation / compression?
17. Please state the typical **gas quality specifications** (e.g. Wobbe index, HHV, allowed ranges of nitrogen/CO₂, sulphur content) for your LNG / regas supply.
18. Please identify any **constraints or risks** associated with matching your gas quality to dual-fuel ICRE engines similar to those installed at Anixas II.
19. Would you propose **redundant gas supply lines or back-up systems** for reliability? If so, please describe.

B5. Contractual and commercial structures

20. What **contractual structure(s)** would you consider for Anixas II, for example:
- Fuel-only **LNG Supply Agreement** (FOB or DES/DAP);
 - Tolling / capacity-based regasification agreement;
 - Fully integrated “LNG + terminal + gas delivery” service;
 - **BOO/BOOT** models for the terminal and associated infrastructure; and/or
 - Other structures (please describe).
21. For LNG pricing, what **indexation mechanisms** would you typically consider:

- Oil-linked (e.g. Brent with slope and constant);
- Gas hub-linked (e.g. JKM, TTF, Henry Hub) plus basis;
- Hybrid oil/hub structures;
- Fixed price periods; and/or
- Other mechanisms.

22. What are your views on appropriate **take-or-pay levels**, considering:

- Offtake from a relatively small, peaking / mid-merit plant; and
- The possibility to aggregate other users?

23. Would you consider **shorter-term supply** (e.g. 3–5 years) with renewal options, or do you foresee a requirement for **longer-term commitments** to justify infrastructure investment?

24. Please provide indicative (non-binding) commercial parameters, such as:

- Typical ranges of slopes / premiums for comparable projects; and
- High-level estimates of **shipping differentials** to Walvis Bay from key LNG basins.

(Note: numerical price indications can be generic and non-binding; no firm offer is requested.)

B6. Risk allocation and partnership options

25. How would you propose to **allocate key risks** between the LNG supplier / terminal provider and NamPower (and/or other Namibian counterparties), including:

- Volume risk (plant dispatch variability);
- Price risk (commodity and basis);
- LNG supply availability;
- Terminal availability and port constraints;
- Foreign exchange / country risk.

26. Would you be prepared to:

- Take **equity or JV positions** in LNG infrastructure at Walvis Bay;
- Enter into **long-term service agreements** (e.g. O&M) for the terminal; and/or
- Support capacity building and skills transfer in Namibia?

B7. Regulatory, legal and country considerations

28. From your perspective, what are the key **regulatory approvals and permits** necessary to implement an LNG-to-power solution at Walvis Bay (e.g. environmental, port authority, energy regulator, petroleum products / storage, safety)?

29. Are you aware of any **regulatory or policy barriers** that could materially affect the bankability or execution of LNG supply and associated infrastructure for Anixas II?
30. Do you foresee the need for any **government support measures** (e.g. guarantees, comfort letters, tax or customs arrangements) to make such a project viable?
31. Please share any **lessons learned from similar projects** in emerging markets that may be relevant to Namibia.

B8. Innovation, synergies and additional comments

32. Please outline any **innovative concepts** you believe could enhance the feasibility of LNG supply and an integrated solution for Anixas II, such as:
 - Synergies with other energy or industrial projects at Walvis Bay;
 - Multi-fuel hubs;
 - Hybrid solutions combining LNG with other fuels or storage; and/or
 - Integration with potential future expansion of gas-fired capacity or other gas demand in Namibia.
33. Do you see potential for scaling up beyond Anixas II (e.g. future gas-fired capacity, industrial demand, bunkering)?
34. Please provide any further comments, recommendations or concerns not addressed elsewhere in this questionnaire.

APPENDIX C: CONFIDENTIALITY AGREEMENT

1. NamPower's receipt or discussion of any information (including information contained in any brochures, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on NamPower or entitle us to any compensation thereof (except to the extent specifically provided in such written agreement, if any, as may be entered into between NamPower and us).
2. Any such information given to NamPower before, with or after this Confidentiality Agreement on Terms of Discussion ("Confidentiality Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Confidentiality Agreement, whether made as part of or in connection with this Confidentiality Agreement, shall be void and of no effect. This Confidentiality Agreement is not intended, however, to grant to NamPower rights to any matter, which is the subject of valid existing or potential patent, or any other intellectual property rights. The foregoing applies to any information, whether or not given at the invitation of NamPower.
3. Notwithstanding the above, and without assuming any legal obligation, NamPower will employ reasonable efforts, not to disclose to any competitor of the undersigned, information submitted which are trade secrets which, if disclosed, would cause injury to the competitive position of the enterprise, and which information is identified by the Participant as proprietary, which may be disclosed by the undersigned to NamPower as part of or in connection with the submission of a proposal.
4. NamPower and its consultants intends to use the information received from participants for the use of informing the final Project description, technical specifications and its viability or any known issues which may affect its outcome. Further, the information will be used to assess whether there is an established market capability (with reference to specific technology options) and capacity to provide the technical solutions proposed.

Name in capital letters:	
In the capacity of:	
Company Name:	
Date:	
Signature:	

