

APPENDIX 3.15: PUBLIC MEETINGS

APPENDIX 3.15.1: IN-PERSON MEETINGS

Public Participation Workshop: Richards Bay

Draft Environmental Impact Assessment (EIA)
Report for the Proposed Gas to Power via Powership Project
at the Port of Richards Bay, uMhlathuze Municipality within
King Cetshwayo District Municipality, KwaZulu Natal
(DEA/EIA/ 14/12/16/3/3/2/2007)

Zululand Chamber of Business
23 November 2022



Item	Responsibility	Estimated time
Welcome & introductions	Rose Owen (facilitator)	5 min
Project Context	Prof Lwazi	8 min
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Welcome and Introductions



Engagement courtesies & housekeeping

- ▶ Discussion time has been planned - please keep your questions for these parts of the programme
- ▶ Respect all attendees, and allow everyone to voice their views / comments / questions
- ▶ Raise your hand when you have a comment / question
- ▶ State your name, organisation & position clearly for record keeping purposes
- ▶ Translations: isiZulu and Afrikaans
- ▶ Commenting period:
 - ▶ 10 November - 12 December 2022
 - ▶ email: richardsbayksa@triplo4.com

“No Frogging, No Hogging, No Bogging”



Key desired outcomes for today

- ▶ Introduce the proposed project
- ▶ Explain the Environmental Impact Assessment process, and your role
- ▶ Share the key findings from the specialist assessments
- ▶ Opportunity to comment and engage with specialists
- ▶ **Open discussion, engagement and learning**



Project Context – Prof Lwazi



PROJECT CONTEXT

- How did we get here?
 - A response to a RFP issued by the DMRE in July 2020
 - As a risk mitigation (response) to the energy crisis
 - Within the IRP2019 planning
 - The provision of electricity through this project is structured different – will generate electricity only when issued a dispatch instruction
 - 8 Preferred bidders announced in March 2021, then 3 more projects in June 2021
- Energy Security/Poverty
 - Access to Electricity
 - Clean Cooking
 - Health
 - Human Development Index

- International Approaches to Energy Security

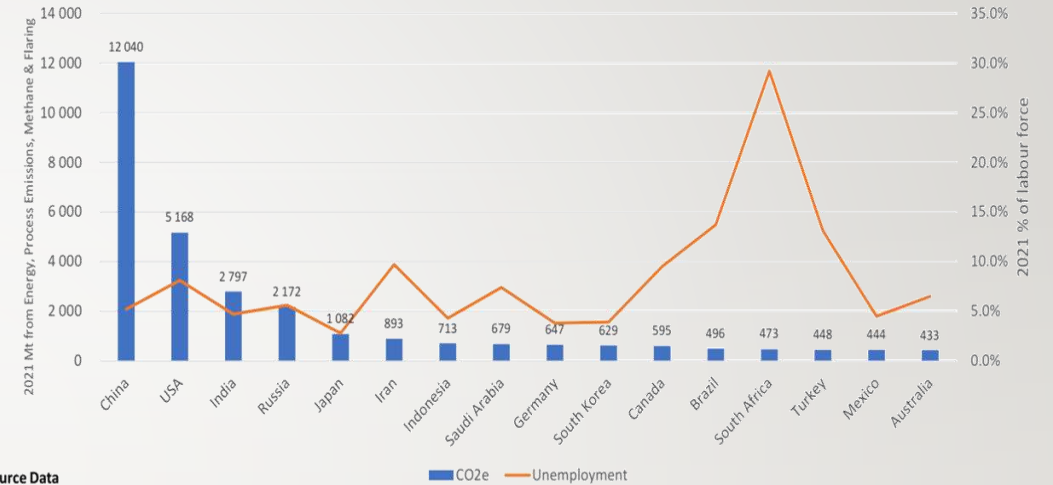
- [North America](#)
- [Europe](#)
- [Global](#)

- Lessons for South Africa

- Energy security needs to be a deliberate policy decision
- Developed world put their energy and national security concerns and priorities above their climate commitments.
- Energy geopolitics are intertwined with global political agendas – implications for policymaking.
- Rest of the world sees Gas as a bridge to a lower-carbon future.
- South Africa and the continent, has poor indicators including electricity access, access to clean cooking, child health rates etc., a direct result of being energy poor.
- Transitioning recklessly to a low-carbon economy puts the country's energy security at risk.
- The uptick in renewable energy has not translated to lower energy prices for the consumer.
- The ideal of a low-carbon future may not be attainable in the near future because of many constraints

Just Energy Transition

- South Africa's "just transition" framework is based on 3 principles of justice (**Presidential Climate Commission, 2022**):
 - **Distributive**
 - **Restorative and**
 - **Procedural justice**

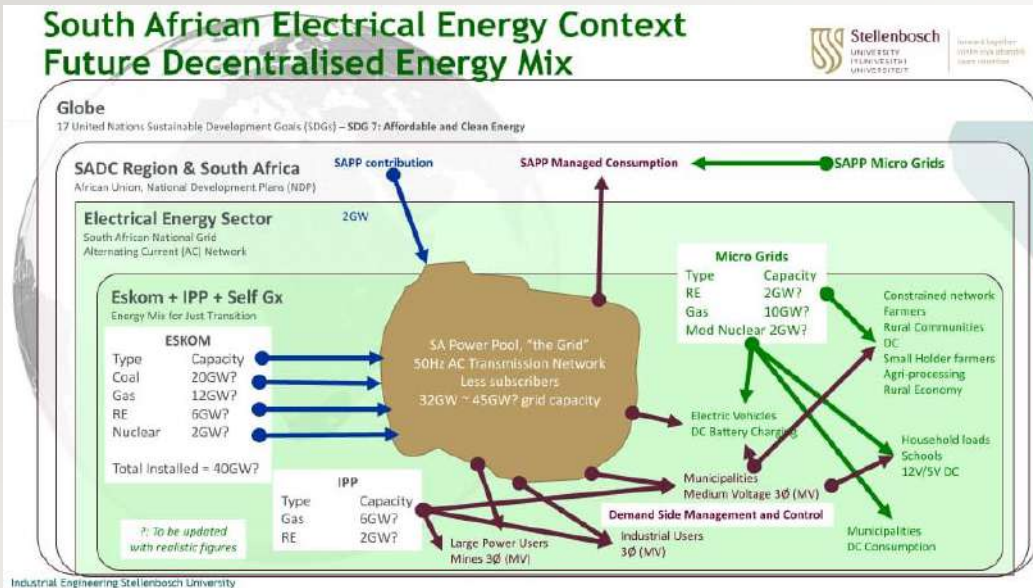


Source Data
BP Statistical Review of World Energy 2022
www.worldpopulationreview.com



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South Africa's Pressing Challenges





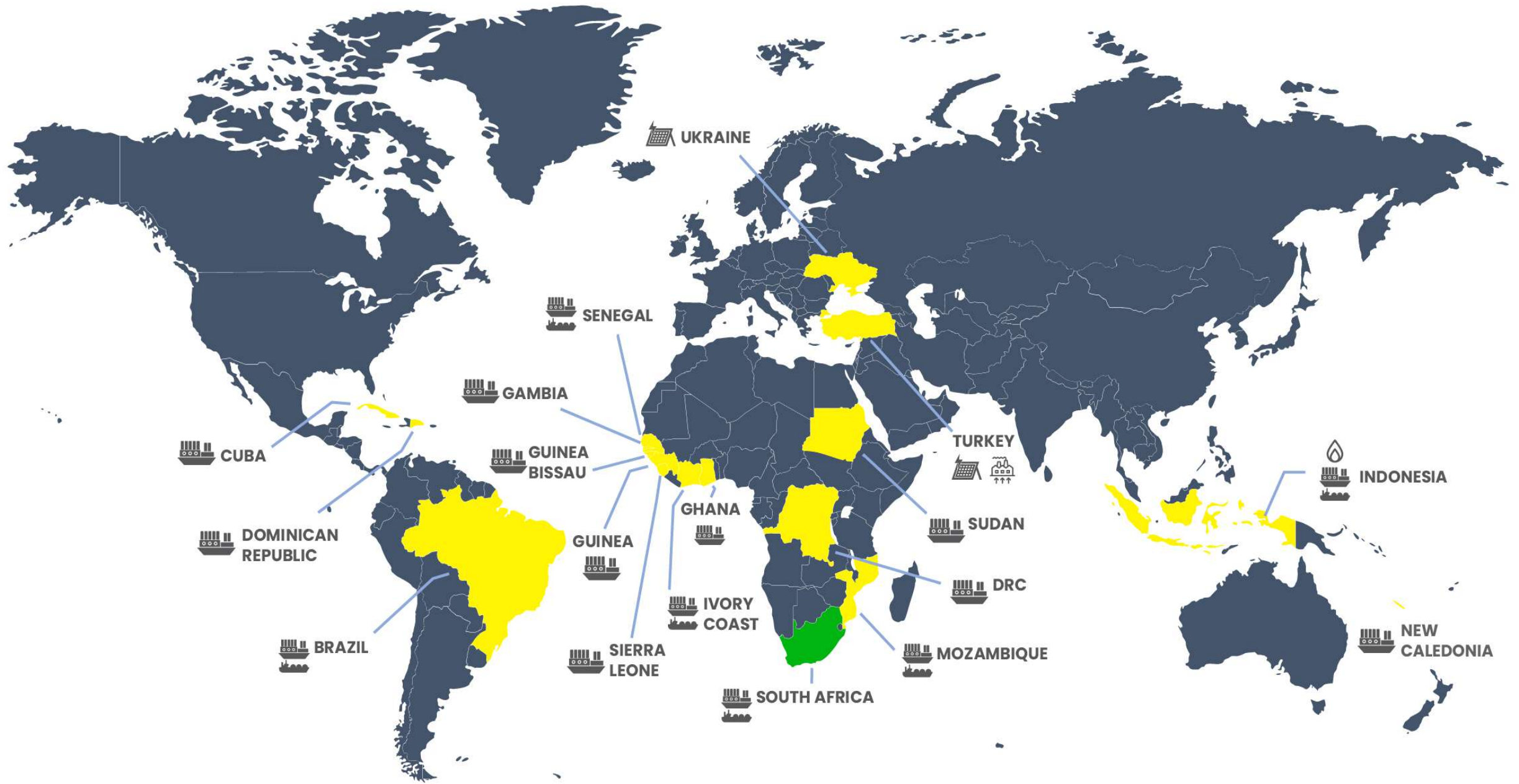
THANK YOU

Karpowership South Africa – David Clark



KARPOWERSHIP

POWERING
life



Overview of Project – Triplo4



Overview of Project

Scoping Phase

- Approval of Final Scoping and PoS received from DFFE - 06 January 2021.

EIA Phase (2021)

- Final EIAR & EMPr submitted to DFFE – 26 April 2021;
- EA application refused as per Record of Refusal – 23 June 2021
- KSA appealed the refusal – 12 July 2021
- Minister dismissed the appeal – 01 August 2022
 - exercised her powers in terms of Section 46(3) of NEMA
 - remit the matter to CA – various gaps in information and procedural defects to PPP to be addressed for reconsideration, within EIA process timeframes

EIA Phase (2022)

- Pre-Application with DFFE– 24 August 2022;
- dEIAR Public Participation comment period - 10 Nov – 13 Dec 2022 (33 days)
- Final EIAR – due in January 2023

Main aspects from appeal

- ▶ PPP - All I&AP to have an opportunity to comment on noise information
- ▶ Noise from the Powership
 - ▶ Underwater noise & impacts
 - ▶ Terrestrial noise
 - ▶ Need & desirability
 - ▶ Socio-economic and ecological aspects
 - ▶ Socio-economic
 - ▶ Tourism
 - ▶ Small-Scale Fishers
 - ▶ Polycentric approach
 - ▶ Considering all matters integratively



Transmission component



Transdisciplinary Approach – Tasneem Steenkamp



Transdisciplinary Approach

SPECIALIST REPORTS			SPECIALIST COMPANY
A TERRESTRIAL BIODIVERSITY & ECOSYSTEMS	A1	Hydrology Assessment	GCS (Pty) Ltd
	A2	Aquatic Assessment	GCS (Pty) Ltd
	A3	Hydropedology Assessment	GCS (Pty) Ltd
	A4	Geohydrological Assessment	GCS (Pty) Ltd
	A5	Water Balance Assessment	GCS (Pty) Ltd
	A6	Wetland Delineation and Functional Assessment	ENVASS / Triplo4
	A7	Archaeological Impact Assessment	Agency for Cultural Resource Management
	A8	Terrestrial Ecological Assessment	The Biodiversity Company
	A9	Terrestrial Avifauna Impact Assessment	Dr Paul Martin
B MARINE , COASTAL & ESTUARINE BIODIVERSITY & ECOSYSTEMS	B1	Baseline Underwater Noise Assessment	Subacoustech Environmental Ltd
	B2	Underwater Noise Assessment	Subacoustech Environmental Ltd
	B3	Underwater Heritage Assessment	Contract Maritime Archaeologist
	B4	Marine Ecology, Avifauna Fisheries and Coastal Assessment	Anchor Environmental, Coastwise Consulting & GroundTruth
	B5	Estuary Compliance Statement Assessment	Coastwise Consulting & GroundTruth
C ATMOSPHERIC CONDITIONS	C1	Atmospheric Impact Assessment	uMoya-NILU Consulting (Pty) Ltd
	C2.1	SA Terrestrial Noise Assessment	Safetech
	C2.2	Ghana Airborne Noise Assessment	Subacoustech Environmental Ltd
	C3	Climate Change Impact Assessment	Promethium Carbon
D SOCIAL CONDITIONS AND RISKS	D1	Socio-Economic Impact Assessment	Afro Development Planning Pty Ltd
	D1.1	Small Scale Fishers Engagement	Afro Development Planning Pty Ltd
	D1.2	Tourism Impact Research	3T Business Fusion
	D1.3	Traffic and Transportation Evaluation	Fulcrum Development Consultants
	D2	Landscape and Visual Impact Assessment	Environmental Planning and Design
	D3	Major Hazard Risk Installation Assessment	Major Hazard Risk Consultants
	8.1	Gas to Power Projects and the Just Energy Transition from Fossil Fuels in the South African Political Economy	Political Economy Southern Africa
	8.2	South Africa Country Specific Energy Security Assessment	Prof Lwazi Ngubevana
	8.3	The Economic Impacts of Rolling Blackouts in South Africa	Afro Development Planning Pty Ltd
8.4	Sustainability Assessment	Afro Development Planning Pty Ltd	

Discussions (Q&A)



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Socio-economic – Eugene De Beer



Socio-economic impact assessment

SOCIO-ECONOMIC IMPACT ASSESSMENT

IMPACTS DURING CONSTRUCTION AND OPERATIONS	NATURE OF THE SEIA IMPACT	SIGNIFICANCE OF THE SEIA IMPACT
Indirect impacts: biodiversity and climate change - not localised	Low negative	Low cumulative
Indirect impacts: small scale fishers due to marine ecology impacts	Low negative	Low to medium positive with mitigations
Indirect impact on tourism and related activities	Low negative	Positive with mitigations
Municipal services and facilities due to increase in employment	Low negative	Low with mitigations
Impact on the sense of place	Low negative	Low with mitigations
Skills and enterprise development during construction and operation	Positive medium	Medium to high with mitigations
Electricity provision; increases in economic production, value and income	Positive medium: direct, indirect and induced impacts	Medium to high with mitigations

Socio-economic impact assessment

MITIGATIONS

1. Implement Karpowership's Economic Development Programme.
2. Provide support, education, and training to the small-scale fishers to find alternative employment
3. Together with the Municipality, NGOs and CBOs address the **poverty of the fishers**.
4. Together with the Municipality and tourism organisations, develop a **marine / industrial tourism attraction, routes, and tours**.
5. Contribute to the **tourism education and skills development - tourism guides**.
6. Implement **managed labour recruitment practices**.
7. **Local employment and procurement practices** as per the RMIPPP requirements.
8. Implement a **monitor system and complaint lodging system** to address problems that may arise
9. Do **knowledge and skills transfer**
10. **Operations limited to business hours**.

No fatal socio-economic flaws have been identified. It is recommended that the Project continue from a socio-economic point of view.

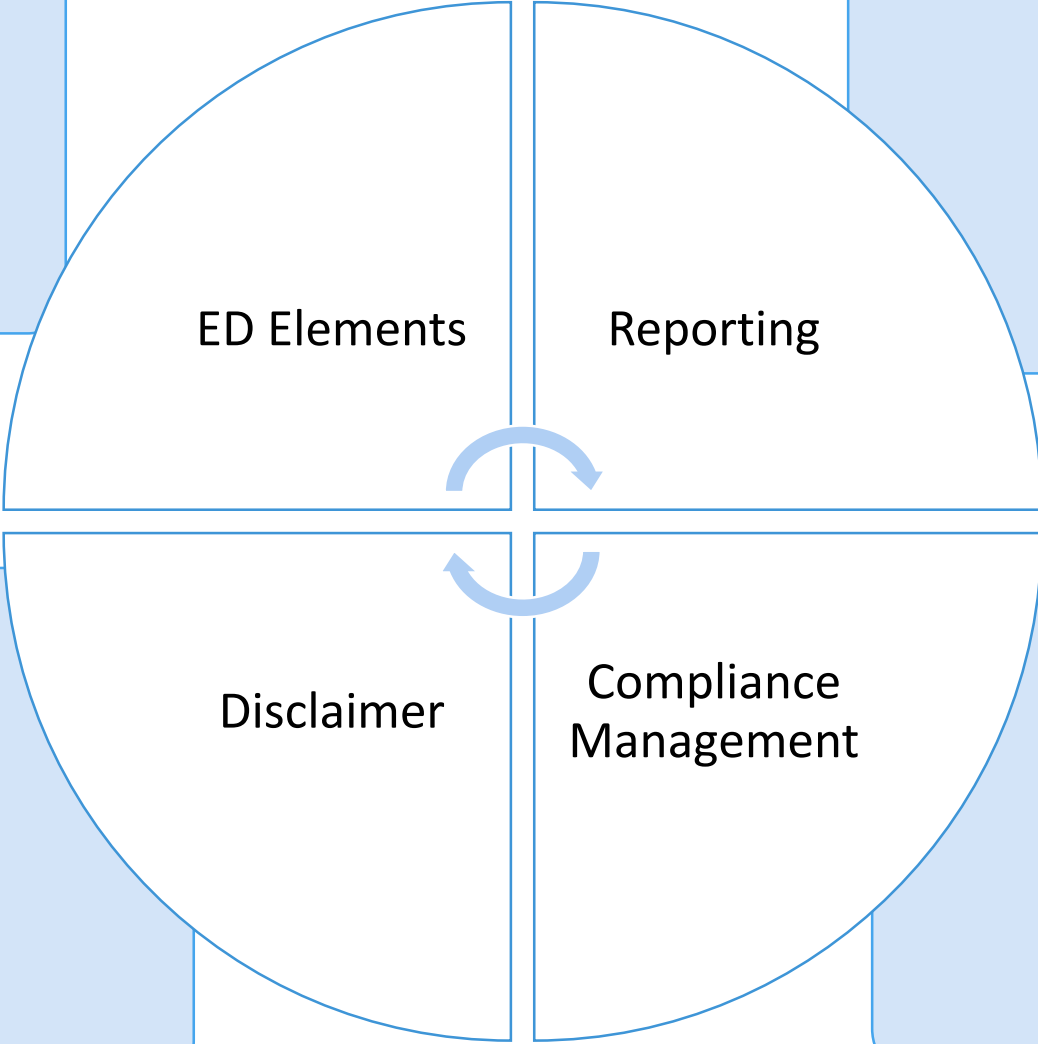


Economic Development – Waldo Adams



Economic Development

- Job Creation
- SED
- Enterprise Dev
- Supplier Dev
- Skills Dev



- Monthly reporting
- Onsite Monitoring and confirming compliance on a day-to-day basis
- Verifications of data

• The values which are communicated in the following slides as per the financial model determined in 2020, so these numbers may vary

- Quarterly submissions to the IPPPO
- Penalties for non-compliance
- Annual Independent Audits

Job Creation Commitments

Construction Phase:

- 190 employees at Peak of the Construction
- These numbers may vary based on the Construction phase, i.e. Mobilisation / Peak / Demobilization
- The downstream procurement will allow for additional job creation opportunities

Operations & Maintenance Phase:

- 200 full time employees
- Plus, the downstream procurement opportunities will add more full-time employment opportunities



Socio-Economic Development

To be spent in the Richards Bay area:

- R586 533 198 [Projected for the full 20-year PPA]
- R29 326 659 [Projected per annum]
- R2.44m [Projected per month]

Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:

- R146 633 299 [Projected for the full 20-year PPA]
- R7 331 664 [Projected per annum]
- R611 000 [Projected per month]

SED PROJECTS

- | | |
|--|--------------|
| 1. Primary & Secondary School focus on building educator and learner capacity (STEM) | R3m annually |
| 2. Bursary/scholarship (20 students annually) | R3m |
| 3. Solar water geysers and photovoltaic (PV) systems | R8m |
| 4. Environmental Sustainability | R2.4m |
| 5. Support to vulnerable communities | R3m |
| 6. Sport and recreation | R2.5m |



Solar Lights, Low Cost Housing ...



Enterprise Development

To be spent in the Richards Bay area:

- R234 613 278 [Projected for the full 20-year PPA]
- R11 730 663 [Projected per annum]

Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:

- R58 653 319 [Projected for the full 20-year PPA]
- R2 932 665 [Projected per annum]

- Startup Business Grants
- Business Training
- Business Loans



ED PROJECTS

1. Maritime SMMEs	R2m annually
2. Agricultural & Aquaculture	R3.5m
3. Youth Entrepreneurial SMMEs	R2m
4. Enterprise Development Fund	R2.4m

Supplier Development (SD)

To be spent in the Richards Bay area:

- Approximate Projected Budget for the Construction Phase is R650 000, to be split over 12 months
- Approximate Projected Budget is R1.1 million, per annum, over the 20-year Power PPA period (Operations Phase)

Aim of SD is to assist beneficiaries to among others:

- Increase turnover
- Improve internal business processes
- Increase number of jobs / employees
- Increase clientele
- Ensure or improve compliance, i.e., SARS, CIPC, Labour or relevant industry specifications,
- Increased independence and leadership capabilities

Supplier Development

Clear objectives with respect to the development, these areas that may be targeted for development are not limited but could include:

1. Provision of business equipment or tools;
2. Planning, tendering and programming skills transfer;
3. Legal and Contractual compliance;
4. Tender or Proposal writing training;
5. Marketing and branding; and
6. Access to or implementation of business system.

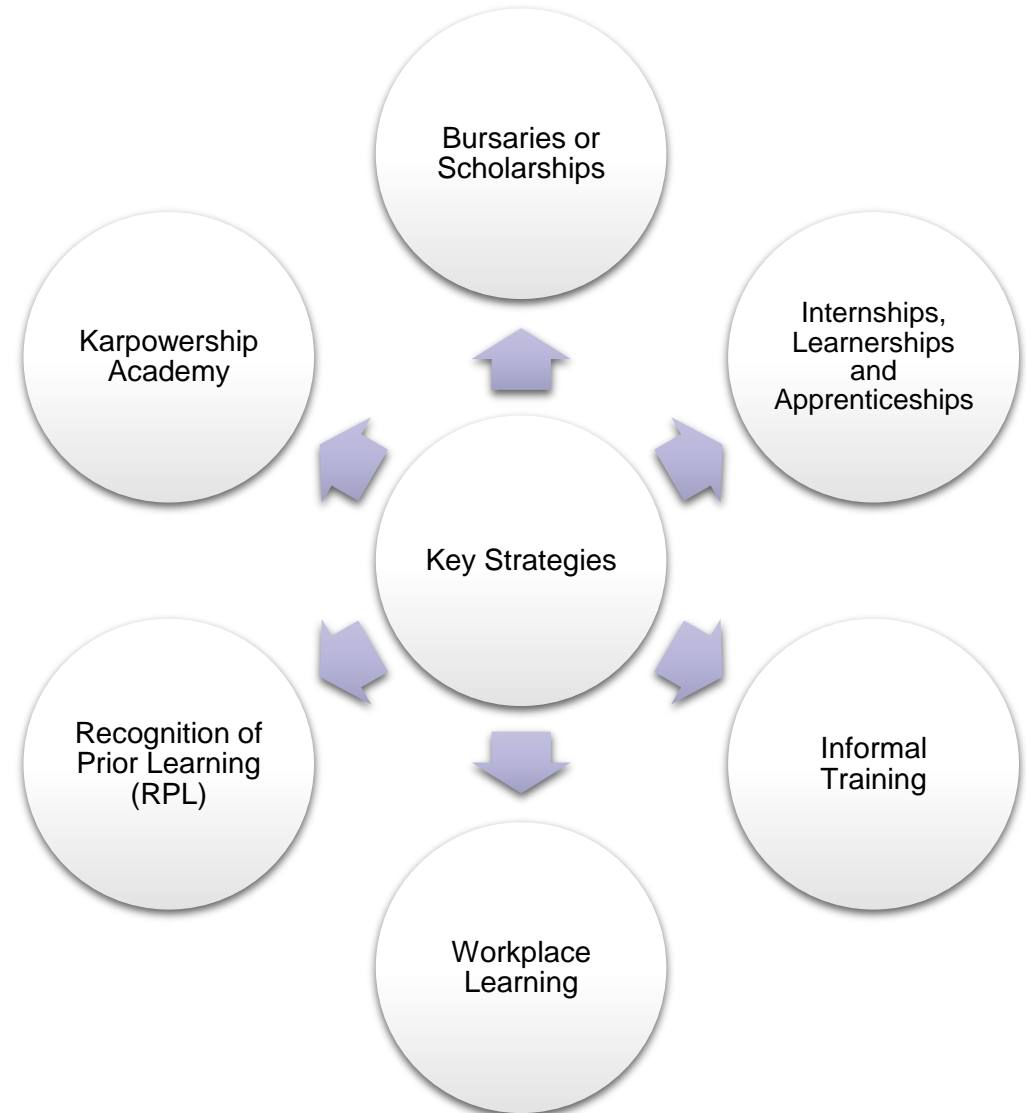
Skills Development

To be spent in the Richards Bay area:

- Approximate Projected Budget is R32 585 178 over the 20-year PPA period (Operational Phase)
- Approximate Projected Budget is R1 629 259 per annum

Projected budget for Skills Development initiatives within the KZN Province shall be:

- Approximate Projected Budget is R8 146 294 over the 20-year PPA period (Operational Phase)
- Approximate Projected Budget is R407 000 per annum



Discussions (Q&A)

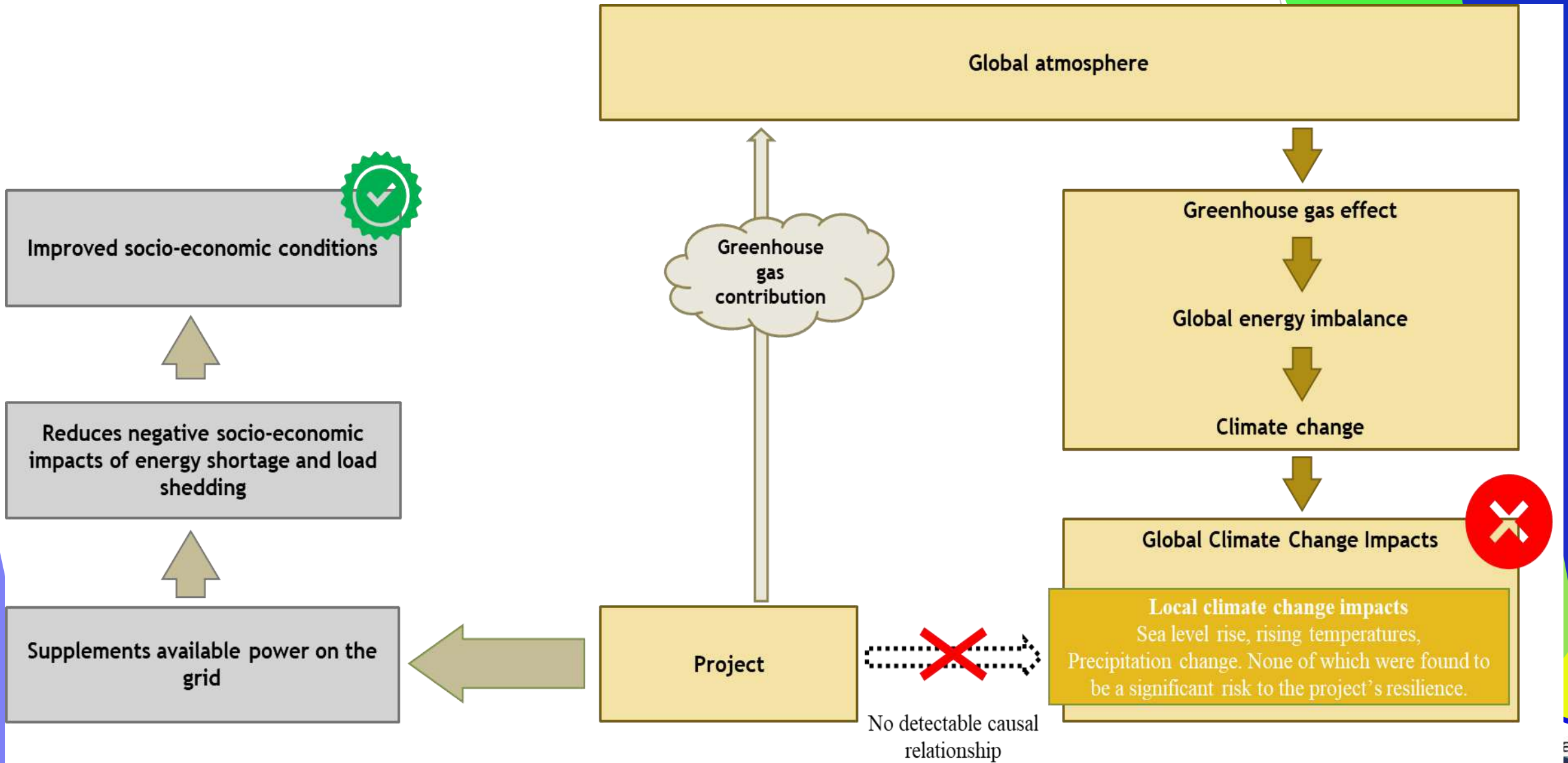


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Climate Change – Robbie Louw



Context



Key findings

Opinion:

- ▶ Lifetime emissions 31 MtCO₂e (runs at 100% contracted capacity)
- ▶ RMIPPP RfP states that the power from the plant must be dispatchable at required of the grid operator and requires that the plant bid into this program must be capable of stable operation at 25% of the contacted capacity. If the plant is run at a 25% output, then the lifetime emissions will be 7.7 MtCO₂e
- ▶ Noting all impacts related to the Project, it can be considered to have a low positive impact. Despite having a high intensity impact from operational emissions, the project enables significant reductions through avoided emissions and enabled renewables. Furthermore, it allows for economic development to occur by providing dispatchable power onto the grid which is critical for the economy
- ▶ Methane emissions related to this project have been considered, and are included and referred to under the carbon dioxide equivalent (CO₂e)
- ▶ In accordance with the findings of this assessment, we advise that the proposed Karpowership Project at the Richards Bay Port should not be refused environmental authorisation based on climate change related issues.



Terrestrial Noise – Dr Brett Williams (Safetech)



Noise Impact

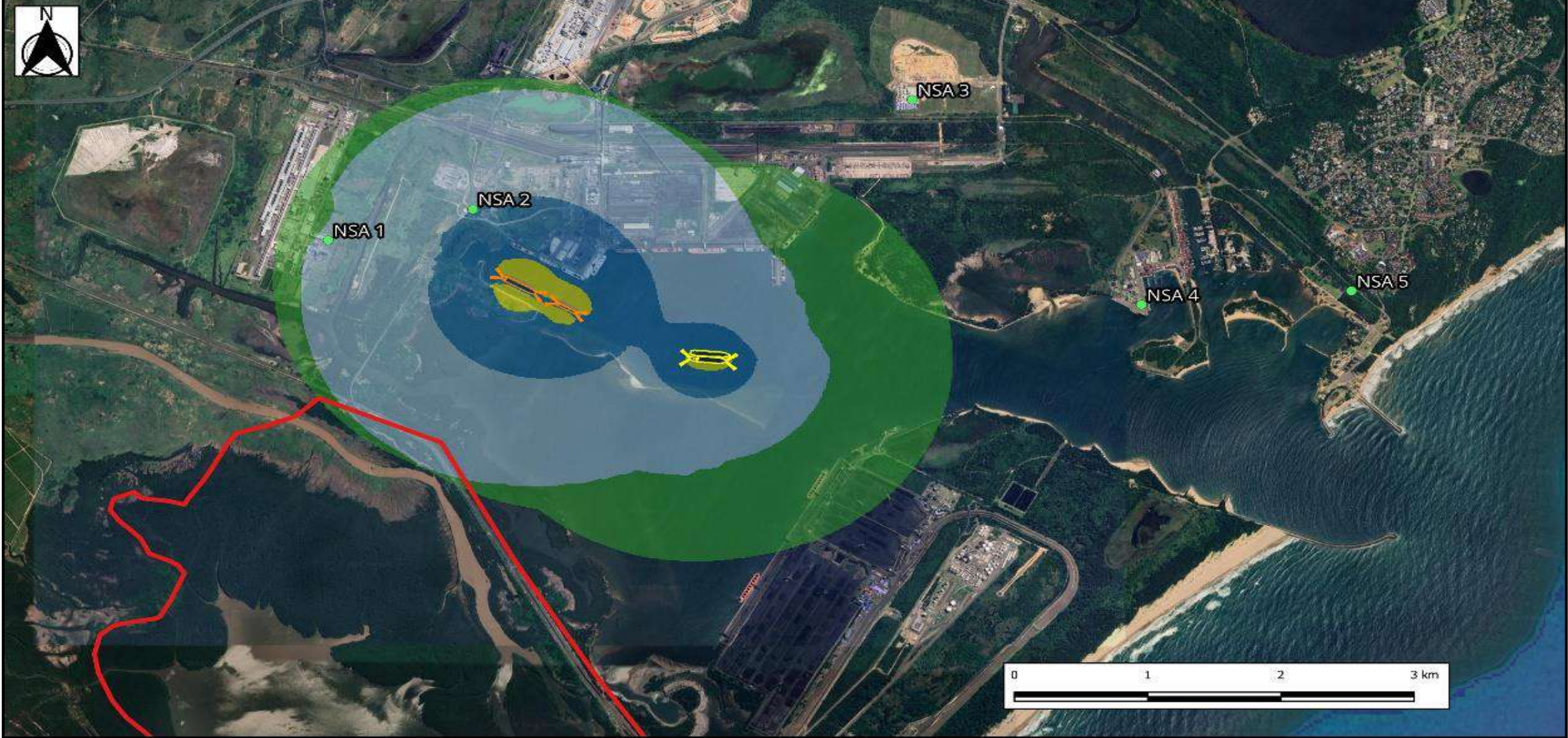
- ▶ PhD in Environmental Management
- ▶ Registered Occupational Hygienist with the identification of noise stress and management thereof as part of the qualification requirements.
- ▶ SANAS Accredited Inspection Body including Noise
- ▶ 30 years experience.
- ▶ Conducted many noise impacts assessments for clients that produce energy.



Noise Impact

- ▶ The field study results showed that the ambient noise levels in the area of the proposed development was 45dB(A).
- ▶ The closest noise sensitive areas may not experience any noise impact as the noise from construction could be masked by the ambient noise from the other port operations.
- ▶ The noise impact associated with the operational activities of the project is predicted to be of Low significance after mitigation.
- ▶ The construction related noise impacts will be of Low significance.
- ▶ From a human perspective there does not appear to be any significant noise impacts.





 <p>SAFETECH Since 1992</p>	<p>Project:</p> <p>Karpowership: Port of Richard's Bay</p>	<p>Legend</p> <ul style="list-style-type: none">  Khan and Shark Powerships  FSRU and LNGC  Noise Sensitive Areas  Richard's Bay Game Reserve 	<p>Noise Levels (dBA)</p>	
	<p>TITLE:</p> <p>Alternative 1 Modelling Results</p>		<ul style="list-style-type: none">  30 - 40  40 - 50  50 - 60  60 - 70  70 - 80  80 - 90  90-100  100+ 	

Drawn by: Jason Hutten
Date: 13/10/2022



Air Quality – Dr Mark Zunckel



Air Quality

Baseline

- ▶ Data from RBCAA was assessed from 1997 to 2020
- ▶ There are a number of major SO₂ sources in Richards Bay. The long record indicates a slightly upward trend in ambient concentrations, but from 2013 to 2017 a significant downward trend is observed.
- ▶ Long term monitoring shows annual average for SO₂ are below the NAAQS, with occasional exceedances of the 24-hr and 1-hr limit value at some stations, e.g. Harbour West and Scopio
- ▶ Annual average NO₂ concentrations complied with the NAAQS, but some exceedances of the 1-hr limit value at Brakenham.
- ▶ There are a number of major sources of particulates in Richards Bay but it is important to note that particulates are regional pollutants and background PM₁₀ concentration is relatively high.
- ▶ Annual average PM₁₀ concentrations complied with the NAAQS, but some exceedances of the 24-hr limit value at eSikhaleni.
- ▶ There has been a significant increase in the number of complaints concerning the deposition of coal dust in September 2022 from Arboretum, Alton, Birdswood, Veldenvlei, amongst others. The major source of the coal dust is the Richards Bay coal terminal.

Air Quality

Emissions

Emissions result from electricity generation, FLNG, LG carriers

- ▶ LNG is a very clean fuel containing almost negligible sulphur and particulates
- ▶ Combustion of LNG therefore results in very low SO₂ and particulate emissions
- ▶ NO_x emissions are controlled at source using selective catalytic reduction
- ▶ Emissions are very low and well below the Minimum Emission Standards for gas combustion



Air Quality

Predicted ambient concentrations & impact assessment

- ▶ Maximum predicted concentration of SO₂ and PM₁₀ are < 1% of the NAAQS
- ▶ Maximum predicted concentration of NO₂ is < 4% of the NAAQS
- ▶ Maximum concentrations predicted to occur within 2 km of the project, downwind on the prevailing wind NE wind, elsewhere predicted ambient concentrations are very low
- ▶ Contribution from the Karpowership project to ambient SO₂, NO₂ and PM₁₀ concentrations is very low and the cumulative effect is highly unlikely to result in exceedance of the NAAQS, even at the point of maximum predicted concentrations.
- ▶ The significance of the impact on ambient air quality is predicted to be very low

MHI Risk Assessment – Claude Thackwray

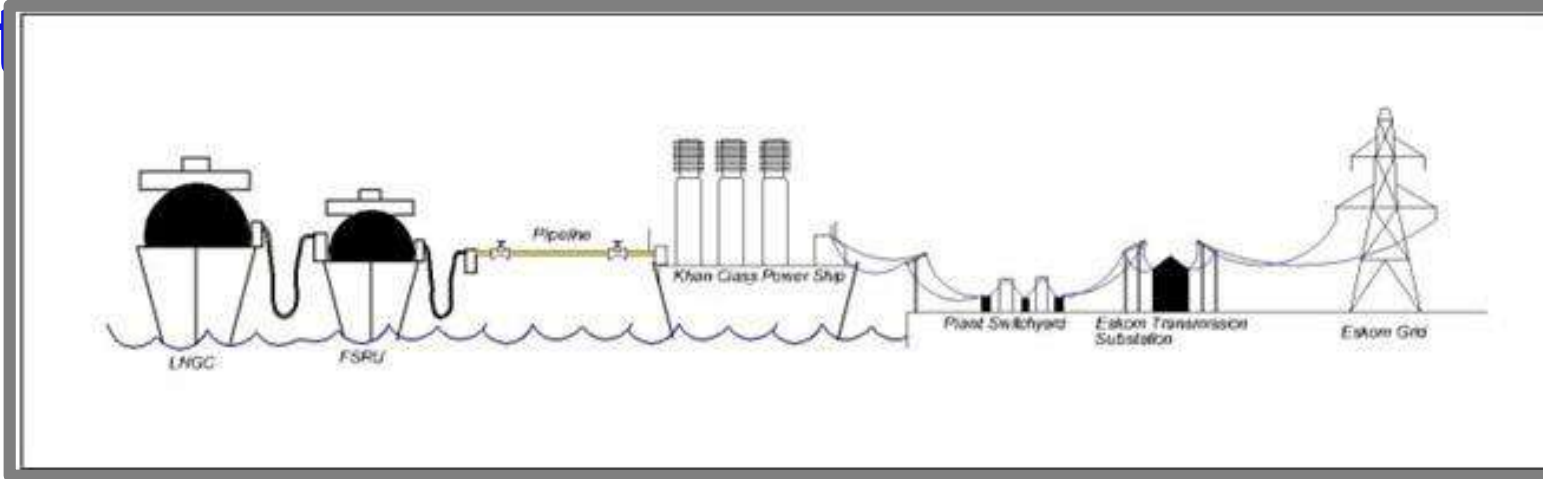


MHI Risk Assessment

- ▶ MHR Consultants - operating for 16 years
 - ▶ SANAS Accredited for Assessment of Risks on Major Hazard Installations
 - ▶ Registered with Department of Employment and Labour to undertake Type A Major Hazard Risk Assessments
 - ▶ 37 years experience in Oil & Gas Industry
 - ▶ Over 1000 Risk Assessments conducted internationally
 - ▶ Major clients include: Total, Afrox, BP, Engen.
- ▶ Conducted MHI for Port of Richards Bay in 2017
- ▶ Conducted MHI for Ship to Ship Transfer of LPG in the Port of Richards Bay in 2019 and again in 2020.

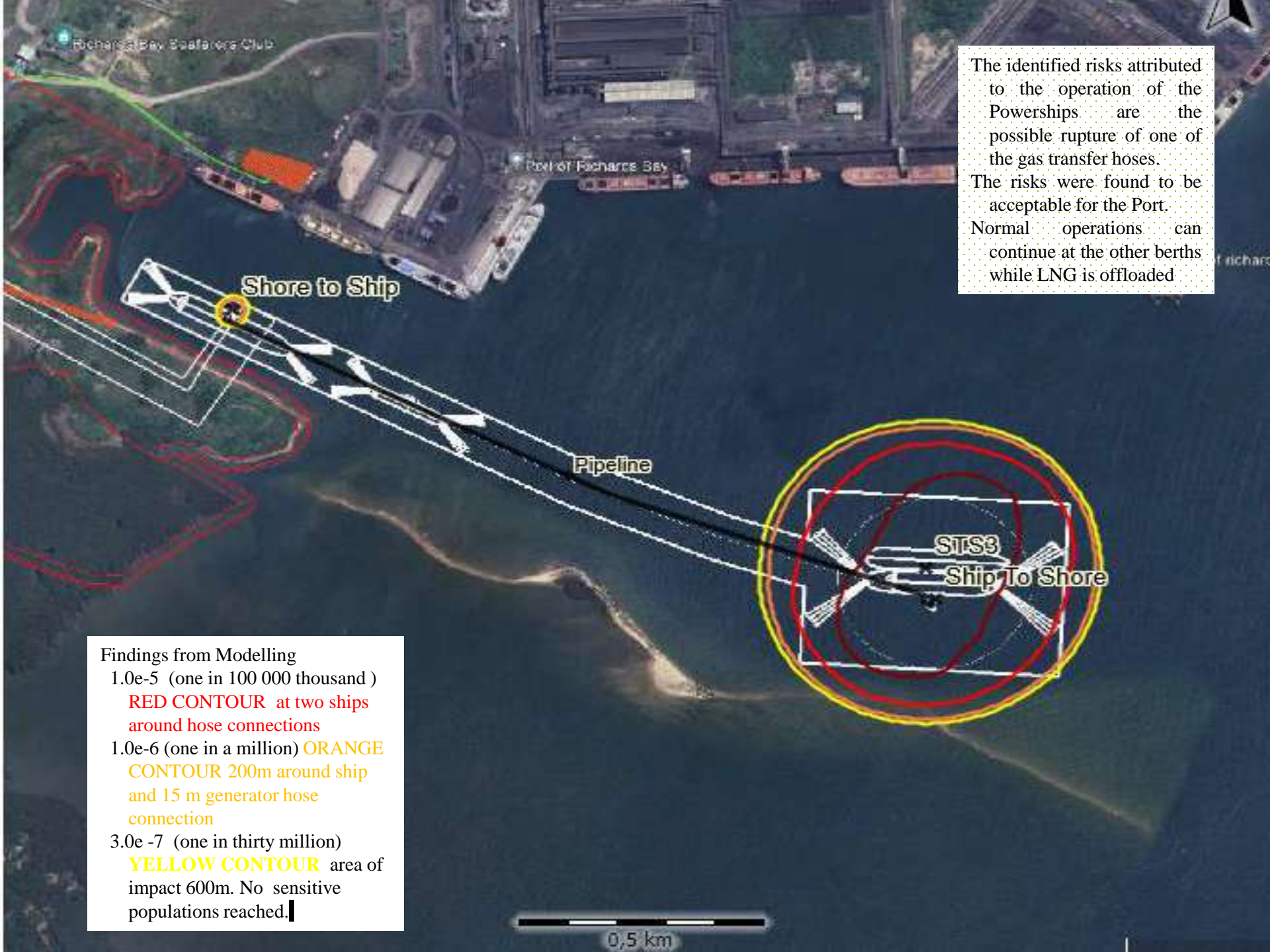


MHI Risk Assessment: Process & Methodology



- ▶ Consequence were calculated using the computer software “effects” by TNO in the Netherlands
- ▶ The risk calculations were made using the computer software “Risk Curves” by TNO in the Netherlands.
- ▶ Risk Assessment was conducted as per SANS 1461:2018 Codes of Practice
- ▶ Report includes: Local By-laws & NPA No. 12 of 2005 Part C





The identified risks attributed to the operation of the Powerships are the possible rupture of one of the gas transfer hoses.

The risks were found to be acceptable for the Port.

Normal operations can continue at the other berths while LNG is offloaded

Findings from Modelling

- 1.0e-5 (one in 100 000 thousand)
RED CONTOUR at two ships around hose connections
- 1.0e-6 (one in a million) **ORANGE CONTOUR** 200m around ship and 15 m generator hose connection
- 3.0e -7 (one in thirty million) **YELLOW CONTOUR** area of impact 600m. No sensitive populations reached.



MHI Risk Assessment: Conclusion

- ▶ From the modelling and assessment LNG operations pose a very low risk;
- ▶ It is one of the safest fuels and the risk is much lower than the LPG risk assessment concluded for the Richards Bay Port Terminal;
- ▶ To put the risk into perspective:
 - ▶ It is similar to that of an ordinary gas pipeline and connection at a domestic home;
 - ▶ There is a higher possibility to be struck by lightning and succumb to injuries.



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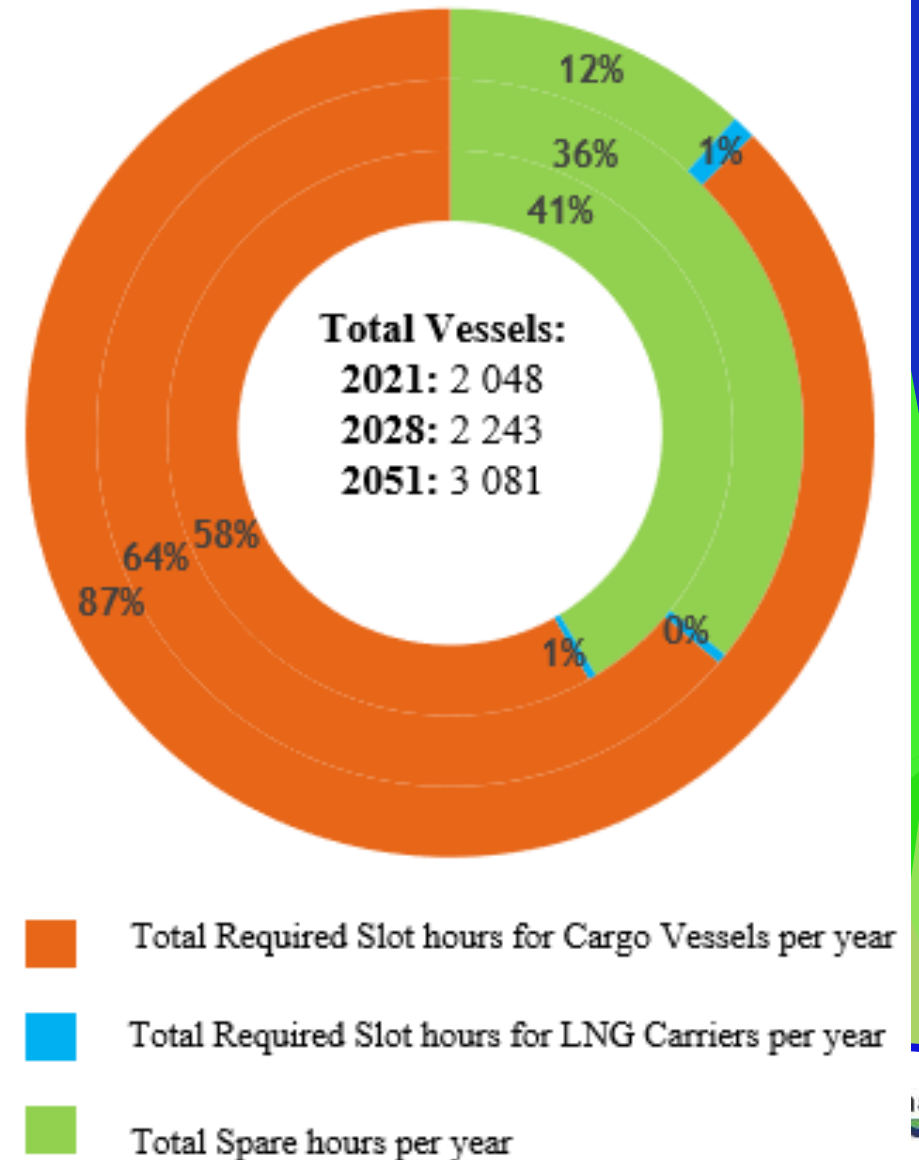
Marine Traffic and Thermal Plume



PRDW – Marine Traffic Study

- ▶ To quantify the present and future vessel traffic at the site and identify possible areas of congestion
- ▶ Methodology
 - ▶ Estimate current and future traffic volume based on an analysis of traffic and cargo demand projections; and
 - ▶ Analysis of port vessel arrival data to define vessel slot hours for vessels arriving and departing the port.
- ▶ Outcome
 - ▶ LNG vessels only represent 1% of the 2051 vessel traffic slot durations and will not add significant congestion within the port.
 - ▶ The Port is forecasted to have approximately 41% and 12% spare slot capacity in 2021 and 2051 respectively.

Port of Richards Bay



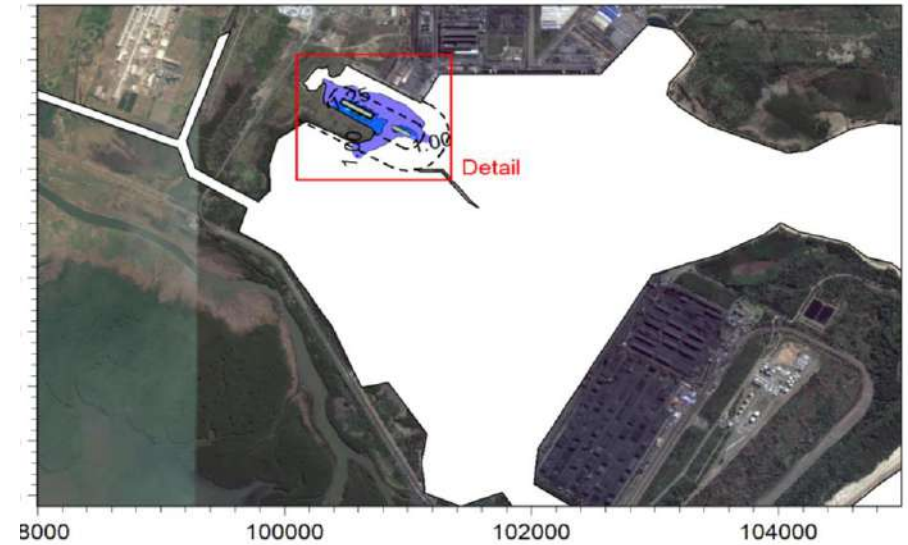
PRDW – Thermal Plume

▶ A closed loop FSRU will be utilized and there will be no discharge of hot or cold seawater from the FSRU. Therefore for the thermal plume study only the Powership was considered.

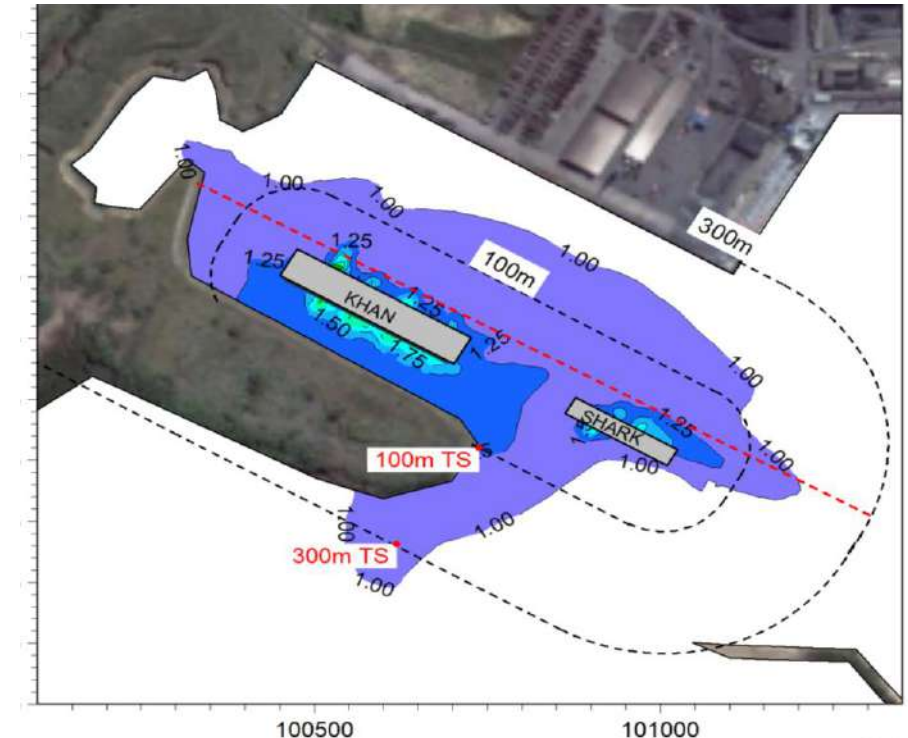
▶ Modelling

- ▶ A calibrated 3D hydrodynamic model was used to predict the extent of the thermal plume in the sea.
- ▶ No constituents, such as chlorine or excess salinity, are added to the cooling water discharge
- ▶ Seawater used for cooling the power generators on the Powership results in seawater being returned to the sea a maximum of 10 to 15°C warmer.
- ▶ Model simulated the Powership operating at 100% load for 24 hours per day, while the Powership will only operate for 16.5 hours per day.

Thermal Plume in Richards Bay



Detail of Thermal Plume Around Powership

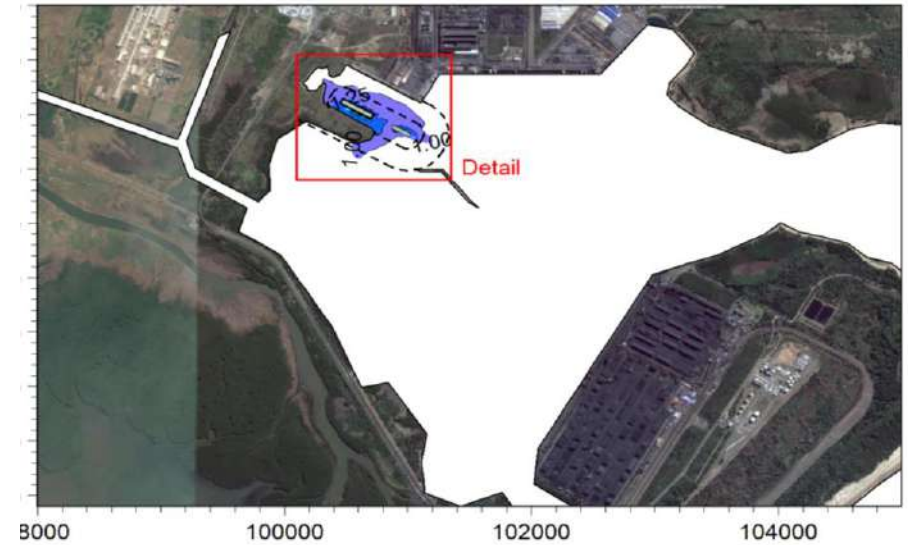


PRDW – Thermal Plume

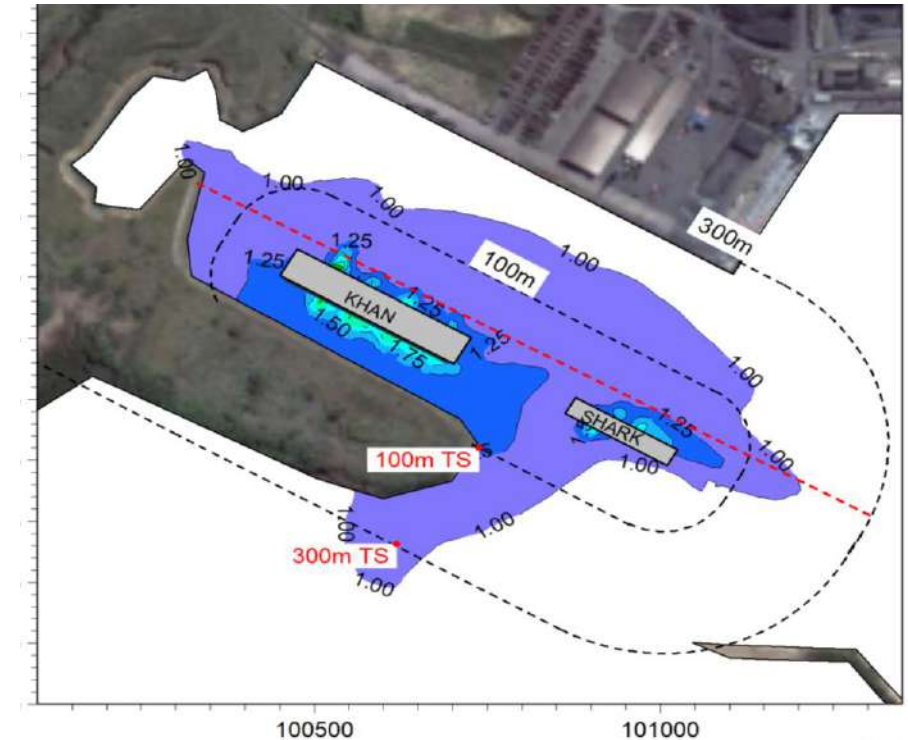
Outcomes

- ▶ The results show that a smaller footprint of temperature increase (ΔT) is achieved when discharging at a deeper depth below the water surface.
- ▶ When the cooling water is discharged 8 m below the water surface the maximum ΔT at a reference point in the model is 1.3°C at a distance of 100 m from the Powership, 0.3 °C above the guideline value.
- ▶ These results were used to inform the marine ecology assessment as described in a later presentation.

Thermal Plume in Richards Bay



Detail of Thermal Plume Around Powership



Underwater Noise – Tim Mason



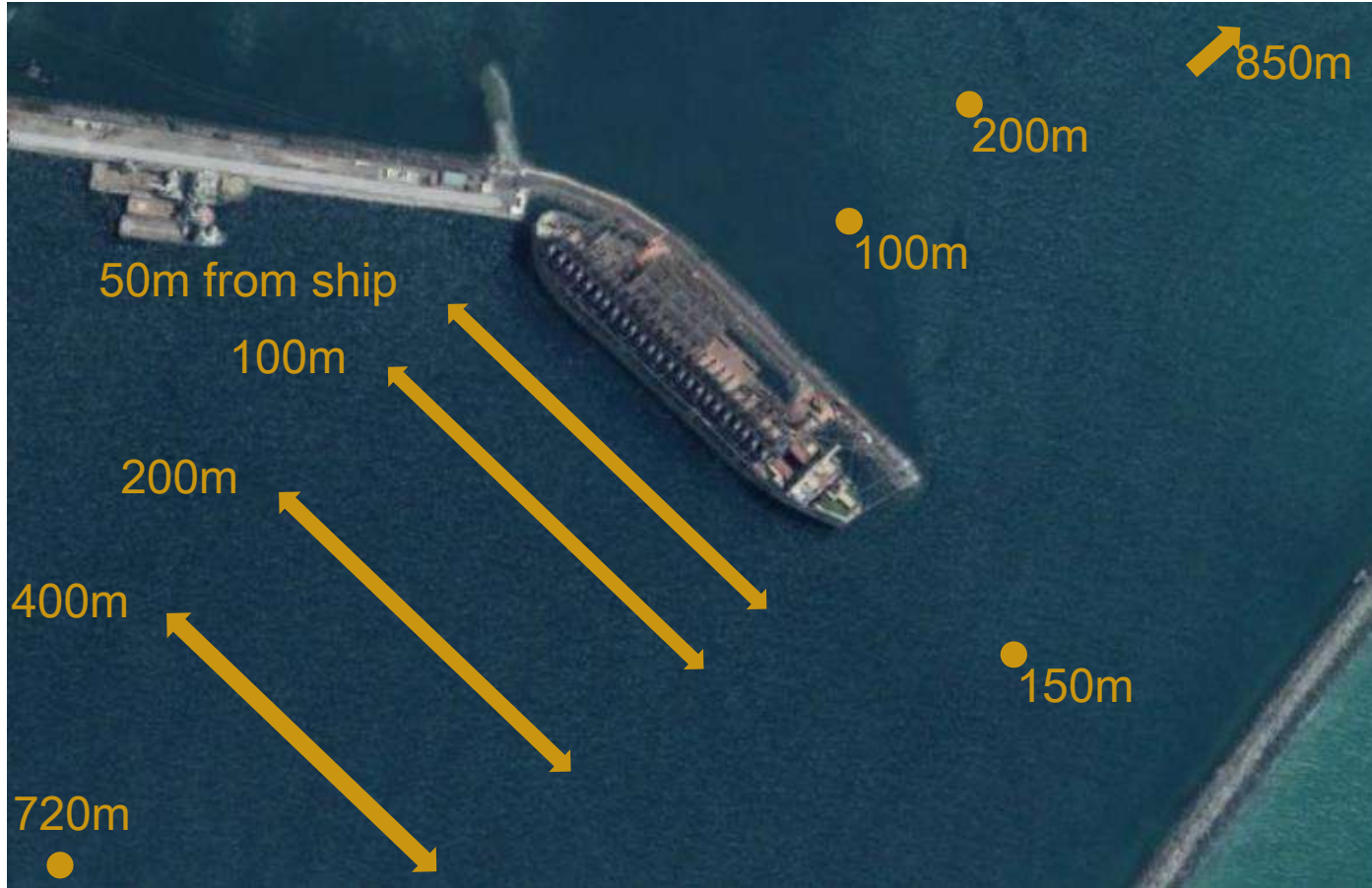
Underwater Noise: Existing background noise measurements



Richard's Bay – background noise measurement locations



Underwater Noise: Existing background noise measurements



Ghana, Sekondi-Takoradi – Powership underwater monitoring locations



Underwater Noise: Existing background noise measurements

background

with
Powership



Underwater noise
by the sand bar



Background noise in-
creased by 2dB at 5 secs



Coastal, Avifauna, Estuarine & Marine

Ecology – Catherine Meyer, Dr Barry Clark, Tandi Breetzke, Adam Rees, Jane Turpie & Leigh-Ann De Wet



Coastal, Avifauna, Estuarine & Marine Ecology

- uMhlathuze/Richards Bay estuarine complex - historically one system
- Both estuaries are highly modified but are still important for conservation of estuarine biodiversity (Mhlathuze ranked 10th, Richards Bay = 26th)



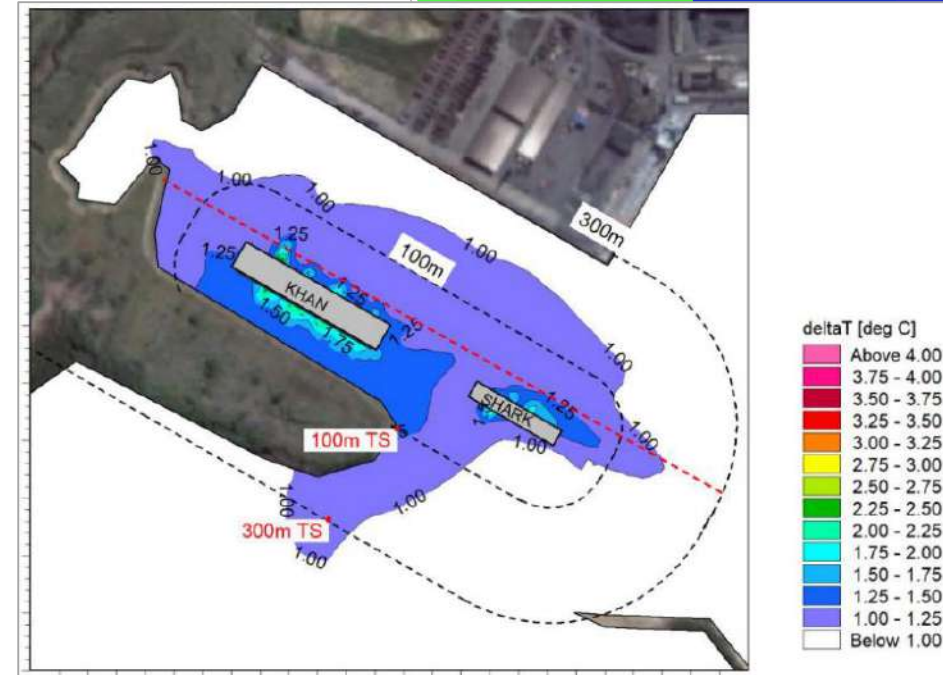
- Large estuaries (lots of estuarine habitat), high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water)

- Ecosystem goods and services:
 - important nursery areas for marine species (fish + prawns)
 - Aquaculture Development Zone, successful experiments with finfish culture
 - Carbon sequestration
 - Nutrient cycling
 - Assimilation waste
 - Transportation
 - Ecotourism



Coastal, Avifauna, Estuarine & Marine Ecology

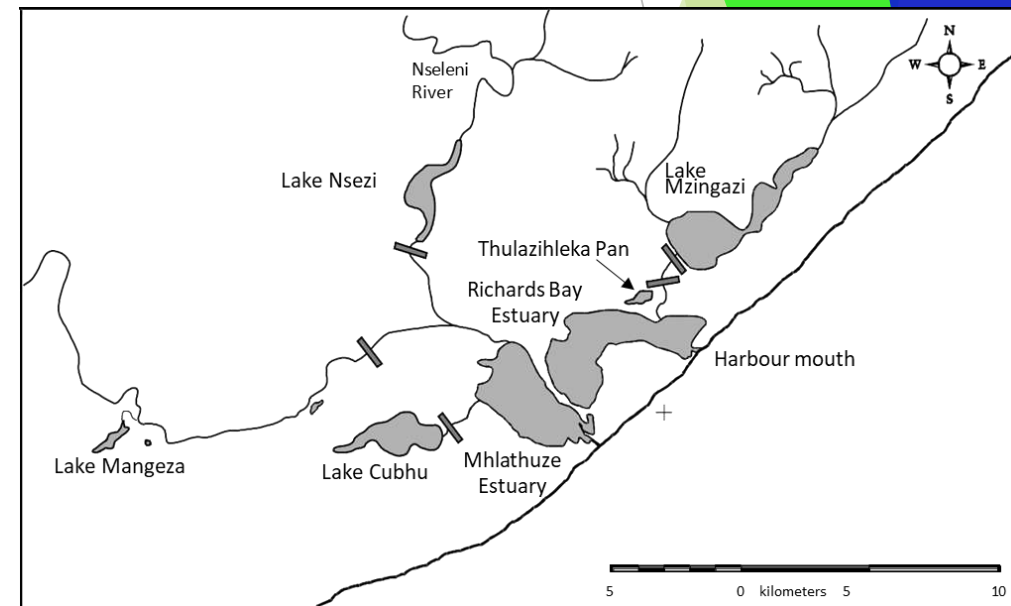
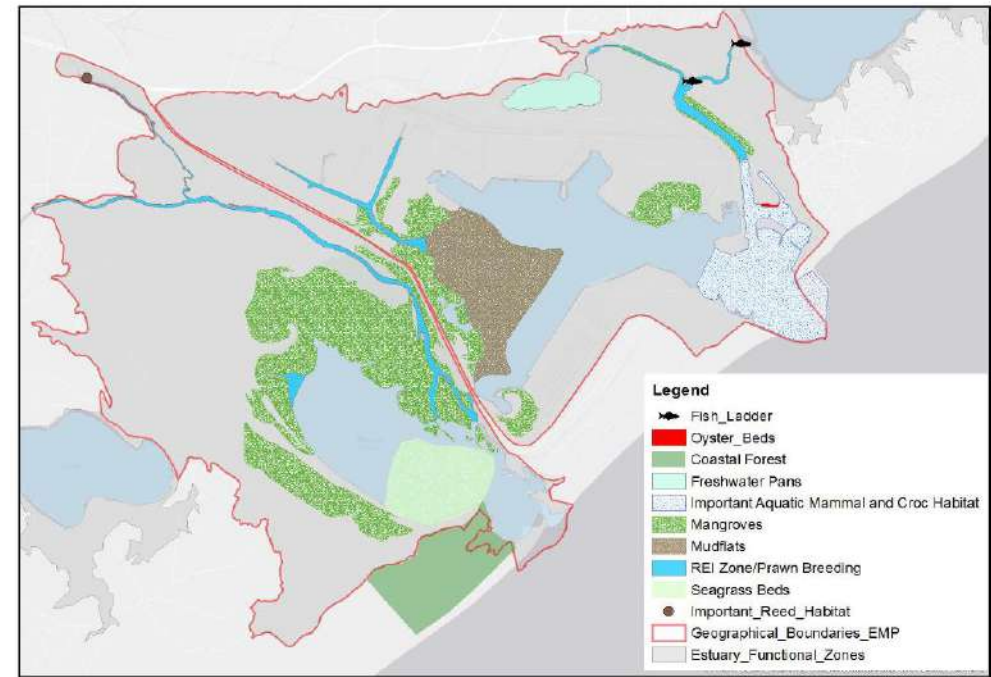
- ▶ A baseline description (with site investigations) and subsequent impact assessment, focussing on receptors in the water column, in and on the seabed, and the local avifauna within the Port.
- ▶ Ecosystem services (fisheries, mariculture) and conservation areas (Richards Bay Nature Reserve) were also considered.
- ▶ Consideration (integration) of terrestrial ecology & vegetation including wetlands
- ▶ Within an established industrial port – long-term ecological monitoring undertaken biannually by CSIR
- ▶ Utilised thermal plume and noise modelling outputs.



Impact	Phase	Significance		Mitigation
		No mitigation	With mitigation	
1. Habitat loss (Powership and other infrastructure))	Construction	6.8 (Med-Low)	3.5 (Low)	Minimise disturbance of natural habitat, avoid sensitive areas
2. Impaired water quality	Construction	8.0 (Medium)	6.0 (Med Low)	Minimise disturbance (sediment), spillage, avoid sensitive areas
3. Noise during construction	Construction	10.5 (Med-High)	6.8 (Med-Low)	No unnecessary production of noise
4. Solid waste production during construction	Construction	6.9 (Med-Low)	3.4 (Low)	Adopt best practice waste minimisation procedures (recycling, reuse, safe disposal), awareness raising
5. Spills of hazardous substances	Construction	9.0 (Med-High)	6.0 (Med-Low)	Responsible storage, handling and use of hazardous chemicals, Spill Prevention and Management Plan
6. Cooling water uptake	Operation	8.0 (Med)	6.0 (Med-Low)	Intake velocities <0.15 m/s, water intake >1 m deep, direct intake structures horizontally
7. Cooling water discharge	Operation	9.2 (Med-high)	8.1 (Med)	Refer to dispersion modelling study
8. Underwater noise and vibration	Operation	9.3 (Med-High)	8.1 (Med)	Refer to noise modelling study
9. Light pollution	Operation	10.8 (Med-High)	6.0 Med-low	Keep lighting to minimum, use screening/shielding
10. Cumulative impacts	Construction and operation	Med-High	8.1 (Med)	Limit further development in the port/estuary

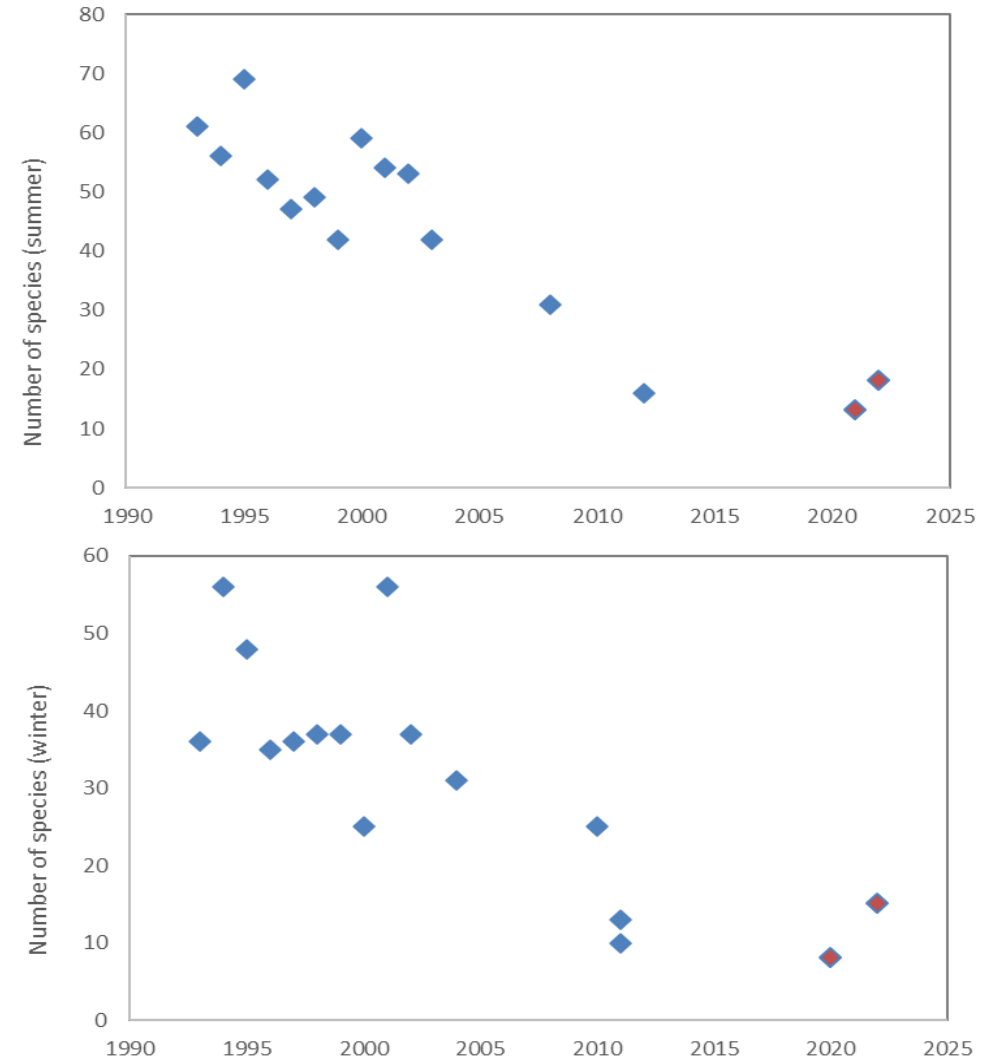
Coastal, Avifauna, Estuarine & Marine Ecology

- Richards Bay - uMhlathuze Estuary ranked 11th most important in terms of species richness, and 3rd overall in terms of conservation importance for estuarine waterbirds in South Africa (Turpie, 1995)
- high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water)
- In close proximity to (and closely linked with) other nearby wetlands (Lake Mzingazi, Lake Cubhu, Thulazihleka Pan)
- Karpower vessels will be moored very close to the sand spit and Kabeljous Flats = most important area for water birds



Coastal, Avifauna, Estuarine & Marine Ecology

- Recent data suggest that numbers of birds using the estuary have declined dramatically in the last 30 years
- Listed as an globally important bird area (IBA) but has been downlisted to a sub-regional IBA since bird numbers now “only occasionally surpass the threshold of 10 000 waterbirds”.
- Still many species of conservation concern that are present at the site



Impact	Phase	Significance		Mitigation
		No mitigation	With mitigation	
1. Habitat loss (Powership)	Construction and operation	5.1 (Med-Low)	5.1 (Med-Low)	n/a
2. Habitat loss (other infrastructure)	Construction and operation	5.1 (Med-Low)	1.7 (Very Low)	Avoid functional natural habitat
3. Project infrastructure: collisions	Operation	10.5 (Med-High)	6.8 (Med-Low)	Follow existing routes, stagger pylons, set transmission lines low, mark them for diurnal and nocturnal visibility
4. Project infrastructure: electrocution	Operation	6.7 (Med-Low)	5.3 (Med-Low)	Infrastructure to be nest proofed, and must include anti-perch devices
5. Powership: light pollution	Operation	4.6 (Low)	3.0 (Low)	Essential lighting only, lumens to be kept to a minimum, lights installed as low as possible, windows shuttered at night
6. Powership: noise and vibration impacts	Operation	8.1 (Med)	8.1 (Med)	See noise mitigation study
7a. Powership and infrastructure: human disturbance	Construction	7.7 (Med)	6.0 (Med-Low)	Limited access to designated areas only
7b. Powership and infrastructure: human disturbance	Operation	5.8 (Med-Low)	2.3 (Very Low)	Approach and access ships from the north side, no activities between the ships and the sandspit, other activities (e.g. maintenance) in direct contact with the vessels
8. Cumulative impacts	Construction and operation	Hight	Med High	Limit further development in the port/estuary

Overview of No / negligible / very low / low & med-low Impacts – Triplo4



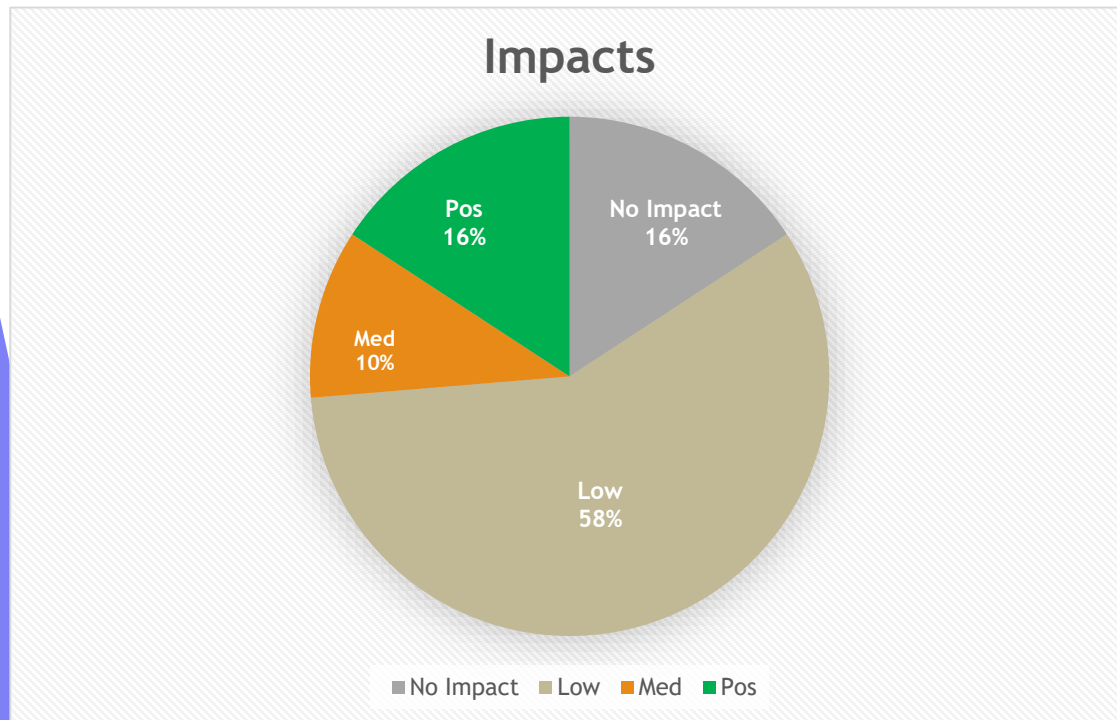
Overview of No / negligible / very low / low & med-low Impacts – Triplo4

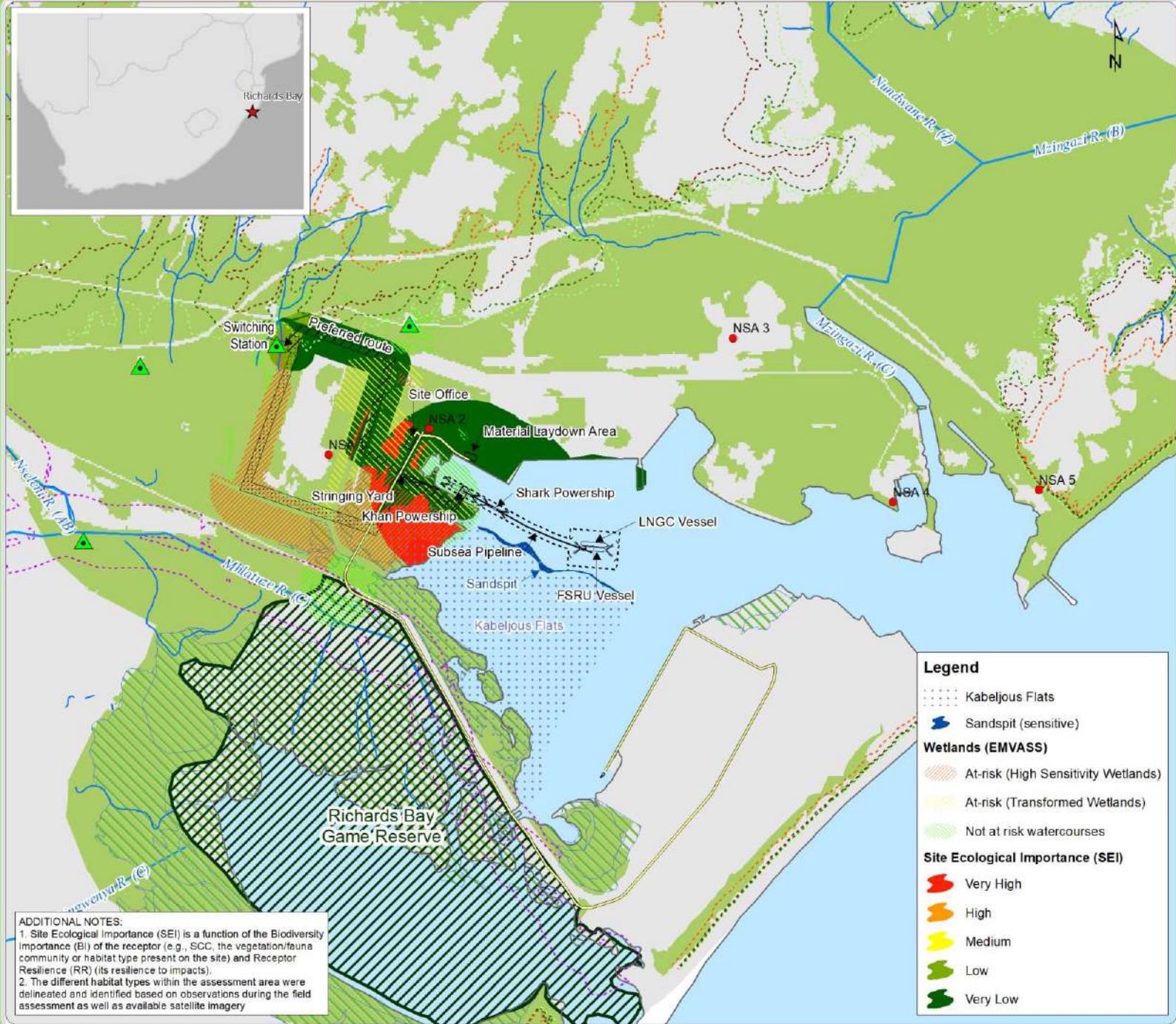
► No impacts

- Archaeology and Palaeontology
- Visual
- Traffic (Terrestrial & Marine)

Negligible / very low / low / med-low / medium impacts

- Hydrology Impacts (Low)
- Aquatic Impacts (Low)
- Hydropedology Impacts (Negligible)
- Geohydrology Impacts (Negligible)
- Wetland Impacts (Low to Very Low)
- Terrestrial Biodiversity Impacts (Low)
- Avifaunal (Medium, Med-Low, Low to Very Low)
- Underwater Archaeology (Negligible)
- Coastal, Estuarine and Marine Ecology (Medium, Med-Low to Low)
- Atmospheric Impacts and Risks (Low)
- Terrestrial Noise Impacts and Risks (Low)
- Underwater Noise (Low)
- Tourism (Negligible)





Legend

- Aquatic Sites
 - Noise Sensitive Areas
 - Rivers and Streams
 - NFEPA River
 - Access routes
 - 1:50 year floodline
 - OHL Route (Preferred)
 - OHL Route (Alternative)
- Risk Lines**
- SLR Worst Case (10yrs)
 - SLR Worst Case (25yrs)
 - SLR Worst Case (50yrs)
 - SLR Worst Case (100yrs)
- Protected Area
 - Mangrove Forest
 - CBA Irreplaceable

CLIENTS



NOTES

1. All data is approximate and subject to survey
2. NFEPA Rivers: the letter in brackets denotes river condition -
 - A = Unmodified, Natural
 - B = Largely Natural with few modifications
 - AB = A or B above
 - C = Moderately Modified

PROJECT

Gas to Power Project

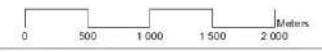
MAP TITLE

Richards Bay Port Sensitivity Map

COMPILED BY



Scale 1:40 000 (on an A3 page)



Map Ref: RB_EIA_Sensitivity_05 Date: 07-Nov-22

Dataset Credits: Department of Rural Development & Land Reform: CDNOI & CBO; Ezenvelo KZN Wildlife PRDW, SANBI, Sefelich & Triplac

Legend

- Kabeljous Flats
 - Sandspit (sensitive)
- Wetlands (EMVASS)**
- At-risk (High Sensitivity Wetlands)
 - At-risk (Transformed Wetlands)
 - Not at risk watercourses
- Site Ecological Importance (SEI)**
- Very High
 - High
 - Medium
 - Low
 - Very Low

ADDITIONAL NOTES:
 1. Site Ecological Importance (SEI) is a function of the Biodiversity Importance (BI) of the receptor (e.g., SCC, the vegetation/fauna community or habitat type present on the site) and Receptor Resilience (RR) (its resilience to impacts).
 2. The different habitat types within the assessment area were delineated and identified based on observations during the field assessment as well as available satellite imagery



Discussion (Q&A)



Item	Responsibility	Estimated time
Welcome & introductions	Rose Owen (facilitator)	5 min
Project Context	Prof Lwazi	8 min
Karpowership SA	David Clark	5 min
Overview of project	Hantie Plomp	5 min
Transdisciplinary approach	Hantie Plomp	10 min
Discussion	All (lead by facilitator)	10 min
Specialist presentations	Various	
Socio-economic	Eugene De Beer	15 min
Economic Development	Waldo Adams	5 min
Discussion	All (lead by facilitator)	15 min
Climate Change	Robbie Louw	10 min
Terrestrial Noise	Dr Brett Williams	5 min
Air Quality	Dr Mark Zunckel	5 min
Major Hazard Installation	Claude Thackwray	5 min
Discussion	All (lead by facilitator)	15 min
Marine Traffic and Thermal Plume	PRDW	5 min
Underwater Noise	Tim Mason	5 min
Coastal, Estuarine, Marine Ecology, Avifauna & Fisheries	Catherine Meyer & Dr Barry Clark	20 min
Overview of low / negligible impacts	Hantie Plomp	10 min
Discussion	All (lead by facilitator)	20 min

What next

- ▶ Commenting period:

- ▶ 10 November - 13 December 2022

- ▶ email: richardsbayksa@triplo4.com



Closure

Thank you



Public Participation In Person Meeting: Richards Bay Draft Environmental Impact Assessment (EIA) Report for the Proposed Gas to Power via Powership Project at the Port of Richards Bay

Meeting held at 10.00 am on Wednesday 23 November 2022
at
Kingfisher hall, Zululand Chamber of Business

Present

(as per the attendance register available on request per POPIA requirements)

Secretariat

Ms Rose Owen (RO)	Phelamanga
Ms Londeka Mhlophe (LM)	Phelamanga
Ms Nokulunga Mbina (NM)	Phelamanga

Minutes include an introduction of content of each slide in advance of each presentation / section this is for reference to understand what was being discussed and presented. In some instances, only images were provided, and these minutes should therefore be read in conjunction with the presentation.

1. WELCOME, INTRODUCTION & APOLOGIES

1. Rose Owen (RO) welcomed everyone and thanked them for attending the meeting. RO requested all to ensure that they sign the attendance register and confirm their contact details. This is the Public meeting for the Richards Bay Draft Environmental Impact Assessment (EIA) Report for the Proposed Gas to Power via Powership Project at the Port of Richards Bay.
2. Project Overview and clarification of the process of engagement with stakeholders.
3. More opportunity for comment and input.
4. Discussion time has been planned and a request was made for Questions and Comments to be kept for those times.
5. RO then asked all the specialists to introduce themselves and who they represented.

2. ENGAGEMENT COURTESIES & HOUSEKEEPING

1. Discussion time has been planned – please keep your questions for these parts of the programme.
2. Respect all attendees, and allow everyone to voice their views / comments / questions.
3. Please come to the microphone when you have a comment / question.
4. State your name, organisation & position clearly for record keeping purposes.
5. Translation is available: isiZulu and Afrikaans and sign language, please indicate if you require translation so we can ensure it is provided to you.
6. RO introduced the translators as Madoda Ndlakuse (isiXhosa), Ntombifuthi Jele (isiZulu), Pieter Honiball (Afrikaans, and Busi Makhina (sign language).
(For record purposes, no requests were made for sign language)
7. Commenting period:
 - o 10 November – 13 December 2022
 - o email: richardsbayksa@triplo4.com
8. Proposed guidelines for the meeting were:
 - o No Hogging
 - o No Frogging
 - o No Bogging.

3. KEY DESIRED OUTCOMES FOR TODAY

1. Introduce the proposed project;
2. Explain the Environmental Impact Assessment process, and your role;
3. Share the key findings from the specialist assessments;
4. Opportunity to comment and engage with specialists;
5. Open discussion, engagement and learning;
6. RO informed the stakeholders that the meeting would be recording, and turned the recorder on;
7. At this point a number of stakeholders arrived. RO paused and waited for the stakeholders to enter;
8. "RO we just need to wait for these people to come in and then we will start".

4. PROJECT CONTEXT (PROFESSOR LWAZI NGUBEVANA (NOQAZO GROUP))

[below is an overview of the text / slides presented]

1. Energy Security/Poverty
2. Access to Electricity
3. IRP
4. RMI4P
5. 1,220MW
6. Clean Cooking
7. Health
8. Human Development Index
9. International Approaches to Energy Security
 - a. North America
 - b. Europe
 - c. Global
10. Lessons for South Africa
 - a. Energy security needs to be a deliberate policy decision.
 - b. Developed countries put their energy and national security concerns and priorities above their climate commitments.
 - c. Energy geopolitics are intertwined with global political agendas – implications for policymaking.
 - d. Rest of the world sees Gas as a bridge to a lower-carbon future. Very important in the context of the South African energy mix and the Karpowership projects.
 - e. South Africa and the continent, has poor indicators including electricity access, access to clean cooking, child health rates etc., a direct result of being energy poor.
 - f. Transitioning recklessly to a low-carbon economy puts the country's energy security at risk.
 - g. The uptick in renewable energy has not translated to lower or constant energy prices for the consumer.
 - h. The ideal of a low-carbon future may not be attainable in the near future because of many constraints: availability of materials, supply chains, and the need for reliable energy security.

Just Energy Transition

11. South Africa's "just transition" framework is based on 3 principles of justice: **distributive, restorative and procedural justice (Presidential Climate Commission, 2022)**.
12. The principle of distributive justice can be embodied in South Africa by:
 - a. "Equipping South Africans with **skills, assets, and opportunities** to participate in industries of the future, with particular attention on impacted groups, the poor, women, people with disabilities, and the youth.
 - b. Implementing transformative national economic and social policies that clearly consider how benefits and burdens will be distributed (**this includes clear indication of where jobs are gained, where jobs are lost, and the quality and longevity of future employment**).
 - c. Increasing provincial and local capacity (**both resources and skills**) to promote local economic development.
 - d. Ensuring corporate responsibility to support a green and inclusive economy".
13. The principle of restorative justice can be embodied in South Africa by:

- a. “Acknowledging the health and environmental impacts to communities in coal and other fossil fuel impacted areas and supporting all South Africans’ constitutional rights to a healthy environment.
 - b. Shifting away from resource intensive sectors and fossil fuels to (1) improve ecosystems with community ownership and stewardship, **(2) improve energy security and eliminate energy poverty**, and (3) create opportunities for rehabilitation of degraded land, air sheds, and water systems, the improvement of biodiversity, **as well as related employment opportunities**.
 - c. Creating a more decentralised, net-zero-emissions economy, which allows for greater economic inclusion, ownership, and participation, especially for women and the youth.
 - d. Remedying past harms by building on, and enhancing, existing mechanisms such as equitable access to environmental resources, land redistribution and Broad-based Black Economic Empowerment”.
14. The principle of procedural justice can be embodied in South Africa by:
- a. “Assisting communities to understand what the just transition entails, specifically, and discuss points of agreement and disagreement openly and transparently.
 - b. Supporting worker and community organisations (unions, civics, advocacy groups, etc.) to participate actively in just transition policy-making processes **ensuring decisions are made in their best interests and allow them to take advantage of opportunities**.
 - c. Collaborating actively with a range of stakeholders, through inclusive and participatory decision-making structures, allowing each to play to their respective strengths, fostering a more dynamic, competitive, diversified, and equitable economy.
 - d. Supporting the design and implementation of just transition projects, as proposed by individuals and communities in affected areas”.
15. South Africa’s Pressing Challenges.
16. South Africa’s Future Energy Mix.

4.1. Prof Lwazi Ngubevana (Noqazo Group) Presentation / Discussions

1. “Because I really want to talk about why we’re here, to put this whole project into context to understand why the need for this kind of project.
2. So to just start off, I think it’s easy to say everyone here is tired; sick and tired of the energy situation in this country. I think that we all feel it in our daily lives, in our homes, in our businesses. Over and above the issue of energy is an issue that accompanied by it, is the issue of unemployment and lack of development.
3. We see this in all towns across the country and I think you don’t need a lecture from me to understand what the lack of energy has in this country. As we sit here, we know that we’re undergoing a stage 5 or stage 4 load shedding which is really a nice way of saying we’re having power blackouts. They give it fancy names to make it sound subtle. That you know, have different stages and give it a fancy name “load shedding”. It’s not load shedding, its power blackouts.
4. We simply cannot provide enough power to run this country. We cannot provide enough power to keep our homes heated and cold in summer. We cannot provide enough energy as a country to keep us going. So my conversation is really around that.
5. So to start off, this particular project didn’t just start now. And I think it’s very important for me to emphasise that this is a project that began way back when the department of minerals and energy issued a request for proposal; and this was in response to the energy crisis at the time. I think we all know that since then, the crisis has gotten worse. The department issued this request for proposal to ask independent power producers to come and say “we can produce this much power at this price.
6. Open process, public process, open bidding and out of that process, 11 projects were awarded. It started off with 8 but in total, 11 projects were awarded.
7. At Karpowership, we were awarded 3 of these projects.
8. The technology at Karpowership is gas-to-power. This project is part of a national policy. It’s nothing new. It’s nothing out of the ordinary. It is important for me to emphasise that this project is part of our integrated resource plan, which is our electricity plan as a country.

9. So what's being proposed is not something that has come out from someone's wild imagination. This is to fit in with our country's policy to try and provide energy. And it's very important for me to stress that.
10. Nonetheless, to move quickly, I think it's very important for me to put context of energy security. I have spoken about how difficult it is to keep our homes lit. We all understand the impact it has on crime; we all understand the impact it has on poverty. But I also wanted to stress the impact it has on our health.
11. Studies will show for example, that across the world, and not just in South Africa (there's nothing new here), that access to energy equals access to health, better health. Say we look at children under the age of 5 years who are underweight; there is a clear correlation between the ability to have energy and the health of children, and I think this is very important.
12. Also there is one final thing I wanted to just bring up about access to energy, what's called a Human Development index. This is a United Nations measurement of how we as societies are doing. South Africa sits somewhere down here (points to graph). Where on this scale we've got energy demand per person and the health index on the other side. We rank very poorly.
13. Now, with that in mind, look at who sits up here (points to graph), it's the likes America, United Kingdom and the likes, they sit up there (points to graph). Everyone else has access to energy and we do not.
14. How do the other countries approach this? I'm going to keep this very short. If we look at for example Europe and North America, there is a quick graph that I'm going to show you, just to make this point. This is the global picture here (points to graph). Use of oil and gas up to 2020 and what is projected to happen after this. Oil and gas is used by the rest of the world but South Africa is being told you cannot use oil and gas to provide energy. Those are people with a high human development index, while we sit right at the bottom.
15. They are telling us we cannot use oil and gas and even our coal, and of course you'd be aware that this year alone our exports of coal have gone up by tenfold to the European Union, but we can't use it here at home but they can.
16. And I think I just want to also to make a quick point, I do know program director I'm running a few minutes late, uh please do indulge me. But I wanted to make a point here. (Points at graph) If you look at this site here I have to acknowledge the dynamic energy who produced at this site. If you look at this site here you've got China, this is their CO2 emissions, this is the US and their CO2 emissions, this is South Africa down here, look at the bar graphs, we are far from contributing towards coal, the destruction of the environment, relative to everybody else.
17. What's scary for me is this yellow graph here. That is our unemployment. So compared to everyone else, they are damaging and importing so much more yet their employment are above there, we are sitting here (Points at graph).
18. "nd I'm just saying if our biggest problem is not our contribution to CO2 emissions, but our biggest problem is unemployment and economic development. Those are the problems I feel we need to address before we can start addressing things like CO2 emissions. So our energy security is absolutely paramount.
19. I think I'm going to end here program director, I don't want to take any more of your time. I will take any questions afterwards".
20. RO : "Thanks Prof. I just wanted to check if people are needing a quick summary in IsiZulu? Prof is clear, nice and succinct to the point. Are we all clear? Ntombifuthi is available if you are needing a summary okay? Thank you very much Prof that was incredibly interesting.
21. Folks that is the background. That is why we are at this point in this project. It's a response to the request by government for energy providers. That is why we are here. That's why this project is proposed. It is the response to the request for energy provision.
22. So who is going to provide that power? So this is a company called Karpowership as we know right. And Prof has given us a background on the issue around energy crisis, this is the response to the RMI4P which the full name. And in July 2020 under this program it was with the department.
23. Karpowership was only one of several preferred bidders. They're not the only preferred bidder. There are several bidders. And you may be aware that there are other providers. This leads me to

the Karpowership project. Not the other providers and what they are doing.

24. There is going to be 3 sites. Port Ngqura, Richards Bay and Saldana Bay. Richards Bay is the one we're talking about. The electricity will be generated on an as and when required basis.
25. I'm going to handover to David to give us a little bit more about Karpowership as they introduced themselves earlier"

5. KARPOWERSHIP SOUTH AFRICA (DAVID CLARK)

[below is an overview of the text / slides presented]

1. Global map showing Karpowership sites.
2. Video of how the Karpowerships work

5.1. David Clark – Karpowership Presentation / Discussion

1. "Once again welcome everybody. I really appreciate you've taken your time to come down here today to give us your thoughts about this project. Thank you very much.
2. I'm David Clark from Karpowership as introduced before. I've been involved in the South Africa project for a few years now, in all aspects of the project. So once again it's very nice to be here, thank you very much.
3. So now to give you a brief background of who the company is, specifically what the technology is a bit in depth.
4. Karpowership is not a new company. We've doing business now for now over 73 years. Since the 1990s we've been an integrated energy company. So we also have projects in renewables and land based power plants. In 2009 we started a Powership business. Why we did that? We recognized or the owners of the company recognized that the world needs energy security and it needs to provide it very quick to anywhere in the world where it's needed.
5. We currently have 36 operational Powerships around the world, with an installed capacity of around 6000 megawatts.
6. So what makes us different? I think it comes down primarily to the business model that we use. So instead of getting the project, getting a contract and then the building of the power plant, we actually invest in the power generation assets before they have a home in the world.
7. These ships are already built. Then we find a country that needs them or a client that needs them. What all that means is we can deploy extremely quickly. The ships are ready. We build them in our own ship yard which is the largest ship yard around Europe, in Turkey.
8. Just to give you an idea of that speed of delivery, 2 years ago, I personally walked around the largest current vessel which is actually allocated to here, Richards Bay; two years ago, fully ready to operate. Switch on the engines, you've got power to be delivered. So it's there, its waiting and its ready for this project to be initiated.
9. The other thing is, because we don't know where these ships are going to go in the world when we build them, they have to be engineered with the top quality with cutting edge technology.
10. They are engineered to cope with any situation around the world. Whether you're in a Tsunami zone or a Hurricane zone, an area with very large wave motion. For example these ships can continue to operate uninterrupted, providing electricity in areas with wavelengths of 8 metres or category 3 typhoon, they keep going. You see you don't lose power in those situations. The ships are extremely reliable".
11. Karpowership South Africa, we are a global company as I mentioned. We do establish our business in every country that wants to operate. So a few years ago we did set up our company here, Karpowership S.A. It's 49% women and black owned business. That's a starting point. Obviously as we move forward, as we get the project up and running, a big point for us is to increase that's BBBEE compliance; you know to employ as many local people as we can and get that going on".
12. So what we doing here? Well as Prof Lwazi said, we're actually responding to the RMI4P, that's the Risk Mitigation Independent power producers' procurement program. So we're responding to that. Hundreds of international and local companies expressed their interest to that but in the end 8 companies bid for this project.
13. Eleven preferred bidders were selected and as you had already heard that 3 of those are Karpow-

- ership projects. The overall program is to produce 2000 megawatts. So it's part of the wider government plan. We're trying to be a part of the solution here, you know to bring power to the country.
14. We're a global company, we employ around 2600 people directly at the moment. Obviously when we have projects around the world we employ a lot of other people around that. Overtime we employ more than 10 000 people directly for the projects.
 15. I think the most important statistic in the employment, we're currently employing 27 different nationalities in our workforce. So it's just not Turkish people and you can hear I'm not Turkish.
 16. Why do we do that? Why do I say that now? It's because in South Africa obviously we have a lot of commitments; economic development commitments, local employment commitments that will go into the contract for this project. But we're not doing that because we have to or because we're being told that in South Africa we must do that. It is a standard part of our business model everywhere around the world to employ local people.
 17. Why? Because it makes sense! You then have a workforce that understands the local culture and speaks the local language, you're operating within the community and you get more desire for the project to be successful. And it just makes sense from a business point of view.
 18. But it's very important to keep in mind that we're not doing this because we're told we have to in South Africa, we're doing this because it is a standard part of our business model everywhere around the world, in the communities that we're happy they're hosting us.
 19. Floating power is not something new in the world. Yes we are the global leader but there are other companies who are doing it too. For example it's not just developing energy for these power plants. We have that in New York for decades now and the primary reason for that is that they use no land space.
 20. At the moment we've got a situation which is quite unique in New York. So you've got the press code of recovery and the orange plan recovery.
 21. What that means is you've got top economies in Europe who are currently seeking these alternatives, you know they're already in high demand because people have realised this is our energy security. If you don't have energy security your economy power flush. So really it is the life blood of your economy. Obviously that leads to jobs, it leads to your crime rates, and it leads into everything.
 22. So it's not just developing nations, developed nations also rely on this alternative.
 23. Just to give you a few examples of the projects that we do around the world: Since we're involved in the tender process here in South Africa, December 22nd 2020, we've got 3 out of 90 projects that we've been through for the tender process. The first of those is in Brazil that's 560 megawatts. That's a very simple project in Brazil, 560 megawatts.
 24. We were awarded that project in November last year and the ships are there now about to start feeding into the Brazilian national grid.
 25. Another example is New Caledonia right here on the screen next to Australia (**points to map**). That's actually a private business, that's contracted a 180 megawatts from our Powerships there. It's actually a smelter, they also need very reliable power. All this illustrates these very competitive values mostly based on the price. You know a private business is never going to select you if you don't make sense financially. What's also very interesting is that this is a French territory, so you have to comply with European standards for environment, for compliance and all the licenses and permits.
 26. Another interesting example is the Dominican Republic. I was there in February this year to deliver our tender bid. The ships are there now, ready to deliver power in the coming months. So we can deliver fast. We don't just say we deliver fast, we are fast.
 27. Now just to finish, I'm going to show a quick video to see if you can get an insight on how this actually works, how simple it is as a solution.
 28. (**Plays video as he speaks**) This is a typical project layout. You have the Powership and you have the FSRU, which is the floating storage regassification unit. I think the easy way to think about it is that this is a Powership, this where the electricity is generated. This one over here is the FSRU. What the FSRU does is a little like what the fuel does to your car. You fill it up with the liquid gas, you can store this liquid at six hundred times than gas. It's a very efficient way of storing.
 29. What happens is that when you use the fuel, another vessel comes in approximately every 20-30 days and refuels your fuel tanks. What the FSRU does is as and when you need the gas to run your engines to generate the electricity, it takes that liquid gas and turns it into a gas on that vessel and

- then it sends the gas across the Powership as and when it needs it.
30. It's like the fuel tank and the engine of your car. When you press the pedal you need more petrol or diesel right? Here when you press the pedal of the generation you need more gas. So it sends exactly what is needed and when needed to the Powership to generate the electricity. So it's just through this pipeline leaving the vessels. And it's really as simple as that.
 31. With this process there is nothing scary, there are no chemicals or explosions involved. You just take in the liquid which is stored at -163 degrees Celsius, letting it warm up again to a temperature that takes it to the gas state again.
 32. And from the Powership, we simply run through a transmission line to the shore and that's the electricity going to the national grid to power your lives.
 33. Okay, thank you very much". Just to remind you, in South Africa they are only using gas, so there is no oil, there is no diesel or anything like that, even the internal operations in the vessels"
 34. RO "Great, thank you very much David. That's the overview of the actual ship that's being proposed. I'm now going to ask Hantie to tell you about the project. Why is there an environmental impact assessment".

6. OVERVIEW OF THE PROJECT (HANTIE PLOMP)

[below is an overview of the text / slides presented]

1. Scoping Phase

- a. Approval of Final Scoping and PoS received from DFFE - 06 January 2021.

2. EIA Phase (2021)

- a. Final EIAR & EMPr submitted to DFFE – 26 April 2021;
- b. EA application refused as per Record of Refusal – 23 June 2021;
- c. KSA appealed the refusal – 12 July 2021;
- d. Minister dismissed the appeal – 01 August 2022;
- e. exercised her powers in terms of Section 46(3) of NEMA;
- f. remit the matter to CA – various gaps in information and procedural defects to PPP to be addressed for reconsideration, within EIA process timeframes.

3. EIA Phase (2022)

- a. Pre-Application with DFFE– 24 August 2022;
 - b. dEIAR Public Participation comment period - 10 Nov – 13 Dec 2022 (33 days);
 - c. Final EIAR – due in January 2023;
 - d. PPP – All I&AP to have an opportunity to comment on noise information;
 - e. Noise from the Powership;
 - f. Underwater noise & impacts;
 - g. Terrestrial noise;
 - h. Need & desirability;
 - i. Socio-economic and ecological aspects;
 - j. Socio-economic;
 - k. Tourism;
 - l. Small-Scale Fishers;
 - m. Polycentric approach;
 - n. Project started in 2021.
4. Considering all matters integratively;
 5. Discussed with DFFE and advised to follow through the process;
 6. More info on the need and desirability;
 7. Marine component- FSRU and Powership;
 8. Power generated needs to be fed into the national grid through a 130 kV power line;
 9. Requested to study everything integrated not individually;
 - a. A- Land and animals;
 - b. B- the sea;
 - c. C- air quality;

d. D- Social conditions.

6.1. Hantie Plomp (Triplo4) Presentation / Discussion

1. "Okay, just an overview of the project and where we are in terms of the environmental authorization process and to take you through what is being proposed for Richards Bay.
2. The overview of the project - we started with the scoping process in 2021, we received the authorizations to continue with the next phase, we've received approval for the scoping report.
3. From there we went to the EIA phase. We've completed the EIA phase and were issued the Record of Refusal, which means the project was not approved from the Department's point of view. The applicant has the right to appeal the process, the Minister then dismissed the appeal but the Minister said "I would like to give another opportunity, the reason why there was an Appeal was that a few matters that were not adequately addressed and they also wanted to give the public an opportunity to understand the noise impacts better and the opportunity to comment on those noise impacts".
4. So this is why we are back here today to give you that opportunity to give you more information and we have submitted the reports in hardcopy at Richards Bay library, there is a hardcopy of the document. For those that have registered, we have provided an electronic link. The copy is also available on the Triplo4 website.
5. Just to give an overview of the main points that we had to address in terms of the Appeal and the process that we currently do. This was discussed with the Department of Environmental Affairs. They have advised on the process that we need to follow.
6. So the first thing that we need to follow is still aligned with the legal requirements, advised by the Department, on the process we need to follow.
7. In terms of the process, the public participation is what we are going through now and sharing the information with everyone.
8. We have the specialists here, they will give you more information on the noise impact. We also needed to provide more information on the need and desirability especially for people to understand the context more, which is why we have Prof Lwazi speaking more on that.
9. The last part where I will give a little bit of information - what we were asked for is to give a polycentric approach rather than looking at the studies individually.
10. Just to give an overview of the project and where it will be situated within the Port of Richards Bay. It's all within the area of Transnet.
11. So we have what we call the marine component of the project and we will give quite a lot of information on that later.
12. As David had mentioned earlier, you have the FSRU which is proposed in the proximity of the sand spit. Then you have the gas pipeline that will go to the Powerships.
13. The electricity generated will be fed to the national grid with a 132 KV power line. There were two aspects that were assessed, the other one is the preferred area, you will get more information on that.
14. The other alternative that was preferred was the one in red. That one is more sensitive as there are mangroves and wetlands so we kept it out of those and we're looking at the preferred area".

RO asked Ntombifuthi if she would be willing to do a brief isiZulu summary because she was aware that a number of people may need just an overview because a lot of information was presented in English.

Ntombifuthi Jele translated:

15. "Ngizosho nje kafushane kakhulu konke okushiwo izikhulumi la. uProf Lwazi ubesichazela ukuthi njengoba sonke siyaqonda ukuthi kunokushoda kwagesi ezweni lakithi. Sonke isikhathi ugesi uyaphela. uProf Lwazi ubesichazela ukuthi lento akade bekhuluma ngayo yinto ezosilekelela ngogesi. Uchazile ukuthi uma ugesi ungekho nemisebenzi ayikho.
16. Mhlampe nibonile ekhomba lapha lezizinto engathi imshini yasesobhedlela. I-South Africa iyona ehamba phambili ngokungabibikho kwemisebenzi.
17. U-David uchazile ukuthi le projekthi akusiyo into esazoqalwa phansi, lemikhumbi le ivele

isikhona, isilungele ukuthi iqale isebenze. Kuwukuthi uHulumeni engavuma.

18. Uchazile nakwezinye izindawo lapho sekuvele ikhona lemkhumbi njenga ko Brazil.
19. U-Hanti ubechaza ukuthi yonke into eqalwayo njenga le projekthi kufanele kubonakale ukuthi izoba nengozi engakanani endaweni esihlala kuyo. Mhlampe njengomsindo.
20. “Ubechaza ukuthi isizathu sokuba la namhlanje ukuthi naziswe ukuthi ayizuba nangozi kithina ezimpilweni zethu, kunalokho yinto ezosilekelela ekutheni sithole ugesi namathuba omsebenzi”.

7. TRANSDISCIPLINARY APPROACH (HANTIE PLOMP (TRIPLO4))

[below is an overview of the text / slides presented]

A table was shown which grouped all the specialists studies undertaken for the project into one of four disciplines – it was colour coded.

7.1. Hantie Plomp (Triplo4) Presentation / Discussion

1. “One of the questions the Department had asked us was to make sure that we don’t look at everything individually, but we need to look at everything in totality. The approach that is being used is polycentric, another word for that is trans-disciplinary.
2. So this is the overview of the specialists’ studies that we’ve done. As you can see that we’ve grouped them together. The colours mean that there are similar characteristics.
3. They’ve grouped them into themes.
4. They’ve looked at the land component, the marine component, the air component and the socio-economic theme.
5. Within the themes, the specialists had to speak to one another. They had regular meetings on a weekly basis. They all sat together and had discussions to understand how each other one’s project may impact. What was also required from the specialists was for them to look between the themes”.
6. So for instance, the person who looked at the socio-economic impacts had to look at the impact of noise on people.
7. When you go to the report, you will see that there were three processes that were used. One was a system map, the other one looked at strategic issues where the various specialists had to look and see how all of their strategic issues speaks together so that we have a very good understanding of the project in terms of socio-economic, ecological and socio-ecological aspects.
8. Thank you”.

RO gave a summary of what Hantie Plomp had just presented. She explained that they did a study on land and animals. She explained that all the specialists spoke to each other when compiling their reports. They also looked at the sea. What’s happening in the water, the fish and the birds? They also looked at the air. Will the air quality get worse, better or will it remain the same? They then looked at what will the project do for people.

RO asked if there were any questions on what has been spoken about already. She asked if someone has a question to please come forward to the microphone placed at the centre of the room, state their name and ask the question in the language they’re comfortable using.

9. **Sibusiso Dlamini (I&AP Nseleni):** “Uma imikhumbi izofika seyakhiwe, thina bahlali base Richard’s Bay, kwi employment sizosuzwa kuphi ngoba ngizwe sengathi u-David ethi imikhumbi seyakhiwe already.
10. **Ntombifuthi Jele translated:** “I heard from David that the ships are already built, if that’s the case, how we as Richards Bay residents are going to benefit from employment?”

RO thanked Ntombifuthi and stated that was a very good question and that’s the reason for today’s meeting. She noted that the next presenter Waldo to present on the economic development would address the question asked. She asked if there were any more questions.

11. **An I&AP (did not provide their name) asked as follows:** “Umbuzo wami uthi, uma kuwukuthi kulokhu kade bekuchaza ukuthi i-South Africa ibukeka kuyiyona engayithandi indaba ye oil and gas, pho kungane ngoba bayazi ukuthi abantu base South Africa abayifuni indaba ye oil and gas bese bona beletha i-projekthi enjalo ize la izosebenza kodwa abantu sebeyivezile imbono yabo. “Akusikho okukuqala kuhlangwana kanje ngale ndaba ye Karpowership, sekukaningana kuhlunywa ngalendaba. Okusho okuthi sesike sahlala. So why belokhu bebuye nayo ekubeni bayazi umphakathi usuzivezile izinkinga ezikhona ezingadalwa u-Karpowership. Ilowo umbuzo wami, ubhekene no Prof Lwazi”.
12. **Ntombifuthi Jele translated as follows:** “The first question is specifically for Prof Lwazi. As he indicated that South Africa is reluctant to use gas and oil for creating energy and it is not the first time sitting like this, we’ve done it before and other people were also here and the communities have indicated that they are not interested because it has got dangerous impacts on the community, why is it then they are back again with this project”
13. **The same I&AP asked a second question as follows:** “Umbuzo wami wesibili uqondene no David kolokhu kade ekuchaza. Umbuzo wami uthi uma kuwukuthi uhulumeni usebanikezile ilungelo lokuthi bayosebnza bafake i-projekthi ye Karpowership, pho kubaluleke ngani ukuthi babize thina ukuthi sizogcwala kanje”.

There was grumbling from the audience arising from the gentleman’s question. Rose asked that everyone settle down and that the gentleman has a right to ask his question just like everybody else. And we are to respect each others’ questions. She explained that there’s 2min left for discussions and questions as there are a number of other specialists’ presentations left. She said that some questions will be answered by the presentations yet to come.

14. **Ntombifuthi Jele translated the gentleman’s question as follows:** “The second question goes to David. The gentleman says he has heard what David alluded to. But he’s got one question, if the government has given them the right to go on with the project, why is it necessary for us to come here and for them to address us”.

Rose explained that some questions will be answered by the presentations still to come, so if questions keep being asked, the meeting won’t get to the other presentations.

15. **Siphehlise Zulu (I&AP Mzingazi):** “Ngicela ukubuza ukuthi uma kuwukuthi iprojekthi igcina iqala, ngcela ukubuza ukuthi akhona yini amathuba e-training or ama skills enizosenzisa wona njen-gomphakathi wase Richards Bay”.
16. **Ntombifuthi Jele translated as follows:** “The question is if the project is given a go ahead and starts now, are there any trainings or skills that are going to be offered to us”.
17. **An I&AP (did not provide their name) asked:** “Mina ngsafuna ukubuza ukuthi uma uSkom esidayisela ugesi, i-Karpowership isidayisela ugesi nayo, so thina njengama customer, sizobe sikhokhela bani kahle”
18. **Ntombifuthi Jele translated as follows:** “The question is if Eskom sells electricity to us and Karpowership also sells electricity to us, to whom are we paying or buying from exactly”
19. **Wiseman from the unemployed asked:** “We are very happy that at least today we have got a chance to echo our plight as the community. I am a leader for the unemployed, graduates, skilled and unskilled labours. We are from the 105 wards. We welcome what is happening and we want to assure Karpowership that from our engagements and the community, about 650 million has been committed for socio-economic initiatives. That means local people will benefit. “Number

two, as the leaders of the unemployed, it touches us when people will come here and talk about preventing or stopping the project just for the fish issue, it hurts if even our own brothers cannot see the impacts that is being made by load shedding. It also hurts to see people trying their very best to shovel this project away, where else there are benefits for the community.

“But before I leave the podium, ngifisa ukusho bafowethu in open ukuthi Karpowership, from our own investigation, it is not only South Africa where they are operational. They’re in Ghana where people live depending on fish. This is working there, with no complaints from the local community. Lastly, we the majority have no access to the sea, not because of that, but through the studies that we have seen, there is no problem with this project. So let us not politicize this, we are at the biggest problem of load shedding and it directly impacts job creation. It even finishes the little that we have. So people must understand that here, we are the majority that are hungry and this is our hope. We need this project to start as soon as yesterday”.

20. RO summarised “I have taken note of the questions, they are around jobs and skills, the dangers and the need for unemployed to be accounted for. I would like to move the presentations as a lot of the answers are there and then she would like to move to Eugene’s presentation”

SPECIALIST PRESENTATIONS

8. ECONOMIC DEVELOPMENT (WALDO ADAMS (EDS))

[below is an overview of the text / slides presented]

1. ED Elements
 - Job Creation, SED, Enterprise Dev, Supplier Dev, Skills Dev;
2. Reporting
 - Monthly reporting;
 - Onsite Monitoring and confirming compliance on a day-to-day basis;
 - Verifications of data.
3. Compliance Management
 - Quarterly submissions to the IPPPO;
 - Penalties for non-compliance;
 - Annual Independent Audits.
4. Disclaimer
 - The values which are communicated in the following slides as per the financial model determined in 2020, so these numbers may vary.
5. Employment Commitments
 - Phase of Construction:
 - 190 employees at the height of construction.
 - These figures may change depending on the stage of construction, i.e., mobilization, peak, and demobilization.
 - Additional job creation chances will be possible thanks to the downstream procurement.
 - Phase of Operations & Maintenance:
 - 200 full-time workers.
 - Additionally, the prospects for downstream procurement will create more full-time job opportunities.
6. **To be spent in the Richards Bay area:**
 - R586 533 198 [Projected for the full 20-year PPA];
 - R29 326 659 [Projected per annum];
 - R2.44m [Projected per month].
7. **Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:**
 - R146 633 299 [Projected for the full 20-year PPA];
 - R7 331 664 [Projected per annum];

- R611 000 [Projected per month].
8. SED Projects
- Primary & Secondary School focus on building educator and learner capacity (STEM) - R3M annually;
 - Bursary/scholarship (20 students annually) – R3m;
 - Solar water geysers and photovoltaic (PV) systems – R8m;
 - Environmental Sustainability – R2.4m;
 - Support to vulnerable communities – R3m;
 - Sport and recreation – 2.5m.
9. Enterprise Development
- **To be spent in the Richards Bay area:**
 - a. R234 613 278 [Projected for the full 20-year PPA];
 - b. R11 730 663 [Projected per annum].
 - **Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:**
 - a. R58 653 319 [Projected for the full 20-year PPA];
 - b. R2 932 665 [Projected per annum].
 - Start-up Business Grants;
 - Business Training;
 - Business Loans.
10. ED Projects
- Maritime SMMEs – R2m annually;
 - Agriculture & Aquaculture – R3.5m;
 - Youth Entrepreneurial SMMEs – R2m;
 - Enterprise Development Fund – R2.4m.
11. Supplier Development
- **To be spent in the Richards Bay area:**
 - Approximate Projected Budget for the Construction Phase is R650 000, to be split over 12 months;
 - Approximate Projected Budget is R1.1 million, per annum, over the 20-year Power PPA period (Operations Phase).
12. Aim of SD is to assist beneficiaries to among others:
- Increase turnover;
 - Improve internal business processes;
 - Increase number of jobs / employees;
 - Increase clientele;
 - Ensure or improve compliance, i.e., SARS, CIPC, Labo.
13. **Supplier Development**
- Clear objectives with respect to the development, these areas that may be targeted for development are not limited but could include:
 - a. Provision of business equipment or tools;
 - b. Planning, tendering and programming skills transfer;
 - c. Legal and Contractual compliance;
 - d. Tender or Proposal writing training;
 - e. Marketing and branding; and
 - f. Access to or implementation of business system.
14. Skills Development
15. **To be spent in the Richards Bay area:**
- Approximate Projected Budget is R32 585 178 over the 20-year PPA period (Operational Phase);
 - Approximate Projected Budget is R1 629 259 per annum;
 - **Projected budget for Skills Development initiatives within the KZN Province shall be:**
 - Approximate Projected Budget is R8 146 294 over the 20-year PPA period (Operational Phase);
 - Approximate Projected Budget is R407 000 per annum.

8.1. Waldo Adams (EDS) Presentation

1. "Good morning. So as you've heard from the various presenters that Karpowership won a bid to place their Powerships in Richards Bay as part of the attempt to create power for Eskom. As part of that bid, they made certain obligations to various economic duties. Those obligations are job creation, social economic growth, enterprise development, supplier development, and skill development.
2. From construction through operations, we must report on a monthly basis against these commitments.
3. For example, job creation occurs during building. Every month, we have to capture who has been employed, as well as their timesheet and I.D. document proof that they are from South African, proof that they are local employees, all those things need to be captured on a monthly basis.
4. There will be onsite people to check that whatever the contractors are claiming to be true is verified by those people. And that is how the verification of data gets done.
5. Then on a quarterly basis those reports will be sent to the I.P.P office, which is the government entity in charge of overseeing this program, on a quarterly basis.
6. You will see I am going to present a lot of numbers, and many people have said yes we have been made promises before you come here; you tell us you are going to spend millions, and hundreds of millions in our community but when it comes to the time we don't see that money.
7. If Karpowership does not spend that money in the communities, they will be penalized substantially, so not that they don't want to they are a multinational organization that wants to do right by the communities they operate in, but in addition to that, there will be substantial penalties if they don't do what they said they were going to do, and this is going to be audited on an annual basis by an independent company, such as KMPG, Deloitte, you all know these independent companies, they will need to audit on an annual basis. So 100% whatever the commitments, those commitments have to be implemented by Karpowership, or they will have substantial penalties, which could be more than what they were going to spend in the first place.
8. Disclaimer here, the numbers you are going to see are the numbers we determined 2 years ago when Karpowership submitted the BID, a lot has changed, there has been changes in the exchange rate, price of fuel, the numbers could go up or they could go down, it might not be exact in 2 years time when they start, it is a close approximation.
9. The ships are constructed in the biggest shipyard in Europe and possibly even the world, so that is where the ship is manufactured, so during construction phase all that is going to happen in the harbour is the electrical conduits that will be built to ensure once the ships are in the bay the electricity can be taken via the various areas and put into the Eskom grid. So that is the type of construction that is going to take place during construction. Nothing on the ships, purely the laying of the electrical grid or connections to the grid. and that should take about 12 months. there will be 190 people employed at the height of that. Those will be temporary jobs and we need to know that. But those will be during the construction. When Eugene speaks later he will explain how there will be additional knock on jobs, if Karpowership needs a contractor to use taxis to bring people to the port to work on the ships, that taxi will need to get his taxi serviced somewhere and that might create a job, that person doing the servicing needs to buy a part etc. so there is a knock on effect with all the suppliers to the project. So when we say 190 jobs those are direct jobs that Karpowership has to supply, remember I told you that they have commitments, if they employ less than that they are going to have penalties. They can employ more, but they cannot employ less than the 190.
10. During the operations phase there will be 200 fulltime employees on the project. Karpowership is a very complex vessel it is a ship and a powerplant. So we need people that will work on the ship, typically people maritime sailors, bosun, people who typically work on the ship and also it is a powerplant. So we will need people that are going to be working as electricians, electrical engineers, boilers, plumbers the various job requirements that goes with a powerplant. So the intention is that once the ship comes in, through the upskilling process, through the skills development employing of local qualified people, that ship will eventually be fully staffed by South Africans.
11. Socio Economic development happens during the operations phase. Once the ship starts producing power and selling it to Eskom that is when the Socio-economic development commitments kick in.
12. For the twenty-year period that Karpowership will sign the licence with Eskom we estimate about R586 million worth of investment that will go directly into uMhlatuze area.

13. Which translates roughly into R2.4m per month, and also if there is a need we are able to spend R146m in the greater King Cetshwayo area if the need arises.
14. But primarily that's the kind of money we are looking at.
15. R2.4m every month in the communities, and as I said before if it is not spent, there is going to be penalties.
16. So you can rest assured that money will be spent, in these communities for the next 20 years on a monthly basis.
17. Initially we need to set up a plan for the first year of operations, it is called an ED plan, we have done some, preliminary consultations and we will do some more closer to the time, but we determined education is the one of the biggest requirements in our country and it applies to this municipality as well. So our focus, to spend about R3m annually on Math's and Science program to uplift teachers and help children learn math's and science and take maths and science up to matric level and not drop it in the lowers standards, because we know with maths and science you can get better jobs. In addition to that, and I am glad to see so many youth in the audience today, there are going to be bursaries, at least R3million worth of bursaries per year for students looking to apply for bursaries in this community. So that is something very positive to take from this meeting to know that every year there will be bursaries for 20 people, every year ongoing for this community.
18. Another thing that is very important and speaks to our energy crisis at the moment, is lack of hot water, and lights at home, so the project is considering spending R8m on solar power geysers for people living in the poorest of poor regions. Solar geysers and PV lights in their homes, especially for younger people, especially for now who are studying for their matric exams, who don't have light during load shedding, and also it helps to keep money in people pockets the less you spend on electricity to heat your water, to burn to power your lights the more money you have to spend on what other important things you might have.
19. Then we have environmental sustainability, we are looking at spending about R2.4m on projects to ensure the environment maintains to pristine in this area. This area is very renowned globally, for the estuaries, for the various environmental ecological, unique areas, you have in this region. So there will be some money spent on maintaining, all of these projects, this type of investment, also creates jobs. If you are going to spend money on maintaining, cleaning the estuary this creates jobs, somebody having to do something, means a job is created as well in the process.
20. Of course there is support to vulnerable communities, you know in the time of COVID there were food parcels that went out, there might be people living with disabilities that requires assistance with wheelchairs, there are a whole lot of other types of assistance that can be provided for people living in vulnerable communities.
21. And of course, a very popular topic is of course sport. Sport is a popular way to get children off the street, to be active, to be doing something positive with their lives. So in essence we looking to spend quite a bit of money on sports projects to the tune of R2.5m for the first year on ensuring that either the stadium is maintained, or there's sports clubs that can go buy togs, or netball girls be given opportunity to go and play internationally. There are many different ways we can support sports initiatives. That in essence is the socio-economic development commitments that Karpowership is obliged to implement.
22. Enterprise development is the developing of small businesses. So Karpowership will spend about R234m over the next 20 years, which is about R11m per year on developing small businesses in the uMhlatuze area. They additionally can spend another R2.9m per annum in the broader KZN region as well if it is required. If not then that same amount R2.9m can be spent in the Richards Bay area.
23. So what is Enterprise development? There is different ways of doing enterprise development.
24. We can give grants where we can buy a contractor a bakkie, or welding machinery, or whatever to be able to do their business better.
25. Or we can provide training to those contractors on how to best manage their businesses. Whether it is to do financial management, marketing, those type of things.
26. There is also business loans, which is preferred, because if you give a loan there is more investment in their business to make sure that it succeeds so that they can pay that money back. That money can then be loaned to another SMME.
27. So in such a way business loans unsecured, interest free, but to ensure, to keep the business honest,

- not just get. They are going to be obliged to pay that money back, and that will go into a pot that will then develop other small businesses in the area.
28. Of course the ED projects currently being looked at are Maritime SMMEs projects, people currently supporting the maritime industry, and in this case Karpowership with any services, to the tune of R2m annually.
 29. Agriculture and Aquaculture, this area is very high in agricultural developments so we looking to sponsor people in aquaculture and agriculture.
 30. Of course the youth, the youth struggle to get business loans and opportunities for them to start businesses, there is going to be a big focus on supporting youth and SMMEs.
 31. And then of course the enterprise development fund which is the loan, which will be recycled.
 32. Supplier development, with enterprise development it is the development of companies that are currently supplying services to Karpowership for whatever, whether it is water, oil, paint, lubricants, waste management whatever a Karpowership that produces electricity might need. All these suppliers locally that would produce those services, they might not have the necessary skills to provide the quality service that they need to, so we will use the supplier development money to upskill them. We could also once again buy them machinery or things like that. Or just upskill them from a business perspective, making sure that their accounts are accurate that their financial management is correct. So all the various ways of doing supply development will be covered by that budget.
 33. I won't go into detail you can have a look at this online as well, to reiterate supply development is developing suppliers along the same way that we do enterprise development the supplier is within the supply chain to Karpowership.
 34. Skills development, once again is to train people that are employed on the Karpowership, as you know Karpowership is unique not only in South Africa but in the world it is a unique type of business or equipment that requires very high level of skillsets. So initially there will be bursaries and scholarships for engineers and people like that will find positions on the ship. There's learnerships and apprenticeships for boiler makers, welders, plumbers, all those type of apprenticeships that also will be employed on the ship. There will be informal training on a monthly basis frequently on how a Karpowership works to make it work more efficiently, there will be workplace learning that speaks to that as well.
 35. There is recognition for prior learning, if you have been working as a plumber for all your life but you don't have papers for it, there can be a way of getting an assessor to determine what you know and then to maybe close the gap with one or two courses for you to get that red seal, so that is quite important for many people that are competent but don't have the qualifications we will use the recognition of prior learning processes.
 36. The Karpowership academy, they have their own academy that trains people on the specifications of working on a Karpowership and how to understand the mechanisms and the training will go towards making people more competent in their ability to do their job. Thank you"

9. SOCIO-ECONOMIC (EUGENE DE BEER (SOCIAL RISK RESEARCH))

[below is an overview of the text / slides presented]

1. Harbour and harbour users;
2. TNPA operations: corporate affairs and planning;
3. uMhlatuze Local Municipality;
4. Industrial areas; IDZ and Alton;
5. Richards Bay CBD commercial;
6. Richards Bay Residential communities. Arboretum, Meerensee, VeldenVlei, Birdswood;
7. North: Mandlanzini, Ntshingimpisi;
8. South: Greater Esikhaweni, Nkhubosa and Gubhethuka semi-urban and rural communities;
9. Empangeni, Ngwelezane urban and semi urban areas;
10. Tourism and recreational users. Hotels, Small craft harbour, Waterfront, angling and boat clubs, picnic sites, pier;
11. Small scale fishers;
12. Vulnerable and disadvantaged communities: women, youth, disabled and elderly;

13. Implement **Karpowership's Economic Development Programme**;
14. Provide support, **education, and training to the small-scale fishers** to find alternative employment;
15. Together with the Municipality, NGOs and CBOs address the **poverty of the fishers**;
16. Together with the Municipality and tourism organisations, develop a **marine / industrial tourism attraction, routes, and tours**;
17. Contribute to the **tourism education and skills development – tourism guides**;
18. Implement **managed labour recruitment practices**;
19. **Local employment and procurement practices** as per the RMIPPP requirements;
20. **Implement a monitor system and complaint lodging system** to address problems that may arise;
21. Do **knowledge and skills transfer**;
22. **Operations limited to business hours**;
23. **No fatal socio-economic flaws have been identified. It is recommended that the Project continue from a socio-economic point of view.**

9.1. Eugene de Beer (Social Risk Research) Presentation

1. "My task as well as the task of the other specialist is to make sure that this is a good project. And if there are any negatives or repairs that need to be done how can we make sure we get the best benefit out of it.
2. To ensure that uMhlatuze as a community and a country gets the best benefits from the project. That is my task, so I'm really talking from the side of uMhlatuze and how and what impact is this going to be on us and what good can we get out of this.
3. The first thing we had to do was we had to make sure, who was this community we were talking about" **[Indicate map shown on the slide]**.
4. The first step was to ensure that they understood who this community was that Karpowership might have an influence on, there are circles to show how far the communities are.
5. The Karpowership may have an impact on the neighbouring areas, not only the residential or township villages, but also the business communities because we are talking social and economic impacts and we want to know what best can happen also for the businesses.
6. On the map, at the centre point where the ship will be, there are circles to represent how far the various communities are. As an indication that outside circle is 12 kilometres away; Empangeni and large parts of Esikhaweni are already outside of it; this does not mean they will not be impacted; it just shows the distance it is going to be.
7. Any ship or any project really would have an impact on the closer area. For example Richards Bay CBD area is about 4km from where the ship is. The harbour area that's about 5-6km from the harbour point to the ship, so it is big distances.
8. One of the MAIN things we found is that the ship is not going to be in the immediate surrounding areas of any community, any sensitive business or so on. It is in the harbour in an operating area." **[points to slide]** "On the left you still see a list of areas, types of communities that will be impacted on, and right first there is the harbour and the TNPA operations, they are there in the harbour. uMhlatuze Municipality the IDZ they are all sitting around where the ships are going to be and that is within the first 2km area. Then we go to the CBD, then the residential.
9. The arboretum is the closest and it is about 3 to 4 km away from where the ships are going to be and the further outlying areas such as Meerensee, Veldenvlei, and Birdswood. In any of the rural settlements, the closest is about 7 km from where the ships will be. Gives us an indication what the sensitivities and how much this project is likely to have a direct impact on the people.
10. On the bottom on the list I have highlighted Tourism, because tourism is an important sector within this economy, we want to ensure we get tourists here and we don't have any negative impacts, or how can we impact on them positively.
11. We've highlighted the small-scale fishers. There are no formal, small-scale fishers operating in the harbour area but there are fishers happening at the mouth. And we want to take note of that, to give attention to that.
12. And lastly but probably the most important is to ask are there any vulnerable and disadvantaged communities: women, youth, disabled and elderly, that would be negatively impacted by this project. And so we take account of all that when we do this assessment that I am talking about.

13. In order to determine what the impacts are going to be, Hantie spoke about it earlier, all the specialists' studies and so on were taken and we made an assessment of that and were asked what are the negative things that can happen and what are the good things that can happen?
14. [Points to slide – table of impacts] “All of the other specialists' reports have been taken, and they will go into more detail on that. We did an assessment of that and said: 'are there any that can negatively impact on us as people or on the businesses?' basically the first lot, except the last two are saying it is a very low impact.
15. The other specialist will have to say why they so and qualify it slightly better in the report it is unpacked in more detail.
16. We have taken issues as broad as biodiversity, climate impact, and changes on the small-scale fishers, as well as tourism on municipal services. Would we now have to build more roads and build more houses and so on. What are the implications for the municipality? Is there anything they need to do? We've looked at the issues such as sense of place (region, the area you're familiar with, how it looks) were considered; will these ships impact the way Richards Bay works, operates, and feels when you come here, or will they suddenly dominate the environment? Is what the sensor place is about.
17. This is the first, and remember this is a summary slide, very low, to little impact ill it have negatively on the people in the town. Earlier, the gentleman stated, 'gas is bad for the people...' that is not what the specialists' studies have found and the specialist will have to defend their own studies. But that is the conclusion. So it is a false impression that this is going to be a bad project for the people. The specialist studies does not show it.
18. There are two very positive things and you have heard about them. And that is the last two that I have got: skill development, enterprise development, business investment that will be taking place, economic growth, and so on. Then the last one which it is all about, I've put it last, it should be first; this is about generating electricity that will go into the national grid for the whole of South Africa. So it is not only going to be for us here in Richards Bay or uMhlatuze, it is going to go into the National Grid for everybody, the whole of the country in that sense will benefit.
19. Our conclusion from a people and a business point of view is to say there is no or very little negative impact. There is quite a lot of positive impacts.
20. Now we must remember these ships are only going to be here for 20 years. That is what the contracts are being set up at the moment, it may be longer, but 20years anyway is a very long time, in anybody's lifetime, 20years is long. But it is only going to be 20years. What happens after that? Will it just disappear?
21. We are saying, from our socio-economic point of view, we are saying no, we want to make sure we get the best out of this project South Africa and for the community of uMhlatuze we make a number of recommendations, to even not only address any negatives, because there hardly are any negatives, but to try and make the positive even a bigger positive. The first on there is:
[Eugene explained Mitigation measures he recommends on the slide:]
22. Implement the economic development program of Karpowership. That is what Waldo has presented to you just now. They have plans to do substantial local economic development projects. And we are saying it should happen and it must happen. Kurt earlier on put his neck on the block to say he is going to be the guy to make sure these happen. Karpowership is already starting to make plans to put this in place, that these good things that they can happen.
23. Second one to support, education, and training for small-scale fishers. Small scale fishers may sound small to us but it is people that do need assistance and help, and so Karpowerships says, being in the business of on the sea and in the harbour we going to see what we can do to help so there is some education and training programmes for that.
24. There is also a broader scale work with the municipality, NGOs and CBOs work to address the bigger poverty issue for the fishers and the community we won't isolate only the fishers, but that is being addressed.
25. That then happened through the tourism organisations, there are some tourism opportunities, I would like, anyone, once the ships are there can come and see, how the ships work, other tourists could also be interested school groups could be taken to the ship to show, as an educational program.

26. So there are tourism issues that can happen, training education, of tourism guides.
27. Implement of a managed labour recruitment practice, that has to happen anyway, these things are mostly things that are required by the law anyway to happen. But we must make sure that, that happens.
28. Local employment and procurement; the employment must as much as possible be from the local uMhlatuze community. There are some skills that have to be brought in from outside, but the next thing there is number 9 the transfer of the skills.
29. Also number 8 to monitor the system, make sure if there is any negative there is a system by which Karpowership can hear what people are saying, that they can receive complaints.
30. The last one is the operations needs to be limited to business hours, any noise any disruption can be allocated to the business hours to daylight hours. Again I want to say these things are already prescribed in the submissions that Karpowership has made so it is actually to some extent nothing new. But we want to reiterate that they leave then a legacy that can exist beyond the 20year period.
31. Lastly from a socio-economic view we found that there is nothing wrong with this project, we believe that it can go on, it will have a greater positive impact on us than a negative impact if any.
32. Thanks, very much”

9.2. Economic Development / Socio Economic Discussions

1. RO thanked Waldo and Eugene and requested Ntombifuthi translate a summary for the stakeholders, to clarify for them so that then we could take some questions. Rose asked that if anyone had questions they were to please come to stand at the mic to ask.
2. **Ntombifuthi Jele translated as follows:** “Kafishane, uEugene ukhuluma ngokuthi kunama commitments abawenzayo emphakathini; ekufanele ukuthi bawagcine futhi kuzoba khona ukuthi alandelelwe, lezinto abazithembisile emphakathini, bayazigcina noma bayazena. Uma kuwukuthi abazigcini, kunama penalties, ngamanye amazwi kunezinhlawulo abayokhokhiswa zona, njengo kwenziwa komsebenzi emphakathini ekufanele kuthi kubekhona. Kanjalo futhi nama khono okufanele ukuthi bawenze bawafundise abantu emphakathini.
 - Kusukela ngalesikhathi kusakhiwa, uke wachaza ukuthi umkhumbi ayakhiwa la, yakhiwa kwenye indawo. Into eyenziwa la ukuthi kwenziwe ukuthi kube nama payipi azothi umangabe imikhumbi ifika, axhunywe lawomapayipi ahambe ayelapho ukuze akwazi ukuthi anikezele u-Eskom ngogesi. So ke kuzoba khona imisebenzi ezobakhona ezodalaka lapho ngesikhathi kufika imikhumbi le ixhunywa, ixhunyelwa ukuthi ikwazi ukuhambisa ugesi.
 - Kuzoba imbiko (amareports) azowenziwa ukuthi obani abaqashiwe, ngesikathi kwenziwa leyonto, basukaphi labantu, ngoba kubalulekile ukuthi kube ngabantu abaqhamuka la eMhlatuze, la eSouth Africa kanjalo futhi.
 - Uthi umangabe kungenzeki lokho uKarpowership asekushilo ukuthi uzokwenza, uma kungezeki kuzoba nezinhlawulo njengoba ngishilo.
 - Ngesikhathi sokwakhiwa, ngyadlula lapho. Imsebenzi, abantu abazobe besebenza bawu-200, ngesikhathi kwenziwa i-construction kwakhiwa lamaphayiphi.
 - Ziningi izibalo azishilo, engeke ngize ngiye kuzo ngemininingwane yazo, kodwa khona into bezama ukuyicaza ukuthi mingakanani imsebenzi ezokwenzeka yenziwa uKarpowership, eyenzela umphakathi waseMhlatuze.
 - Kunjalo futhi nezibalo azishilo engeke ngize nhizisho zonke kodwa emnyakeni ewu-20 ngoba isivumelwane abazosi sayina, sizoba eseminyaka engama-20. Kule mnyaka ewu-20, uthi indawo yaseMhlatuze kuzobe kusetshenziswe u-R586M, okusho ukuthi ngenyanga, u-R2.5 M. Angeke ngizisho zonke izibalo, kodwa nawe usungazibonela ukuthi mangakanani amathuba omsebenzi emphakathini wase King Cetshwayo.
 - Uthe ke futhi kuzobakhona nokusizakala eziloleni abasema primary nabasema secondary bazobanikeza imali, ngamanye amazwi kuzobakhona imfundaze kubantwana bazochitha imali engango R3 M. Ama bursary azobakhona. Niyizwile yonke into ayishilo.
 - Okubalekile kakhulu ukuthi umphakathi uzozuza. Wathi ke kukhona ne-sport, kusho ukuthi bazoxhasa kwi-sport ngoba bayazi ukuthi i-sport sibalulekile kakhulu. Bazofaka imali engango R2.5 M.

- Besekuthi abantu abakhubazikile, uma bekhona emphakathini bazohlonzwa, mhlampe mewukuthi abantu abangakwazi ukuhamba, banikezwe ama-wheel chairs labo bantu labo.
 - Kuma-businesses, osoma bhizinisi abancane, imali abazokwazi ukuthi bayifake kubona u-R234 M, eminyakeni yonke le ewu-20 abazosebenza ngayo la.
 - Kube khona nemali mbolekiso, ngamanye amazwi ama business loans. Ngamaye amazwi uyaboleka imali, uqale ibhizinisi lakho kodwa leyomali ngokuqhubeka kwesikhathi kufanele uyibuyisele ukuze nomunye usomabhizinisi omncane oyifunayo imali, ayithole.
 - Kafushane bekuyilokho okukhulunye uEugene.
 - Isikhulumi esiqeda ukukhuluma la, naso sikhuluma izinto ezinjengalezo.
 - Ukunikezelwa kwamakhono abantu, ukuthi abantu bathole amakhono, baqeqeshwe emsebenzini ezobe yenziwa la.
 - Uthi akuzubabikho ingozi ngoba lento, umsebenzi lo wenziwa phakathi ochwebeni. Abantu bahlala ngaphandle kwasolwandle, so abazukuphazamiseka. Kodwa okubalulekile kuzobakhona ukusizakala kakhulu kwezomnotho. Ngiyabonga.
3. RO asked "The people that had questions earlier have you been answered now? I am glad I'm really glad and that's why I wanted us to get to the presentation so thank you for your flexibility."
4. RO asked the other gentlemen "Have you been answered? (the gentlemen indicated no). RO responded - I think you had walked out, David answered them. Oh there was the one for Prof Lwazi and the dangers the major hazard installation risk assessment, which is coming now."
5. **Sphesihle Zulu (I&AP):** "i-Concern yami enginayo kakhulu imayelana nama learnership nama hub; cause I think lana i-majority yethu ekhona lana, I think isi-above (30 years-35 years). So seninkinga la yokuthi izinto eziningi bake beze la but if usu-above 35 years awu-qualify. Of which it means thina the majority, asizokuwathola ngenxa yeminyaka. So besicela ukuthi mhlampe as a company yaka Karpowership, kenizame mhlampe ukuhlongoza leyondaba yeminyaka cause izosishaya kakhulu as amalunga ala e-Richards Bay."
6. **Mr Donda (I&AP):** "Okwami nje ukuzoshaya ihlombe ukuthi lezinsizwa eziza nento enhle kangaka zizosethula umthwalo we-unemployment. Abantu bahlezi la abasebenzi. Bengasebenzi nje, abafundile futhi. Kusijabulisa kakhulu ukuthi kuzonikezelwa ama bursaries kubantu abathi abafundile.
- a. Kade kukhona intombazane la ekhulume kahle kakhulu kade ikhuluma ngendaba yeminyaka lento ekhuluma ngokuthi umuntu uma esena 35 years akasaqasheki, mina ngikhulekela ukuthi lapha kulemikhumbi bangakubeki ezingqondweni zabo lezo zinto. Ngoba uma beya e-America, e-America o-professor bakhona bahlala beze bebe n-100 years' besasebenza. Futhi mawuqashwa akufanele ukuthi ke umuntu enomqondo wokusebenza wena mase uthi ngenxa yokuthi ubengatholanga isikhathi aze abe no 35 years engasebenzi, wena mase usuqasha, mase uthi ngoba eseno 35 akangasebenzi lowo muntu. Uthi akenzeni? Uthi akadleni? Uthi izingane zakhe azifundise ngani.
 - b. Okusho ukuthi ngamanye amazwi kufanele kube noguquko ku hulumeni. Kwayena uhhulumeni akatshelwe ukuthi leminyaka yakhe ayilungile kodwa atshelwe kahle. Ngoba inking isekutheni umuntu enqabe ngoba engatshelwanga lutho.
 - c. Ebese ngiza kulento ekeyathi ukuthinteka ka EIA, Lento yokuthi abantu imkhumbi uzoba nomsindo omkhulu uxoshe izinhlanzi. Izinhlanzi, kukhona abantu ekufana ngibatshela ukuthi izinhlanzi uma zizwa umsindo ziyawubalekela azifi.
 - d. Zingafi nje, ziyasuka ziya endaweni ethile lapho sezifika lapho ziyokwandisana kalula. Ngiyathemba niyazi ukuthi izinhlanzi zandisana kanjani. Ezesifazane zima laphaya ezesilisa zime laphaya, zibukane ngenkathi zibukana, eyesifazane izalela amaqanda, zande kalula, sebezoyidoba kahle ke seziningi.
 - e. Amabusiness, bakwazi baqubeke basebenze because of loadshedding. Umuntu afike afune ilolan

aqale ibbusiness, kube loadshedding, akakwazi ukukhokha irent; bese iland lord ifuna imali yabo. Umuntu usuya victwa from the premises.

- f. Usedayisela uEskom, mhlampe salindelwa amaxabiso aphezulu noma amaphessu ongapaph?"

The crowd applauded the speaker and vocalised their support. RO asked for the translator to be given a chance to translate to give the specialists an opportunity to respond.

Ntombifuthi Jele translated as follows:

7. "Briefly the speaker has applauded the experts that are here today to bring this brilliant and marvelous project. And he is saying that we are sitting here in this area of uMhlatuze with a high rate of unemployment as the previous speaker has indicated that there is an age restriction to say that if you are above 35years you cannot be employed. He is asking you people not to do that, because you are saying if a person is above 35 what must they eat, what must he sit and do? And then after that he is saying about the noise that is said to be going to disturb the fish in the sea, he is saying if the fish hear the noise they don't die they move away from that area. And when they move away they are going to reproduce there, because if you don't know the manner in which the fish reproduce is when the male and the female look at each other. The female produces eggs and that is how they reproduce and so it is not going to be a problem to the fish."
8. **Paul Ngwanazi (NAFCOC):** "Umsebenzi wethu, ukusiza ama businesses amancane ukuthi baqale amabusiness, bakwazi ukuqhubeka basebenze but because of load shedding, sine challenge, there's a big problem because umuntu afike afune iloan aqale i-business, kube loadshedding, angakwazi ukukhokha i-rent; then i-land lord ifuna imali yayo, ayinandaba nokuthi there is load shedding. Umuntu useya evict (wa) from the premises.
- a. Akugcini lapho kuphela, uma ngabe kade ele i-loan, uyicela ngendlu yakhe ngoba akanayo i-collateral. We must remember ukuthi siphuma kuphi la esiphuma khona. La esiphuma khona abanye abanengi benu abanayo i-collateral, abanayo into eyi-security e-bank. Yokubambisa uma uqala umsebenzi.
- b. Ingakho abanengi benu la, njengob anilana abanengi ngiyazi abasebenzi, abanengi abasebenzayo baqala ama bhizinisi, they are struggling. Bancane osomabhizibisi abavelele. This year bengifisa ukuwenza i-Business Woman of the year, but angitholanga muntu. Sinayo i-prize ye-R10 OO but akukho muntu. Angithi niyezwa?
- c. So siyayicela i-powership izo solve (er) izinto eziningi. Number one abasebenzi abanengi abaqala amabusinesses are sturggling bancane amabusinesses avelele.
- d. Nizwile laphana ukuthi kuzoba khona imali uzofakwa ku recreation, nithole amathuba omsebenzi; even training. So thina, nje ngeNAFOC sembambhisile neKarpowership. Sizokwazi ukuthi uma ningixhuma njengo Mkhwanazi, sizokwazi ukunixhuma ukuthi ni-train(we) kanjani going forward. Angithi niyezwa?
- e. Viva, Powership, Viva! Thank you."

RO thanked him for his comments and noted we could take two more questions then we needed to get back the presentations as there were people who are waiting to hear about the fish and also want to understand the risks to human from the gases and the risk of explosions

Ntombifuthi Jele translated as follows:

9. "Briefly what the gentlemen is saying is he comes from NAFCOC they help small business with loans, if they come to them to apply for loans, they start the businesses but because of load shedding the business does not do well, and then after that the person is evicted from the premises because he cannot pay rent for the landlord, and that they cannot pay back the loan that he has applied for, and also that small businesses have been affect because of loadshedding. And he says this project must go on because it is going to solve unemployment and also as you have heard Karpowership is going to give skills development to the community, so he says VIA Karpowership VIVA."
10. **An I&AP (did not give their name):** "Ngibingelela abaphambili etafuleni, ngibingelele abafowethu

esikanye nabo la. Okwami kufishane kakhulu. Njengoba uKarpowership usozilekelela ngokusho kwayo ukuthi zoncipisa izinkinga ze-loadshedding, kuhle lokho. Njengoba uthi uzodayisela u-Eskom, mhlape singalindela amaxabiso aphezulu or amaxabiso nje, ngoba phela okwabo engazi ukuthi kuzobalula, bazobe sebemba lapha eduze.

- a. Bekumele engabe ixabiso ishone phansi. Bese ukuthi okwesibili okubaluleke kakhulu njengoba silapha sinabantwana, kukhona okhulume ngama bursaries. Uma ekhuluma ukhuluma ngama bursaries even nezingane ezisema secondary, lokhu okungavamisile ke.
- b. Ebengikufisa ukuthi basinike kancane i-clarity ukuze njengoba silapha zizosizakala izingane ze-thu, ukuthi senzenjani. Mina ngzoba womunye, if kuwukuthi baqinisile njengoba sila, sizocela ukuthi si-apply(eyele) abantwana bethu, sibone ukuthi bayasiphendula. Ngiyabonga."

Ntombifuthi Jele translated as follows:

11. "The question briefly was as Karpowership have said they are going to sell electricity to Eskom, are the rates going to be high or low, and then he is saying he has heard there is going to be bursaries for secondary learners, that is a good thing, and it is rare. And he is asking if that is true, how they are going to go about applying for their children because he is one of the people that will be applying for his children."
12. **Sizakele Mpanza (Kwesakamthethwa):** "Umbuzo wami uqondana noDavid, ngcela ukuba ukuthi mina banayiphi i-secure ukuthi uEskom uzobakhokhela ngoba uEskom uyenyeyama companies ane-corrupt e-high. Asizukuzithola yini sisenkingeni yokuthi sinenkinga yokuthi bona (Karpowership) bayawudayisela ugesi u-Eskom kodwa ungabakhokheli. Akuzuba nenkinga yokuthi kuzofanele kunqanyulwe ugesi?"
13. **Vanessa Gwcabela (Zululand Chamber of Commerce Industry) commented:** "I come from the Zululand Chamber of Commerce and Industry. I think that from the Chamber we have been engaging with Karpowership, I think we have made our position very clear in terms of where we are. We are very supportive of the project. In terms of the gaps identified, we did indicate where we feel that there is additional information that needs to be provided, however, we are quite excited about the engagement. We pleased that the community is able to hear from the horse's mouth and that they are able to raise their own questions. I think a few things from our side as the chamber. We are custodians of the business community in Richards Bay, so as custodians of the business community in Richards Bay it is very critical that we stand for the rights and the benefits of the business community (Her speaking in English ended here). [RO indicated to Vanessa that she was welcome to speak in isiZulu so the stakeholders would be able to understand]
 - a. So into ebaluleke kakhulu ayishilo, othi ngikhulume ngesiZulu kukhona sizozwa sonke. Into ebalulekile kakhulu is that we caution u-Karpowership sibcebise ukuthi bafunde from other companies that are already here, amaphutha awenziwe ilezo nkampani. Ukuze bengezukuphinda lawomaphutha futhi nabo uma befika.
 - b. Two, kubalulekile ukuthi umphakathi wazi ukuthi what is it that they stand to benefit, ngoba for iskathi esiningi ama-companies uma efika bathembisa abantu umsebenzi, mase sebefikile bese umphakathi kuba iwona futhi osume ema- gate (ini) usuyocela umsebenzi sebe demand(er) ingasabonakali imisebenzi.
 - c. So in short I am saying it always looks good on paper, so we are cautioning Karpowership because at the end of the day we have seen things happening in this city, or this district or this area, and we don't want to see those things happening again, and again, and again, so we are saying learn from those that have done it before. Benchmark from the companies that are already operational in this area, see where the issues are. Some companies have been here for over 60years, but they are still having challenges with community so you have got to ask yourself, why? And you learn from that why. And two. We do not want to see a situation where businesses in this area are not prioritised when it comes to opportunities, which is

happening currently. And we don't want to see those things because in the end then you remind people of this day. So 3years from now we don't want to come back and say to you, but remember when you presented, you said 1, 2, and 3. So remember what it is that you are sharing with the community because they will hold you accountable. And then lastly, I think I looked at the numbers, I would have liked to because of time, but I have to go now, I would have liked to go back to the slide that was presented that talks to numbers. As the chamber we are not 100% happy with those numbers. But obviously it is something that can be revisited that we can discuss in detail when the time is right. So I think on that note, it is important, because things like, projects like Karpowership, they are here for 20years, 25 years, but also is important for us as the community of Richards Bay.

- d. Ukuthi sibuke ukuthi after 20 years, bebehamba sisalanani?
- e. Because they would have collected their revenues, and then when they leave, so sustainable development is also critical. So for me I think that is it for today. Thank you."

RO "Thank you, you raised some valid points, in terms of learning, and thank you for the key points to take into consideration. Ntombifuthi there was a lady that asked a question would mind just summarising so we can get to the answers."

Ntombifuthi Jele translated as follows:

- 14. "Yes briefly she was asking, as Karpowership is going to sell electricity to Eskom, and the concern is there is too much corruption at Eskom. How are you going to be sure that when you sell electricity to Eskom, Eskom is going to pay the money. And is there not going to be a problem when Eskom does not pay you the money."
- 15. RO noted: "Thanks Ntombifuthi, and I just want to make clear, and perhaps Ntombifuthi you can make clear, that some of the questions that get asked, we might not be able to answer right now. Like the lady was asking the Chamber wants to have more engagement around the numbers, she would like to see the report a little bit more clearly. So some of the stuff we can't answer right now, we need to take it back and we need to, got to a specialist, like we need to go back maybe and see what it says around the 35 years age. We need to maybe go back a talk and come back with a good answer and not just a quick answer."

Ntombifuthi Jele translated as follows:

- 16. "Okay, akushoyo la ukuthi eminye umbuzo ebuzwayo la njengale ndaba kasisi obuze ukuthi umuntu masekuthiwa una-35 years kwezinye izinkampani akaqashwa noHhulumeni akaqashi mase ukuleyo minyaka leyo; imbuzo abangeke bekwazi ukunikeza izimpendulo ezisheshayo, imbuzo ekufanele babuyele kuma specialists laphayana kuhlalwe phansi kudingidwe mase bekwazi ukuthi babuye nezimpendulo ezicacile".
- 17. **Curtis Meintjies (Karpowership):** "I just want to maybe answer maybe a couple of questions, talk to a couple the question around whether we will look at over 35s, we won't discriminate in the project. But what there is, is there is a focus on women and youth, but we won't discriminate. So we are not saying to the guy, to anybody over 35, no we don't want you. That's the first thing, the second thing is there is going to be a lot of focus on skills development. Not just skills for us, but skills to also make people a little bit more marketable so that they can get jobs a little bit easier. There is also around that a lot of people, like people who are welders, got a lot of experience in welding. But maybe he doesn't have the paperwork. So, we will be helping those people as well, so that they can also go and sell their skills a little better, because that is what companies want to see. So we are not promising the world but we are just promising simple practical things that we can deliver that can help people also, so it is not just about us. Like Vanessa was saying, it needs to be sustainable, if Karpowership leaves that you can still see that this is what Karpowership left behind in the community. So skills and education is very important, not just for what we need, not for the wider community. So it is not just about us, it is about the community itself."

18. Ntombifuthi Jele translated as follows:

“Akushoyo, isikhulumi sithi:

- a. Ngalendaba yeminyaka abazucwasa ukuthi wena usuneminyaka engaphezu kwa35 asikuthathi kodwa bazobe bebhekela kakhulu abesifazane nezingane, kodwa abazucwasa muntu kulokho.
- b. Okunye futhi akushoyo okubalulekile ukuth amakhono; ukuthuthukisa amakhono iyona into abazoyibheka kakhulu, nokuthi uma ngabe kuthiwa mhlawumpe uwumshiseli i-welder kodwa awunawo amaphepha ashoyo ukuthi wena uwumshiseli, ususebenze iminyaka emingaka. Into abazoyenza ukuthi bazobheka leyomnyaka leyo, lento ekuthiwa i-prior learning acknowledgement ukuthi uke wasebenza ngaphambilini lomsebenze; bese bona bekuthuthukisa kulowo msebenzi uthole amaphepha awo ukwazi ukuzimaketha kangcono ngisho nakwezinye izinkampani”.

- 19. David Clark (Karpowership) responded:** “A couple of quick ones from me. There was a question about how the price you pay to Eskom may be affected. I think the important point here is we don’t set the price NERSA will set your price, OK. The only thing I can tell you is that part of this programme is all 3 of our projects were significantly cheaper, than the average price that all of the projects offered. So you can take my meaning from that. We are not an overly expensive project. But that price is set at NERSA level and Eskom is the one that charges you. It has nothing to do with our project. The other question is one we spent some time on before bidding on this project, what happens if Eskom doesn’t pay? We know that Eskom is in some financial trouble at the moment. But, we looked at it holistically, and we believe in this country. There are some government guarantees on the payment. But if Eskom does get to the situation where they can’t pay. Then we give time. We aren’t a company that is just going to say ok you didn’t pay last month that’s it no more electricity for you. No we are committed to the country, and we will continue working with them to make sure we deliver. And that’s all I can say really”.

Ntombifuthi Jele translated as follows:

20. “Ukuphendula umbuzo, othe bazokhokha kahulu abantu mhlampe mase bethenga ugesi noma kanjani? Uthi kuma projects awu-3 abewenzileyo, abasibona abantu aba-charger kakhulu. Bona bangabantu aba-charger nje kancane, nanokuthi uma uEskom engabakhokheli bayokwenza kanjani, angeke kubekhona inking lapho? Bathi bayazi njengamanje ukuthi vele u-Eskom usezinkingeni ngokwezimali, kodwa abayukusho ukuthi kulenyanga le ngoba anikhokhanga angeke sisaninikeza ugesi. Bazokwazi ukuthi bamubekezelele (u-Eskom) bamunikeze isikhathi ukuthi bangasebenzisana kanjani ukuze abantu okuyibona abazinikele kubo, okuyizwe bayawuthola ugesi ngendlela efanelekile.”

RO: Thanks Ntombifuthi. “We are half way through the Agenda. We have looked at the project context, we have looked at the human aspects, social and economic. We are now going to look at a lot of the environmental, we are going to look at climate, land, air, and then we are going to look at the sea. We will have four presentations and then another block for discussions. If you are needing to leave, if you are needing to go to children as I know it is coming time when children finish school, if you are needing to leave, you are welcome to, please make sure you put your name on the register. And if you have got a question that we haven’t answered, please write it for us so that we can get an answer to you. We do know that people do have families and they do have commitments. I am going to hand over to Robbie who is going to do Climate change. We are going to do four presentations and then questions.”

10. CLIMATE CHANGE (ROBBIE LOUW (PROMETHIUM))

[below is an overview of the text / slides presented]

Opinion:

1. Lifetime emissions 31 MtCO₂e (runs at 100% contracted capacity);
2. RMIPPP RfP states that the power from the plant must be dispatchable at required of the grid operator and requires that the plant bid into this program must be capable of stable operation at

25% of the contacted capacity. If the plant is run according at a 25% output, then the lifetime emissions will be 7.7 MtCO₂e;

3. Noting all impacts related to the Project, it can be considered to have a low positive impact. Despite having a high intensity impact from operational emissions, the project enables significant reductions through avoided emissions and enabled renewables. Furthermore, it allows for economic development to occur by providing dispatchable power onto the grid which is critical for the economy
4. Methane emissions related to this project have been considered, and are included and referred to under the carbon dioxide equivalent (CO₂e);
5. In accordance with the findings of this assessment, we advise that the proposed Karpowership Project at the Richards Bay Port should not be refused environmental authorisation based on climate change related issues.

10.1. Robbie Louw (Promethium) Presentation

1. "I've only got a few slides and the one gives you a little bit of background on climate change and the impact of this project specifically in the climate change effects that this community will feel. The other slide gives a very brief summary of the actual contribution the project makes to climate change.
2. I apologize for the people looking at the other screen, I can only point at one". [RO used the computer mouse to point at the screen to allow both sides of the room to see what Robbie was pointing at].
3. So when you look at the project that's implemented in the Richards Bay area, you look on the other hand at the local climate change impacts that this community will feel; we know that there's a concern that the implementation of the project in the region, may contribute to the climate change impacts that the community will feel. We've had responses where people said they're very concerned about it, so we thought it's good to just explain how it works and what the contribution is.
4. This project emits greenhouse gases, the main greenhouse gas it emits is carbon dioxide. We sometimes too lazy to call it carbon dioxide and call it CO₂.
5. Carbon dioxide is what everybody in this room breathes out. When we breathe in air we go [demonstrated breathing in] we take in oxygen. And when we breathe out [demonstrated breathing out] we breathe out we breathe out carbon dioxide. So, this project is not unique. It will not contribute anything to this environment that we as humans don't already contribute to the environment.
6. The question is what happens to that carbon dioxide? The wind picks it up, the wind blows all around the planet and this carbon dioxide that the project creates, goes into the global atmosphere. So, the air circulates all around the atmosphere, the wind comes from the sea and goes to the mountain, and everything circulates.
7. What happens to the CO₂ in the atmosphere, is it contributes towards the greenhouse effect. The greenhouse gas effect is very much like putting a blanket over the earth. So you know that if you lie in bed and you're cold, you put a blanket on and you count to ten, you're not warm yet. You've got to wait 5 or 10 or 15 minutes after you put the blanket on before you get warm. If after 10 seconds you're not warm and you put another blanket and another etc., by the time you start feeling the effects of the blankets, you will be way, way, way, way too hot. That's what happens with climate change.
8. The greenhouse gas effect is like putting a blanket over the earth. The only difference is it doesn't take ten seconds or 5 minutes to heat up the earth, its takes decades, 10-30 years. So we don't know yet the effect.
9. So what happens is we get a global energy imbalance which basically means the earth gets hotter because there are more "blankets" on the earth that gives us global climate change impacts which is very bad.
10. As part of that global climate change impact, we've got local impacts. The important thing here is that the contribution of the amount of carbon dioxide we make to the global atmosphere is a very, very, very, very small fraction. It's one drop in the ocean. The amount of carbon dioxide that already sits in the atmosphere is the accumulation of the last 200 years of human activity. So this amount is just one drop in the ocean. So if you go and you say, don't throw a bucket of water in

the ocean because the sea level will rise. People will tell you, that's not how it works, one bucket is not going to make the sea level rise. In the same way the carbon dioxide that comes out of this project is not going to have a direct impact on the local climate change impacts. I think that is important to note.

11. The slide on the real contribution this project makes to the global climate change. First of all the total amount of CO₂, you will see we talk of CO₂ E – that “E” is equivalent because there are some other gases as well. The contribution of the project over the 20 year life, if and only if the project runs at 100% of the contracted capacity, is 31 million tons of carbon dioxide per year. But that 100% is very important point because the request for proposals to which Karpowership responded only asks that the project guarantees the project will run at 25% which is one quarter of the output.
12. The rest of the power is available when Eskom demands it. So what will happen now is Eskom will say 1 PowerStation is down, so rather than going to stage 4 load shedding, they will phone Karpowership and request more power, then Karpowership turns up electricity in the power ship, then we don't have load shedding, then there is a little more CO₂ going out to the atmosphere”.
13. “If the plant operates at 25% output, then the total contribution of CO₂ into the atmosphere is only 7.7 million tons.
14. Something else is very important is that we all know we need to stop burning coal to make electricity. One of the ways to not burn coal is to put in solar and wind. But solar and wind, you only get power out of the PV panel when the sun shines and you only get power out of windmill when the wind blows. You can have clouds in front of the sun, the wind can still blow. When that happens and it happens fairly fast, what then needs to be happening is you need other sources of electricity to come onto the grid fast enough to compensate for the cloud that moved in front of the sun. The coal powered power stations that Eskom currently have cannot do that, but gas fired powered plant can do it.
15. The bottom line is when this project is implemented, it increases the amount of load following, generation capacity in the grid with very good load following capability and therefore this project actually enables more what we call intermittent renewable energy that's more solar and wind onto the grid. So the project makes a positive contribution to the South African emissions by enabling that.
16. Then there were quite a lot of questions about methane emissions. I would like to make a comment that the life cycle emissions associated with the production, the extraction and the transport of methane is actually being calculated into that 31 million tons and that 7.7 million tons. So we've had some comments where people say, but you didn't account for the leakage of methane but it actually has been accounted for.
17. Finally our recommendations for this project is that climate change should not be used as an excuse. The fact that gas is a fossil fuel and that globally we have to move away from fossil fuels that should not be used as an excuse to refuse the project's environmental authorization.
18. “This project actually makes a positive contribution towards the fight of climate change with respect to the fact that gas is a cleaner fuel than coal and by enabling an increased penetration of intermittent renewable energy in the grid. Thank you.”

There was a slight rustling of papers and a disturbance in the audience. RO noted that she was aware that comment sheets were being passed around, and asked people to make use of the sheet if they would like to make a comment or ask a question with regards to the project. If people are not able to get one now, it is ok, there are more sheets outside at the door and people are welcome to get them after the meeting and it is for you to write a note to the project, a question or a comment. Rose asked that when the speakers are speaking, she is aware people are excited to get a comment sheet, but to please keep the noise down to allow everyone to hear the speakers. Rose asked the team to reserve the comment sheets for after the meeting as it is very disturbing for those in the meeting trying to listen to the speakers and get the information. The next presentation was an audio file over a slide presentation regarding noise.

11. TERRESTRIAL NOISE (DR BRETT WILLIAMS (SAFETECH))

[below is an overview of the text / slides presented]

[The audio was not very clear at first and the AV support had to reconnect to ensure the audio was audible. Rose restarted the slides to ensure all heard the audio file].

1. PhD in Environmental Management;
2. Registered Occupational Hygienist with the identification of noise stress and management thereof as part of the qualification requirements;
3. SANAS Accredited Inspection Body including Noise ;
4. 30 years' experience;
5. Conducted many noise impacts assessments for clients that produce energy;
6. The field study results showed that the ambient noise levels in the area of the proposed development was 45dB (A);
7. The closest noise sensitive areas may not experience any noise impact as the noise from construction could be masked by the ambient noise from the other port operations;
8. The noise impact associated with the operational activities of the project is predicted to be of Low significance after mitigation;
9. The construction related noise impacts will be of Low significance;
10. From a human perspective there does not appear to be any significant noise impacts.

11.1. Dr Brett Williams Presentation (via pre-recorded audio file played with slide presentation)

1. "Good day, my name is Brett Williams. I'm from SafeTech. We have been tasked with assessing the noise impact on the human receptors around the proposed project.
2. We've got 30 years' experience and we've done many noise impact assessments.
3. The full study shows that the ambient noise levels around the development is around about 45dB.
4. The biggest noise is from the current operations within the Port.
5. The closest areas may not experience any noise impacts from the construction, as this could be masked by other ambient noise from the port operations.
6. The operational activities will be of low significance as well as the construction noise.
7. So from a human perspective it doesn't appear to be any significant noise impact.
8. If you look at noise sensitive area 2 (NSA2) that's within the port that's already disturbed by the current activities, as well as NSA1 which is an industrial area. The residential areas of NSA3, NSA4 and NSA5 are also expected not to be significantly disturbed.
9. So from a human perspective, we think that there won't be significant noise impacts. Thank you."

RO explained using the pointer on the screen so stakeholders could identify Brett Williams was talking about, that if the area that wasn't coloured in the map, you won't hear any noise from the project. For example there is no noise from the ship at the small craft harbour, or at Alkantstrand Beach There is noise in industry near the factory, and that is where the noise will be and it is not going to be any louder than the harbour already is.

12. AIR QUALITY (MARK ZUNCKEL (UMOYA-NILU))

[below is an overview of the text / slides presented]

1. Baseline
 - Data from RBCAA was assessed from 1997 to 2020;
 - There are a number of major SO₂ sources in Richards Bay. The long record indicates a slightly upward trend in ambient concentrations, but from 2013 to 2017 a significant downward trend is observed;
 - Long term monitoring shows annual average for SO₂ are below the NAAQS, with occasional exceedances of the 24-hr and 1-hr limit value at some stations, e.g. Harbor West and Scorpio;
 - Annual average NO₂ concentrations complied with the NAAQS, but some exceedances of the 1-hr limit value at Brakenham;

- There are a number of major sources of particulates in Richards Bay but it is important to note that particulates are regional pollutants and background PM₁₀ concentration is relatively high;
- Annual average PM₁₀ concentrations complied with the NAAQS, but some exceedances of the 24-hr limit value at eSikhaleni;
- There has been a significant increase in the number of complaints concerning the deposition of coal dust in September 2022 from Arboretum, Alton, Birdswood, Veldenvlei, amongst others. The major source of the coal dust is the Richards Bay coal terminal;

2. Emissions

- Emissions result from electricity generation, FLNG, LG carriers;
- LNG is a very clean fuel containing almost negligible sulphur and particulates;
- Combustion of LNG therefore results in very low SO₂ and particulate emissions;
- NO₂ emissions are controlled at source using selective catalytic reduction;
- Emissions are very low and well below the Minimum Emission Standards for gas combustion.

3. Predicted ambient concentrations & impact assessment

- Maximum predicted concentration of SO₂ and PM₁₀ are < 1% of the NAAQS;
- Maximum predicted concentration of NO₂ is < 4% of the NAAQS;
- Maximum concentrations predicted to occur within 2 km of the project, downwind on the prevailing wind NE wind, elsewhere predicted ambient concentrations are very low;
- Contribution from the Karpowership project to ambient SO₂, NO₂ and PM₁₀ concentrations is very low and the cumulative effect is highly unlikely to result in exceedances of the NAAQS, even at the point of maximum predicted concentrations;
- The significance of the impact on ambient air quality is predicted to be very low.

12.1. Mark Zunckel (uMoya-Nilu) Presentation

1. "Good afternoon everybody. The focus of this presentation is ambient air quality. Ambient air quality is the air that you're exposed to. We all understand the environment in Richards Bay, there are large sources of air pollution. The Richards Bay Clean Air association has actually been very, very helpful in collecting ambient air quality data for going all the way back to the 90s to 1996-1997.
2. So it's one of the areas where there's really good data record. We've analysed that data to try and understand firstly what is the baseline air quality, what are you currently exposed to and then we looked at Karpowership and what does Karpowership do on top of the baseline. Is it going to make a difference?
3. So we had a look at all the information. They monitor SO₂ (sulphur dioxide). SO₂ mostly comes from combustion of fossil fuels. Fossil fuels contain sulphur, when you combust, when you burn sulphur it gives off SO₂.
4. The SO₂ records have shown that the long term averages are consistently below the national ambient air quality standards. The national ambient quality standards are health based standards. If a given concentration is below the national ambient air quality standards, the theory says that there should not be an effect on human health. If it's above, there is a risk.
5. So for SO₂, generally ambient concentrations, although there are a number of SO₂ sources in Richards Bay, all the large industries who burn fuel, the ambient SO₂ concentrations are generally lower than the ambient standards. There are some exceedances at places like Harbour west and Scorpio. The stations that are more in the active industrial areas.
6. Particulate matter is another pollutant of concern. There's a lot of sources of particulate matter in Richards Bay and in the larger areas. Industrial sources, natural sources such as dust off roads, sugar cane burning and all those sorts of activities.
But those two, the longer term records for particulate matter (PM₁₀ is a small particulate matter, small enough that you can inhale it) the longer term records show that particulate matter is generally lower than the national ambient air quality standards, but there are occasions where the standards is exceeded, but not for long periods of time.
7. An important thing to note is particulate matter concentrations are generally high along the whole east coast. From East London, right the way through; because of the transport of particulate off the industrial interior."

[There was a lot of movement of people and noise in the room, Rose apologized for interrupting Mark, but explained that she wanted to give those that were ready to go and felt they had the information they need a chance to go because there was a lot of disturbance that may impact on those that still wanted to hear the information presented, if people would like to leave it is not a problem. No one is holding you here. if you want to stay great. If you would like to leave, we will take a short break to allow people to leave. If you want to stay it is great, we would like you here, there will be discussions after the presentations. Rose asked the Karpowership team to hand out comment sheets outside so as to not disturb those in the meeting. it is an important presentation; the issue of air quality is important to the people of this community.]

Mark Zunckel Resumed

8. "The gist of what I've been going through is that despite the number of sources in Richards Bay, the long-term records show that ambient air quality is acceptable and is generally well within the ambient air quality standards.
9. If we look at the next slide, you ask the question what Karpowership is going to add to the existing air quality. Karpowership is going to burn a fossil fuel, it's going to burn LNG (liquid natural gas). LNG is a very clean fuel that has very little sulphur. And when you combust it, it's not like coal and all the smoke you see or wood, when you burning the hard fossil fuel, the smoke and stuff you see is particulate matter. So it's very low in the emissions of sulphur dioxide and very low in emissions of particulate matter.
10. The NOx, the Oxides of Nitrogen, emissions result from the combustion process from the thermal combustion process of the gas and those are mitigated at source.
11. The emissions of those pollutants are well below what the government sets as minimum emissions standards for the processes.
12. What we do then as specialists is we take those emissions and we put them through a model, and we predict what the ambient concentrations are going to be like in the ambient environment. Our predictions are that Sulphur dioxide (remember it's below the national ambient air quality standards currently) at the point of maximum predicted concentration, adds less than 1% to what you get, what you experience already.
13. The same can be said for particulate matter i.e. PM₁₀. The contribution with current instrumentation, you won't even be able to measure the difference because of the project.
14. Oxides of nitrogen, remember they're mitigated at source. Their added contribution is less than 4% of the national ambient air quality standards.
15. So the contribution from Karpowership is highly unlikely to result in any exceedances of the national air quality standards. I believe you won't measure the differences and the significance of impact on ambient air quality the air that you breathe is going to be low.
16. "Thank you".

Rose thanked Mark and informed the meeting that the next presentation is the Major Hazard Installation. After that, it will be a segment for questions.;

13. MAJOR HAZARD INSTALLATION (CLAUDE THACKWRAY (MHR CONSULTANTS))

[below is an overview of the text / slides presented]

1. MHR Consultants – operating for 16 years
 - SANAS Accredited for Assessment of Risks on Major Hazard Installations;
 - Registered with Department of Employment and Labor to undertake Type A Major Hazard Risk Assessments;
 - 37 years' experience in Oil & Gas Industry;
 - Over 1000 Risk Assessments conducted internationally;
 - Major clients include: Total, Afrox, BP, Engen;
2. Conducted MHI for Port of Richards Bay in 2017;
3. Conducted MHI for Ship to Ship Transfer of LPG in the Port of Richards Bay in 2019 and again in 2020;

4. Consequence were calculated using the computer software “effects” by TNO in the Netherlands;
5. The risk calculations were made using the computer software “Risk Curves” by TNO in the Netherlands;
6. Risk Assessment was conducted as per SANS 1461:2018 Codes of Practice;
7. Report includes: Local By-laws & NPA No. 12 of 2005 Part C;
8. From the modelling and assessment LNG operations pose a very low risk;
9. It is one of the safest fuels and the risk is much lower than the LPG risk assessment concluded for the Richards Bay Port Terminal;
10. To put the risk into perspective:
 - It is similar to that of an ordinary gas pipeline and connection at a domestic;
 - There is a higher possibility to be struck by lightning and succumb to injuries.

13.1. Claude Thackwray (MHR Consultants) Presentation (via pre-recorded audio file played with slide presentation)

1. “My name is Claude Thackwray of MHR Consultants and we conducted this MHR Risk Assessment. We have been operating for 16 years. We are SANAS accredited for the assessment of risks on Major Hazardous Installations.
2. We’ve previously conducted MHI in the port of Richards Bay in 2017 and the Ship to Ship transfer of LPG in 2019 and 2020.
3. The process for the operation is that the delivery ship off loads LNG into the LNG storage ship. The LNG storage ship declassifies the LNG. The natural gas is pumped into the Powership that generates power to be supplied to the Eskom grid.
4. This Risk Assessment was conducted as per SANS 1461:2018 Codes of Practice.
5. The report includes the By-Laws and NPA no.12 of 2005 part C.
6. The results of the assessment identifies a scenario that contributes the most towards the risk is that of the rupture of the transfer hose
7. The risks of the operation are found to be acceptable for the port and normal operations can continue at the other berth while LNG is being off-loaded.
8. The findings from the modelling is that the 1 in 10 000 red contour is confined to the two ships, 160m around the hose connections. The 1 in a 100 000 contour which is the orange contour stretches out for 230m from the hose connections, the 1 in 1 000 000 contour which is the contour that is the maximum that the normal working population can be exposed to stretches out for a distance of 295m from the hose connections. The 1 in 30 000 000 contour which is the green contour is the maximum that you are allowed to expose for the sensitive population. That contour stretches for a maximum of 310m from the hose connections and does not reach any of sensitive populations.
9. In conclusion from the modelling and the assessment, the LNG operations pose a very low risk. It is also one of the safest fuels, the risk is much lower than that of LPG.
10. The LPG risk assessment concluded for the Richards Bay Port Terminal ship to ship transfers were a lot higher.
11. To put the risk into perspective; it is similar to that of a gas pipeline in Gauteng that connects to a domestic homes and businesses.
12. There is a higher possibility to be struck by lightning and succumbing to injuries than there is to be injured at one of these sites.”

13.2. Climate Change / Terrestrial Noise / Air Quality / MHI Risk Assessment Discussions

Rose thanked everyone for their patience and asked those that would like to ask questions to make use of the microphones available. She asked Sibusiso if his question he had earlier on was answered or if he had a follow up question?

[He indicated to Rose that he still required a response from Prof Lwazi, he was offered an opportunity to take the microphone again and restate his question to which he declined].

Ntombifuthi Jele translated as follows:

“Ngizofinqa ukuthi kuthiwe umsindo uzoba ngakanani kithini ngaphandle kolwandle uma sekusethsenzwa kule projekthi.

Kafushane ubeke ukuthi njengoba i-projekthi izobe isebenza ngaphakathi olwandle, thina esingaphandle esisemzini yethu, mhlampe nase dolobheni, umsindo ngendlela ophansi ngakhona awuzukusiphazamisa. Isikhulumi sesibili sikhulume ngokuphazamiseka komoya. Wathi angithi ziningi vele izimboni la e-Richards Bay, ezikhona eziphazamisa umoya; kpdwa le projekthi muncane kakhulu umonakalo engabanawo uma ngabe ukhona.

Ngicabanga ukuthi ilezizinto ezibaluleke kakhulu.

Namazinga omthelela kokufudumala komhlaba lokhu okuthiwa i-global change, muncane kakhulu umthelela ovela kule projekthi kulokho.”

Prof Lwazi Ngubevana (Noqazo Group) addressed the question asked earlier:

1. “There was a question that implied that abahlali [residents/people] South Africans do not want gas to power. I want to first maybe explain khuti this process, why we’re here namhlanje [today], is to consult for that very reason. So, no, South Africa has not said “no” to gas-to-power. This is part of the engagement process.
2. Now there will be South Africans who are opposed to gas-to-power and that’s okay. It’s their legal right. It is their, constitutional right. But, this is part of the process.
3. There is no decision in South Africa that says “no” to gas-to-power. I want to make that very clear. And this is part of why we are here.”
4. Secondly, I put up a couple of slides and one of them was showing the usage of oil and gas across the world and I made a point to say that the people who are highly opposed to South Africa as a country to using oil and gas and coal, oddly enough are doing the exact opposite. You’ve seen the numbers, what they are doing and what they have done previously as well as what they are doing now and what they are looking to do in the future, using more oil and gas to power their economies.
5. I even made the point that they are even importing more coal from South Africa and they are reopening many plants across the world. You look at Europe right now, they are issuing hundreds of licenses for gas exploration, for their economies, to support their economies, to make sure their economies grow. But they are the very people who are funding studies and make it clear in their terms of reference of those studies that they want gas vilified in South Africa.
6. This is public information. I’m not making it up. Those are the people who are campaigning to make sure that South Africa does not get the power that it deserves.
7. I will stop there. I hope I have answered your question.”

Robbie Louw (Promethium) followed up:

8. “Just a very brief comment that Eskom has a gas-to-power project here at Richards Bay. The environmental authorization was granted. It was appealed. One of the grounds of the appeal was that natural gas is a fossil fuel and it should not be granted the environmental authorization on that basis.
9. The judgement of that case came out about a month ago. The judge ruled that, that is not an argument and that the environmental authorization should be maintained. In other words the appeal was rejected.
10. So there is a court judgement in South Africa that says we can actually have gas-to-power plant even though gas is a fossil fuel.”

Rose asked that if anyone feels that they have not been answered, they must feel free to put a detailed comment through to the team, as she did not want anything to be lost. So, a detailed comment to the team so that we may come back to you and really drill down and get to grips with your question it was important that those questions are heard and responded to. Rose asked the next stakeholder to state their name and ask their question.

11. **Erick Hlongawane:** “Sanibonani. Cha bafowethu mina ngizobeka njengombono hhayi umbuzo.

- a. Ngicabanga ukuthi mina njengami, ngingancoma kakhulu umsebenzi ozokwenziwa u-Karpowership e-Richards Bay. Mina ngiwu Erick Hlongwane. Ngiyingxenye yabantu bala e-Richards Bay abasosizini lento eyenzakalayo e-Richards Bay.
- b. Ngicabanga ukuthi bafowethu kunesikhathi lapho khona iqiniso kufanele silimele singalibalekeli.
- c. Njengoba silapha, umuntu nomuntu uyena ozaziyo ukuthi uphila ezweni elinjani. Emakhaya esisuka kuwo sinenkinga kagesi. Endaweni esihlala kuyo sinenkinga yamathuba emsebenzi.
- d. Uma zonke lezizinto singezukuzibuka mese sizibheka, sizolokhu sahlala singama beggars abanye abantu.
- e. Ngicabanga ukuthi into eza no-Karpowership, iyonanto ezosenza noma ubani ohlala e-South Africa noma e-Richards Bay, eyibone into yokuthi ifike yenza luphi ushintso.
- f. Kumanje njeuzothola ukuthi ugesi uhhamba ngokwama stages, uzothola ukuthi akukho la ugesi ohla khona. Kunabantu abeza ne-solution yenkinga esibhekene nayo. Mese kuba khona abantu abafuna ukuphikisa leyonto endaweni yabantu abaxakekile.
- g. Okokuqala abantu abasebenzi, u-Karpowership uza nezinto eziningi ezizolekelela umphakathi wakithi.
- h. Okwesibili abantu abanawo ugesi. Ugesi esingenawo abantu baqhamuka ne-solution yokuthi sizophela enkingeni yobubha buka gesi osehlule uhhulumeni wethu for years. Yingani abantu njalo lapho kufanele engabe balwela into ezosiza bona belalele abantu abaseceleni abangekeke bebasize ngalutho?
- i. Abantu abakhala ngokuthi kuno fishi lapha abaphazamisekayo ngabelungu, okuyobona abagcina besebenzisa ofishi. Asenzilutho thina ngo-fishi. Kodwa ekugcineni kufanele ingezi intuthuko kubantu abamnyama ngenxa yabantu abathi kuzofa ofishi. Sitholani ngo fishi abasolwandle uma kuwukuthi bayaphazamiseka.
- j. Le projekthi ikhona kwezinye izindawo ayiphazamisi fishi, pho izoba phazamisa kanjani mase kulapha e-Richards Bay. Musani ukudlala ngathi bafowethu.
- k. I-projekthi siyayifuna. Ukuba kuyangathi, ngabe seyiqalile le projekthi ukuze kunciphe ububha e-Richards Bay.”

[The audience applauded and voiced their support for the comments made.]

Ntombifuthi Jele translated as follows:

“The gentleman is saying that he is very glad. He is part of those people who are saying this project is going to solve many problems that are affecting the communities in this place. First of all there is problem of load shedding at home, or in the houses where they stay, in the community there is unemployment. Karpowership is coming here to solve all those problems. He is asking why, if there is a company that’s coming to solve problems, why is there always people who are opposing that. He says it is high time that we realise our problems and face them, because if we don’t face them, we will continue or we will remain in poverty. He’s also asking why people are interested in fish because them as residents of the area, are not benefiting anything from fish. It is only the minority of people who are benefiting from the fish. He was saying if it was according to him, this programme would, it would be better if it have already started. He is reiterating that the program must start as soon as possible.”

Rose asked Ntombifuthi Jele to translate the response from Prof Lwazi.

Ntombifuthi Jele translated as follows:

“uProf Lwazi ubephendula indaba yokuthi kuke kwaba khona isikhulumi esithe abantu base South Africa abayifuni indaba yokuthi sithole ugesi osuselwa kwi gas.; wathi cha, akubona abantu base South Africa abangafuni ukuthi kwenziwe njalo.

Isizathu sokuthi sibe lapha namhlanje ingoba kufanele kuxoxwe nomphakathi kuboniswane ukuthi umphakathi ucabangani ngale projekthi. Kungakho namhlanje sila, kuzoxoxiswana ngalokhu.”

14. MARINE TRAFFIC AND THERMAL PLUME (SEAN HAYES (PRDW))

[below is an overview of the text / slides presented]

1. PRDW: is a company that specializes in auto-personal engineering. They have conducted two studies, a marine traffic study and thermal plume study. Going to start the presentations by going through the marine traffic study.
2. To quantify the present and future vessel traffic at the site and identify possible areas of congestion.
3. The methodology we used is the estimated current and future traffic volume based on an analysis of traffic and cargo demand projections
4. Analysis of port vessel arrival data to define vessel slot hours for vessels arriving and departing the port.
5. The outcome showed that LNG vessels only represent 1% of the 2051 vessel traffic slot durations and will not add significant congestion within the port
6. The port is forecasted to have approximately 41% and 12% spare slot capacity in 2021 and 2051 respectively.

Thermal Plume

7. Closed-loop FSRU will be utilized and there will be no discharge of hot or cold seawater from the FSRU. Therefore for the thermal plume study, only the Powership was considered.
8. For modelling, we used A calibrated 3D hydrodynamic model was used to predict the extent of the thermal plume in the sea.
9. No constituents, such as chlorine or excess salinity, are added to the cooling water discharge.
10. Seawater used for cooling the power generators on the Powership results in seawater being returned to the sea at a maximum of 10 to 15°C warmer.
11. Model simulated the Powership operating at 100% load for 24 hours per day, while the Powership will only operate for 16.5 hours per day.

Outcomes:

12. The results show that a smaller footprint of temperature increases is achieved when discharging at a deeper depth below the water surface.
13. When the cooling water is discharged 8m below the water surface the maximum T at a reference point in the model is 1.3°C at a distance of 100m from the Powership, 0.3°C above the guideline value.
14. These results were used to inform the marine ecology assessment as described in a later presentation.

14.1. Sean Hayes (PRDW) Presentation (via pre-recorded audio file played with slide presentation)

1. "Good day my name is Sean Hayes I am presenting on behalf of PRDW, a company that specialise in port and coastal engineering. We have provided a purely technical role in this Environmental impact assessment process. We have conducted 2 studies that have been fed into the EIA process. The first study that was completed was a marine traffic study, the second study that was completed was a thermal plume study. I am going to start of this presentation by taking you through the marine traffic study and provide you with feedback on that and then take you through the thermal plume study.
2. The first study was to quantify the present and future vessel traffic at the site and identify possible areas of congestion. The way this was undertaken was to estimate the current and future traffic volume based on an analysis of traffic and cargo demand projections. As part of an analysis of the Port, Port arrival data was used to define vessel slot hours for vessels arriving and departing the Port.
3. Based on the assessment undertaken the outcomes highlighted that the LNG vessels only represent 1% of the 2051 vessel traffic slot durations and will not add significant congestion within the port.
4. The Port is forecast to have approximately 41% and 12% spare slot capacity in 2021 and 2051 respectively.
5. So in conclusion based on the marine traffic the introduction of LNG vessels will not have a significant impact on marine traffic within the ports.
6. I will now move over to the thermal plume study.

7. For the thermal plume study as you will have heard from the presentations today, the facility consists of an FSRU and a two Powerships. It is important to note that the FSRU is a closed FSRU and there will be no discharge of hot or cold sea water from the FSRU. Therefore it was not considered in the Thermal plume study, and this study focused on the Powership.
8. The modelling was a calibrated 3D hydrodynamic model was used to predict the extent of the thermal plume in the sea. No constituents, such as chlorine or excess salinity, are added to the cooling water discharge and so therefore were not considered in this study.
9. Seawater used for cooling the power generators on the Powership results in seawater being returned to the sea at a maximum of 10 to 15°C warmer.
10. Another important thing to consider is the model simulated the Powership operating at 100% load for 24 hours per day, while the Powership will only operate for 16.5 hours per day. So the model represents a conservative worst case scenario.
11. So moving on to the outcomes of the study, the results show that a smaller footprint of temperature increase at Delta-T is achieved when discharging at a deeper depth below the water surface. Just to point out that in the model study we considered different depth ranges for the discharge 2, 4 and 8m. When the cooling water is discharged 8 m below the water surface the maximum Delta-T at a reference point in the model is 1.3°C at a distance of 100 m from the Powership, that reference point where the data was extracted 0.3 °C above the guideline value.
12. As mentioned earlier PRDW provided purely technical input, data from the model study was compiled and the outcomes of the study were documented in a report that is available. This information was then passed on to the specialists and the information was used to inform the marine ecology assessment that is going to be described in a later presentation. Thank you for your time.”

15. UNDERWATER NOISE (TIM MASON (SUBACOUSTECH))

[Various map images were shown and an audio file overlaid.]

15.1. Tim Mason (Subacoustech) Presentation (via pre-recorded audio file played with slide presentation)

1. “Good morning. My name is Tim Mason and I am the Principal Consultant at Subacoustech, specializing in all aspects of underwater noise. I’m going to talk for a few minutes about the underwater noise assessment that was undertaken for the Powership project. This included baseline underwater noise measurements, measurements of an operational Powership, and predictions of how a Powership would affect the noise in Richard’s Bay. After me, there will be a talk on how this noise can affect marine life.
2. For the assessment it was important for us to visit the sites and real operational vessels so that we could be confident in our results and conclusions.
3. In late 2021 we visited Richard’s Bay to sample noise levels around the operational port to serve as a baseline. Richard’s Bay is a busy port with regular visits from large bulk carrier vessels and so the area is already subject to noise from ships, both transiting and at dock, loading. It’s worth mentioning that moving vessels are generally much louder than static ones because static vessels do not use propellers, which generate a lot of underwater noise.
4. To get a good idea of how Richard’s Bay was already affected by noise, we set up a monitor near the proposed location of the Powership by the sand bar, which you can see at the yellow spot on the map. That was left to measure the noise levels over 48 hours. While that was measuring continuously, we sampled the underwater noise over a selection of spot locations, which are the blue spots, across the rest of the area to see how the sound varied. We also measured some of the other ships using the port.
5. Once we had these background noise measurements, the next task was to check the noise that an operational Powership actually produces. For that, we visited Sekondi-Takoradi on the Ghanaian coast, where a Khan Class Powership similar to that proposed at Richard’s Bay was located.
6. Here you can see how we sampled the underwater noise. We took measurements from a boat with engines off at multiple positions at various distances from the ship, that is, 50, 100, 200 and 400 metres and further to see how the noise becomes quieter as you move away. Once this is known, it can be added to the existing noise levels measured in Richard’s Bay to see what effect

it has. It's worth noting that although the conditions in Sekondi-Takoradi are not the same as Richard's Bay, the main differences between the ports, that is the water temperatures, depths, size and layout of the ports, are similar enough that any effect on the acoustics would be negligible, or would lead to the measurements in Ghana being louder than we would find in Richard's Bay, and therefore precautionary.

7. We measured the noise levels at different Powership power outputs too, with the greatest, 420 MW, being greater than the maximum 320 MW or 125 MW from the two ships for Richard's Bay, so this represents a worst case scenario.
8. The noise levels we measured in Ghana were at most 141 dB at 50 metres from the side of the ship, and around 125 dB at 400 metres away. Off the end of the ship, that's the position at 150 metres away the noise levels are much lower in comparison to the side, and they were inaudible on the other side of the jetty where it was moored. We found the noise from the ship was barely audible background noise less than a kilometre from the ship.
9. These noise levels I'm saying are much higher than the ones you may be used to hearing about in air, where for example in a busy shop you may get noise levels of say 60 decibels, but in the water the noise levels are naturally much higher as they use a different scale. Background underwater noise levels in a port are commonly around 110 decibels, to over 120 decibels.
10. So this slide shows the effect of transferring the noise levels from the ship in Ghana to the background noise at Richard's Bay. In the noise levels shown, the current noise is in white and the increase in noise level with the effect of the Powership is in blue underneath.
11. The most important thing to take from this is that most of Richards Bay will have less than 1 dB increase in the noise level, and this is the worst case scenario, based on the very limited time that the ship would be operating at maximum power. Within a few hundred metres of the ship, the noise levels certainly do increase, but the noise levels we measured at Ghana are very similar to what we found when we measured existing ships currently using the port of Richard's Bay. We assumed that the sand bar would not provide any reduction in noise to continue the worst case, but I actually expect that the effect on this area to the west of the sand bar will be much quieter.
12. I thought it would be helpful to actually listen to the noise in Richard's Bay now. I can't seem to play the audio clips in this video recording, but hopefully whoever is facilitating this can play them. In the first clip, which is about 10 seconds long and taken from the samples near the proposed location of the Powership, almost all you can hear is noise from ships docks at the port. I would not expect the Powerships to change the character of the noise in the area, although it will of course be louder close to it. The second 10 second clip is the same, but at exactly 5 seconds I have boosted the noise by 2 decibels to show you what this means for the surrounding area. You will hear that this increase is just perceptible, and the effect on most of the area will be only 1 decibel, or less.
13. After these clips, I'll pass over to the ecology specialists to talk about the effect this could have on the local wildlife."

[RO played the two additional audio files for the stakeholders to hear the underwater sound as provided – she played the audio files twice, she noted that as per the presentation in the second audio file at the 5 second mark there was the anticipated change. She showed her hand and counted the 5 seconds.]

Rose noted that we would have one more presentation from Catherine and then she would get Ntombifuthi to translate.

16. COASTAL, ESTUARINE, MARINE ECOLOGY, AVIFUANA & FISHERIES (CATHERINE MEYER, DR BARRY CLARK, TANDI BRETZKE, ADAM REES, JANE TURPIE & LEIGH-ANN DE WET)

[below is an overview of the text / slides presented]

- uMhlatuze/Richards Bay estuarine complex - historically one system;
- Both estuaries are highly modified but are still important for conservation of estuarine biodiversity (UMhlatuze ranked 10th, Richards Bay = 26th);

- Large estuaries (lots of estuarine habitat), high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water);
 - Ecosystem goods and services:
 - Important nursery areas for marine species (fish + prawns);
 - Aquaculture Development Zone, successful experiments with finfish culture;
 - Carbon sequestration;
 - Nutrient cycling;
 - Assimilation waste;
 - Transportation;
 - Ecotourism.
 - A baseline description (with site investigations) and subsequent impact assessment, focussing on receptors in the water column, in and on the seabed, and the local avifauna within the Port;
 - Ecosystem services (fisheries, mariculture) and conservation areas (Richards Bay Nature Reserve) were also considered;
 - Consideration (integration) of terrestrial ecology & vegetation including wetlands;
 - Within an established industrial port – long-term ecological monitoring undertaken biannually by CSIR;
 - Utilised thermal plume and noise modelling outputs;
 - Richards Bay - uMhlatuze Estuary ranked 11th most important in terms of species richness, and 3rd overall in terms of conservation importance for estuarine waterbirds in South Africa (Turpie, 1995);
 - High diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water);
 - In close proximity to (and closely linked with) other nearby wetlands (Lake Mzingazi, Lake Cubhu, Thulazihleka Pan);
 - Karpower vessels will be moored very close to the sand spit and Kabeljous Flats = most important area for water birds;
 - Recent data suggest that numbers of birds using the estuary have declined dramatically in the last 30 years;
 - Listed as a globally important bird area (IBA) but has been down listed to a sub-regional IBA since bird numbers now “only occasionally surpass the threshold of 10 000 waterbirds”;
 - Still many species of conservation concern that are present at the site;
-

16.1. Catherine Meyer (CoastWise / Groundtruth) Presentation (on behalf of the Specialist Team)

1. “Good afternoon everyone, hopefully some extra information, a little more lively since we are dealing with living creatures and tangible habitats, so what you can see on the slide is environmental green living aspects of Richards Bay it is part of the uMhlatuze/Richards Bay estuarine complex, in a very short term an estuary is where fresh water meets sea water, very simply. And in that space only certain animals that can handle extra salty fresh water or diluted sea water, there is a certain group of animals that can live in this particular space.
2. This system used to be one uniform system, but in the 1970s they created the port and they separated now we have uMhlatuze sanctuary in the south and we have the Port of Richards Bay in the north. And you can see that there is interlinking between various fresh water systems and lakes systems to the north and to the south, and because of that separation and because of people interfered we now have two critically modified, or highly modified systems, but they are still important for biodiversity.
3. uMhlatuze is ranked the 10th, most important estuary in the country and Richards Bay the 26th most important in the country. They are big systems which means that there is lots of habitat. We have got a high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, and open water) and why am I telling you this, because these are the habitats that support the life and the biodiversity that reside in this system.
4. For people what does that mean for people? Our natural environment provides us with ecosystems that provide us with goods and services, those are things that we benefit from.
5. We benefit from harvesting or catching fish. We benefit from this system captures carbon for us, Carbon sequestration they call it.
6. Nutrient cycling, dealing with waste, transportation and eco-tourism these are all the benefits, that community or as society that we gain from the natural environment.
7. Very importantly though, an important nursery area for marine species. What does that mean, it means that the young of the fish come into the estuary, they grow large, they find safety, they find shelter, they find food, in this estuarine environment, they grow nice and big, then they leave the system, and they go out to sea, and then a lot of our fisheries, our big ships that catch fish for us they harvest these big fish.
8. And then also for aquaculture, fish farming that also provides, these sheltered estuaries provide space to undertake aquaculture, and we have had some experiments done in Richards Bay. And that was done just off the sand spit. So if we look at this picture [points to the slide] here very quickly, the sensitive spaces in the port, we are talking about the Kabeljou flats, that’s a very sensitive, or ecologically sensitive space.
9. The sand spit is also very important also important for birds.”

[There was a lot of movement of people and disturbance – Catherine Meyer paused. RO noted that a number of people had chosen to leave, this gave the impression that their questions had been answered and they were ready to go. We would pause the presentation to give people a chance to go. Those that were remaining we were glad to have them. The presentation would continue after, but the noise made it difficult to hear the presenter.]

Catherine Meyer resumed

10. “Getting back quickly, this is the FSRU right next to the sandspit, and then the two Powerships and then the two potential power lines in the yellow and purple.
11. And just to show you these, this is the Bhizolo Canal and the Manzamnyama Canal and these are the important prawn areas. And just to provide you with the context. And at the bottom here is the uMhlatuze sanctuary or the Richards Bay Nature Reserve.
12. For this particular aspect we covered the coastal, the avifauna (that being the birds), the estuarine and the marine. So all of this is all bundled together into one report, we are all taking cues and integration, all referring to each other and making sure that all our parts speak to each other.
13. We took a baseline to get as much information as possible, we went on a site visit we did our impact assessment, we looked at animals in the water column, animals living on the sea bed,

animals living, using the sandspit, or the avifauna rather. And then the ecosystem services, so how will the fisheries be affected, how will the mariculture be affected? What about the nature reserve, will the nature reserve be affected? We also looked at the terrestrial aspects, the vegetation, the wetlands, and then from there we have to understand that we are in an industrialised port an area that is already significantly impacted on a daily basis on an hourly basis by all the port operations. But this is already monitored, the Council for Scientific and Industrial Research (CSIR) they undertake monitoring twice a year so we have a good feel on what happens in this particular system. And as part of this Environmental Impact Report we then also looked at the thermal plume modelling [points to the slide] which is the picture in the top which you have already seen. And we also took into account the noise impacts and how this all affects the ecology of Richards Bay.

14. This is a summary of our impact study, what I would like to draw your attention to is how many of these bright-pink come red impacts have been mitigated down to lower colours, green, yellows or low oranges. And our worst case if I can even say worst case is the effect of the temperature change of the water, the noise and the overall effect of the ship within the port. It is also important to note that the cooling water discharge there might very well be temperature effects but that is not going to affect the ecology of the system to a significant degree and the underwater noise is not going to affect the fish, the fisheries to a significant degree, nor the prawns that move through.
15. Quickly skipping on to the birds, or the avifauna. Richards Bay and the adjacent uMhlatuze Estuary ranked as the 11th most important in South Africa for the species richness, and 3rd overall in terms for conservation of birds. So we are dealing with quite an important system here. As I mentioned already we have got lots of habitat which means we are going to have a variety of birds. The project itself the Powerships are quite close to the sandspit or immediately adjacent to the kabeljou flats. Overall the system is in amongst all those adjacent wetlands and expansive estuarine environment.
16. What is quite important is that the recent data, scientific data shows that the birds in the estuary have actually declined over time. [she indicated on the slide] Back here in the 1990s to by the 2000s you had the number of bird species sitting around roughly, 55 species during summer. But if you look down here towards 2021 / 2022 we are sitting at between maybe 15 and 20 bird species visiting the estuary during summer. And then winter the numbers are a bit up and down, but for the same period maybe 35-40 at the most 56 species and right now in the latest monitoring that we have done we are sitting at around 10 and 15 species. So there is very clearly a decline in the number of birds that are utilising the system. Also to note is the uMhlatuze estuary it actually was recognised as an internationally important bird area but because the numbers have dropped in uMhlatuze it has actually been downgraded from international importance to sub-regional importance not having so many birds any more. But that doesn't mean it is not valuable there is still a conservation importance.
17. So looking at the Avifauna or bird impacts only, again drawing your eye to where the red areas are before and after mitigation. The worst one, so to speak, even though it is just a medium, is the impact of noise and vibration from the ships on the birds. So the birds are going to experience some level of disturbance due to that. And then the cumulative impacts, having been on site and been around, that port area where the ships are is very, very disturbed from a noise point of view, you hear so much banging and clanging and beeping, and sirens, the birds that exist there are already highly impacted, so with some mitigation we can bring that down, much on for the project. But overall much noise impact is still going to remain."

Ntombifuthi Jele translated as follows:

18. Kafishane kakhulu kakhulu ehh ngizosukela la kade kukhulunywa khona ngamanzi, ukuthi awazuphazamiseka yini ngokuba khona kwale projekthi. Isikhulumi sishilo ukuthi ukuba khona kwale projekthi akuzufaka ngcindezi, akuzuba bikho ingcindezi emanzini kunakuqala, kusho ukuthi kunokuthi kade ingekho i-projekthi. Ukhulumile ke la waze wasikhombisa, wasilalelisa emanzini ngaphansi, angaphansi olwandle ukuthi njengamanje umsindo ungakanani, uma sekukhona le projekthi umsindo ocatshangelwa ukuthi uzoba khona mungakanani. Okusho ukuthi akukho

mehluko ongakanani uma sekukhona i-projekthi namanje. Kusho ukuthi akukho kuphazamiseka okuzokwenzeka emsindweni.

19. Isikhulumi sokugcina bekade sikhuluma ngazo zonke izilwane ezikhona lapha. Ukhuluma ngofishi nezinyoni, yonke leyonto ikhomba ngoku funda kwabo abakwenzile noma ngokwe research abayenzile, ukuthi zonke lezozinto, izilwane olwandle azizuphazamiseka, izinyoni azizuphazamiseka ngokubakhona kwe projekthi.

17. OVERVIEW OF NO / NEGLIGIBLE / VERY LOW / LOW & MED-LOW IMPACTS (HANTIE PLOMP (TRIPLO4))

[below is an overview of the text / slides presented]

1. No impacts

- Archaeology and Palaeontology
- Visual
- Traffic (Terrestrial & Marine)

2. Negligible / very low / low & med-low impacts

- Hydrology Impacts (Low)
- Aquatic Impacts (Low)
- Hydrogeology Impacts(Negligible)
- Geohydrology Impacts (Negligible)
- Wetland Impacts (Low to Very Low)
- Terrestrial Biodiversity Impacts (Low)
- Avifaunal (Medium, Med-Low, Low to Very Low)
- Underwater Archaeology (Negligible)
- Coastal, Estuarine and Marine Ecology (Medium, Med-Low to Low)
- Atmospheric Impacts and Risks (Low)
- Terrestrial Noise Impacts and Risks (Low)
- Underwater Noise (Low)
- Tourism (Negligible)

17.1. Hantie Plomp (Triplo4) Presentation

1. "So throughout the day we've had presentations on the socio-economic as well as the environmental aspects of the project, where the proposed project is to be situated. And you've heard about impacts and mitigation. One of the things that we want to share with you is that you've seen the list of specialist studies and you may feel that you have not heard any of those specialist studies.
2. The reason we did not present the studies here today is that we wanted to focus on the aspects that were raised before, as significant. And you can see from the discussions that was had that we were talking about ratings, that was not low. Some of the ratings after mitigation have been low.
3. We wanted to give you the opportunity to ask very specific questions and get more information.
4. As a summary here we just want to highlight some of the studies that we did do but did not discuss here, but the outcomes of these studies, the major impacts have been assessed and mitigated as well and the ratings comes down to either negligible, no impact, very low, or low, or then one or two medium low.
5. This is just the summary of the specialist studies that has been done. So from a terrestrial point of view, there has been studies done on hydrology, hydrogeology, geohydrology.
6. From the specialists' point of view these impacts all mitigated to low- the main reason being the type of the project that is being proposed has a power line with mono-poles as well as the current status of the environment as well.
7. This is also in terms of the biodiversity as we have shared earlier. The place, or the position where we are planning on having the powerlines is within the area that has been heavily degraded and impacted, so we are staying out of the sensitive mangroves area. From that perspective it is low.
8. The terrestrial have, in terms of the wetlands assessment as well, due to the type of the development being proposed, impacts to be very low and can be mitigated. In actual fact as a result of the mitigation being the rehabilitation plan for wetlands that the project will bring about 23 hectares of

improvements to the wetlands. So it will be a positive effect that will be result of the rehabilitation being proposed.

9. A number of these impacts have been discussed by the specialists that included for instance the avifauna, the coastal and estuarine and the atmospheric impacts, terrestrial noise, underwater noise, those have all been discussed. And you have received more information from them. After mitigation though, the category will still be low.
10. In terms of tourism, assessments has been done and has been shown that there will be low negative impact and in actual fact there are positive impacts associated with the fact you do not have as much load shedding. Load shedding is mitigated and that's always a positive impact for tourism.
11. The underwater archaeology study has been done and from that perspective because the Port has been dug out a number of years before no impacts are being anticipated in terms of those.
12. Overall just to give you a visual of the sensitivity, after mitigation has been conducted or assessed in terms of [she pointed to the slide] as was discussed by the estuary specialists, this is the Richards Bay Game reserve, you can see where the project is being proposed. As I've showed previously as well, this is the sandspit area, this area here in the red area as well as being indicated with the redline was associated with the alternative which we will not implement. Those are the more high sensitive areas where you will also find your mangroves. The project is being proposed on the other side which is the more degraded side and you can also see that within the project there has also been the noise assessments that has been done to give you information on noise receptors within the areas and in the specialists report you will find that detail in terms of that, but as has been indicated there are no sensitivities and the impacts are low for all of those.
13. And that is just to help you understand the project and the areas , here is the sensitive Kabeljou flats and once again as well, this project has been sited out of that and can see it."

18. DISCUSSIONS

1. RO: "That brings us to the end of the presentations and an overview of the project, it's been very lengthy. Thank you for your patience.
2. Thank you for your engagement, it's been incredibly useful, it helps the team understand what people want answers to, what people have questions of and what we must do more to understand.
3. Are there any other comments or questions that we need to address before we close off."
4. **Pastor Mthethwa (I&AP):** "I've heard everything that Karpowership is going to present to us as uMhlatuze community. I'm very optimistic that we are going to benefit as the community. One thing I want to ask is how we are going to endorse our support for Karpowership to come on board. We haven't had that. Since there's been consultations, then what is our contribution as the community to support Karpowership to come on board."
5. RO: Comment sheets are available. Positive comments are welcome as are comments of dissent. All are welcome. In fact the more balanced we get in both directions, the more we know we have interrogated the project. The more we know we have really addressed the pros and cons. And we can make an educated decision.
6. And we can make suggestions to the Department in terms of how they unpack the project.
7. So please make use of those comment forms. There are comment forms available at the back Chen is there ready to see you.
8. If you haven't signed the register, please sign the register.
9. If you need more information please let us know, we welcome, queries questions and comments in all directions. The more we get in all directions the better we know we have interrogated things.
10. On the screen you will see the commenting period is 10 November until 13 December and there is an email address as well.
11. You can also email that, ask them for information, they can forward stuff to you etc.
12. There is a website where the documents are available and we can provide that to you as well.

So then you can also just pull up the part that interests you instead of a huge voluminous document.

13. **Hantie Plomp (Triplo4):** "I just want to say that from this meeting as well there will be a collation of all the comments that's been made and the presentations that's been made, if you have left your email address for us, you will get the minutes of the meeting as well and you will also receive the presentations. Also with the notification, we provided the link to the documentation as well so it will make it easy for you to also just access the information and make it easier to provide your comments.
14. More than welcome as well to give us a call if you would prefer to have a discussion. You are more than welcome within the company as well we have a number of employees that also speak isiZulu so you are most welcome to do that in your home language."

19. WAY FORWARD

Commenting period:

10 November – 13 December 2022

email: richardsbayksa@triplo4.com

20. CLOSURE

RO thanked everyone and wished them safe travels home, a very safe and pleasant summer holidays and called the meeting closed 13.39

Read and confirmed this 05 day of December 2022.



Facilitator

**Public Participation Workshop:
Richards Bay Draft Environmental Impact Assessment (EIA)
Report for the Proposed Gas to Power via Powership Project
at the Port of Richards Bay**

Meeting held at 10.00 am on Wednesday 23 November 2022 at
Zululand Chamber of Business

Written statements/comments received from I&APs via Comments Forms (Comments Statements captured as provided with no alternations) –

No.	Statements/comments made in the Comments Forms
1.	As I am a community at Richards Bay Car Power Ship is Right to us a local it assist us to availabilities of job. We fully support to integrated Resource Plan. The county energy toward 2030 which mention the role of gas in the energy mix together with renewable such as solar, wind and other. For these reasons, we support Karpowership in Richards Bay.
2.	Thanks to Karpowership to come in Richards Bay to help us not out with the electricity problem but to also help us in our community with bassaries, job creation and many more. So thank you very much!!! Thanks
3.	1. I see this project will release the burden of unemployment. 2. Having load shedding damages our goods. For example, and others die because of load shedding. Viva Karpowership. 3. I am very happy regarding the age because I am old. Hope has returned to me that I am about to work, as when you hire I will be in the program of people who will be employed (Please) 4. Our children are receiving training, thank you very much 5. The work you are doing is good and that you have chosen Richards Bay, you see it as worthy of these opportunities
4.	I am very grateful to Karpowership for seeing that we are in a big mess of unemployment and we are dying of hunger. My wish is that the project can start as soon as possible. Because we are going to the December holidays, it is sad because we are not able to buy Christmas gifts for the children, not to mention food and next year's school uniform. We strongly request that it be started as soon as possible.
5.	In my opinion or my comment, Karpowership is ready and we support it, I hope it continues and we enjoy it. We will really appreciate everything that comes with it, please don't let us down. Please Please Please

No.	Statements/comments made in the Comments Forms
6.	Please take serious of that one who's more than 35years, because they are not working to other companies and not getting pension grant, even in the Government Departments not getting jobs. Please Karpowership take us. We've got families and they want food from us because we are the breadwinners. Carefully there are thief and corruption who's gonna steal yours and left us poor. We are hungry!
7.	I hereby to confirm that I am so excited about this project. According to my concern I would like to see this company to countries commencing the project. Those who refuse to see this project to be commence, they should understand that the majority of this area are not putting anything on the table for their families. This project will help peoples get jobs so that support their families. So please just continue with this project. We full support Karpowership to operate at our city.
8.	Congratulations guys you did a good job. Thanks for everything you explained to us according to my side, I heard everything. God Bless you all.
9.	All safety requirements we can provide
10.	Based on all the presentations presented to us as the community, I am convinced that we need Karpowership on board. There are many areas in which we are going to benefit as the community of uMhlatuze, such as: <ul style="list-style-type: none"> • Job opportunities • Small Business Development – (which in turn will create more employment opportunities)
11.	<ul style="list-style-type: none"> • The is nothing wrong with Karpowership and we have to support. • The impact of operation activity about Karpowership is to and poverty. • As Richards Bay, they will gain work.
12.	I just need a job please
13.	I want a job please
14.	I feel happy and we need and want what has been spoken about a lot. I liked everything that was discussed
15.	Thank so much for presentation and we thanks a lot for bring Karpowership in Richards Bay so that they give us to opportunity for getting jobs.

No.	Statements/comments made in the Comments Forms
16.	We are hundry shame, we got here at 8 and we still have not yet eaten. Are you going to be able to pay us while you still deprive us food.
17.	Thank Karpower for your promising us. The life will never be the same.
18.	I need Karpowership. Karpowership is very good for us as the resident of Richards Bay - in these days we suffered load shedding all over the world. Now we at Richards Bay we are in a good luck to get Karpowership - its got to solve our problems.
19.	My comment everything is ok thanks. Everything went well we are really thankful for bringing work opportunities to Richards Bay.
20.	Creative job opportunity
21.	Car powa Ship. Car Power Ship is our good thanks
22.	No comments everything is right. Employment everything is right. My comment is to Employed Karpowership
23.	For this presentation it comes to developed their opportunities of job. So it mean it may being welcome to Mhlathuze community because of creation their opportunity of job so that it must be there company may give a chance for providing their job opportunity in the area of Mhlathuze or Richards Bay.
24.	No comment because I need you job. Before after dealing the project
25.	We heard everything that was discussed. We plead with you to make it happen and not just be about discussion only.
26.	If I hear about Karpowership it very very good because if fight the poverty. It create jobs and bursary etc. Viva Karpowership. Viva Karpowership.
27.	My comment is that we don't need an ampt promises we need jobs and carreas.
28.	I am not working, I need a job. I do not have money for feed myself and my kids. My wife is not working.
29.	We want the skills development, learnership, apprinticeship and bursaries.

No.	Statements/comments made in the Comments Forms
30.	My comment is more concerned about the training and skills that you're going to offer, and the age restriction of above 35 years of age. Please hire us! Surely Godness and mercy shall follow you.
31.	I so happy about powership to her Richards Bay. 1. Job opportunities. 2. Training. 3. Educational opportunities for our children.
32.	I'm feel comfortable
33.	I greet, I heard everything that was discussed. My wish is that the discussions ends and for us to get employed. And our kids to get educated. Thank You.
34.	On my side I have no comment. I want to appreciate in Karpowership to done this opportunity in this community of uMhlathuze. We need job and electricity if Karpowership we done for create job, I will appreciate very very well. Karpowership please change life to our community if you do that to give us work we thank you very very much.
35.	Great Job. That is a wonder many thing that his saying thanks for creating jobs & bursaries so everything was greatfully so we need jobs . Please employ us and teach us skills
36.	Thanks for your jobs opportunities. I will like to be the apart of this opportunitie because this is a good job recreation with me so I need to be apart of it. Thank you with Karpowership.
37.	We are thankful a lot for what you have done. It makes me happy if I hear such. Thank you.
38.	Thanks for presentations is good we want Karpowership to recruit number of people to our organization. Give things to unemployed people

PROOF OF PUBLIC MEETING AND ATTENDANCE THAT TOOK PLACE FROM 10:00 TO 13:30 on 23 NOVEMBER 2022 AT KINGFISHER HALL, ZULULAND CHAMBER OF BUSINESS, FOR THE PROPOSED GAS TO POWER VIA POWERSHIP PROJECT - PORT OF RICHARDS BAY



Registration / sign in table.



Members of the public completing the registration forms.



Community member with sign showing the support for the Karpowership Project.



Independent Facilitator, Rose Owen, briefing the audience on the meeting courtesies.



Dr Barry Clark (Anchor Environmental), introducing himself and his scope of work on the Marine Ecology, Avifauna and Fisheries.



View of the hall and attendees at 10:43, as David Clark (Karpowership) provides an overview on how the Powership works to generate electricity.



View of the hall and attendees at 10:28, 23 Nov 2022.



View of the hall and attendees at 10:28, 23 Nov 2022.



Ms Notombifuthi Jele (Independent Translator) providing a summary of the presentation and questions in isiZulu and English, for the benefit of the public as well as the professional team.



Panoramic view of the hall and attendees at 10:44, 23 Nov 2022.





Dr Mark Zunckel (uMoya-NILU) presenting on Air Quality at 12:40, 23 Nov 2022.

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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	Siboniso	Private			073 819 6002	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY








IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY







IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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	NTOMBEFUTHI JELE	triplo4	INTERPRETER	ntombefuthi@triplo4.com	082 4214776	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY








IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
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No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	GABISICS		RICHARDS BAY		0734525692	
	Theluli					
	Gloria				0660117296	
	Mbuyazi Ndikusa		Nzalabantu		0717878714	
	Nunsikelelo				0767300422	
	Lindokhule.		Empangeni Emkhamsini		0836107056	
	Pinky		Mzingizi		0607981932	








PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
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No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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	NOMFUNDO SKIKHANE				0710 842013	
	MADUDUZI ZULU				0791675245	
	KHAYELEHLE MBUYISA				0722711343	
	SIKHUMBAZO SHIGA				0791523580	
	ZODIHO MTHETHA				0738007852	
	THEMBA USOBESE				0799851234	





PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
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No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	AS Mthun	NEWF			0766834553	
	S. Nxumalo	NEWF			0730372979	
	P. Z. Mabalolo	NEWF			07647556395	
	S. D Mpanza	NEWF			0796645541	
	N. P. Hlabisi	NEWF			07710726139	
	G S Mavika	NEWF			0820702920	
	Z M Zibayi	NEWF			0660450130	






PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
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PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
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Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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	S. Mqhele				34 23	
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	Endlwe Ntuli				071 287 0475	
	Matsoob Msoni				083 328 5919	
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	Nolwe Cabangele				086 222 942	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING



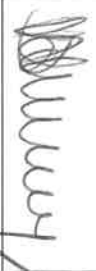



Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
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	Gladys	Mkhwanzi Co op			083 5019758	
	Happy	Mkhwanzi Co op		MkhwanziHappy@gmail.com	0834295023	
	NICKUETHEMBA NDUBA	UBunge co-operative		NICKUETHEMBA@gmail.com	0737619458	
	Thembinkezi	Gumede		emzinkezi@gmail.com	0722130467	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Phelani Gumede	Impulwethu hq	Richards Bay	mphelezi.ogunolajo	082617164	
	Siphwe Sibake				0832341784	
	Mlunzi Ndlovu	AFF			0823681057	
	Portmokozi	AFF			0786332834	
	ANerie	—	—	—	0835933351	
	SP Zulu	—	NRB	Zulusiphosikhle8@gmail.com	018 444 2970	
	PN Mtshembu		NRB		073 4710710	PN

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY







IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	V Hlabangane	Vimawethu Pty	R Richardsbay	Vimawethu@gmail.com	0738966998	
	S S Bhengu	Vimawethu	R Richardsbay	Vimawethu@yahoo.com	0609344663	
	N.M. Ntsheniwa	VIMAWETHU HOLDINGS	CEO	nyawase.holdings@gmail.com	0784612066	
	Thulde w-fosi	AFC	Sy.	Thulde.w.fosi@parade.com	0630167148	
	MPhozo				0781585033	
	Themba				0781585033	
	F. Ntseza				0768927385	








PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Mthembu Ndotongwa				072 325795	
	Mbatwa Sindle				0794817092	
	Simongile Gumade	Nzala bantyi			0823419076	
	Nkombe: MHLONGO	N291969174			0138285277	
	Sponiso				0820979095	
	NTUNU DELANI	NZALABANTYI			0822836642	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	STHEWENIA DAVEN	NCWF			0767662414	
	Khayelhle Nkwenyana	NCWF			071 666 9572	
	Philani Mkhize				0206693699	
	Knadysie Rutkies				0768305897	
	Magie Mahreliwa				078 073 8239	
	Themlinxolani Mtho				0795305724	
	Lungile Nkomo				0661776528	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	B.A. Sheluvu				0793154317	
	S.M. Nsemm				0799910291 052244441	
	N.W. Sigwana				0782705699	
	T. MAGAGIDIG				07115615 10	
	M.M. Mallorose				0727008652	
	B.Z. Mthethwa				0738560983	
	T.J. Jundu				0725305758	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING







Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	R Hekuyse				0120379085	
	Mpungose Sbusiso				0818027586	
	Maudzo Ndllovu				0665984236	
	S. Phokwile Thango				0648587333	
	Khoyichile Sibija			Khoyichile Sibija 29894101	0789715220	
	Alex van Rooyen				0733847390	
	Douwele Kulu				06038592177	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Elyanda Mavundla			lyanda.lefer Mavundla@gmail.com	0695948933	
	Appax Lethani			luthucicobus@gmail.com	083545453	
	Mbuso Mkhambeni			Egikhameni	0766590197	
	Themba Ndlovu			ENSELENI	0199851034	MMT
	GUGU Mbuyazi	IGUGULAMA NGIBA TRADING	MANAGING DIRECTOR	igugulamingisa@gmail.com	0731215388	
	Moyisa	Yiso Trading	Managing Director	YisoTrading@gmail.com	0731245219	
	Thandiso Sweba			Thandiso Sweba@gmail.com	0716077386	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	MPOHSHANE					
	ZAKE	CSS			0764285486	
	Gmangq Ximba	N/A	Estherani Kunene		0728142227	
	Nhloho KUNENE	N/A	-		0633994415	KUNENE
	MPOHSHANE MSEHAWI	N/A			06337830 58	
	MS Numeby	N/A			0722623579	
	L Ntuli	N/A			0712870475	
	Ndumiso Noundla	N/A		Ndumiso Brian Noundla	0680166346	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	P. Ntuli				0793098817	
	L. Ntuli				0712870475	
	T. Ntuli				0647469176	
	M. Nkosi				0827547252	
	P. Mkhize				0606693659	
	M DUNGBE				0783565008	
	Si Gye				078299393	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY














IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	SH SIGWAZA				0837551427	
	km. Mkhobon				0726295260	
	DIT Nkabinde				0781558881	
	B.I. Buthegori inwundile			wondermfela1999@gmail	0838837198	
	MFeke			wondermfela1999@gmail	0671519617	
	B. ngubane			E/ONS & N, 352	0823438006	
	N. Mathenjwa				0767300422	













PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
1.	Zandile Mlambezi			—	0723988025	
2.	Suydhensu Mlambezi			—	07993985584	
3	Sento (ple)			—	0716495562	
4	Zibise Ngidi			—	0763027295	
	Sihembi	NCWE	S. mthysa	—	0714929332	
6	Sig-beng Mlayi			—	0684553600	
	Silangeni Mlambezi			—	0609570489	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	M S OJ Kuvaka				0 722 623579	
	Ntuli Thudibe				0798098877	
	Thando Akheli				0725969096	
	Songweni B. Thule (Akem)				06634093	
	Mhlangeni Kobani				072018653	
	Bongani Mbornu				0790252865	
	Bongani Baddi				0828457112	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY






IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	SIZALE MPPANDA		Dondatung	SIZALENSIZALE@gmail.com	0718381844	
	Thembelike Nobuwoni ZPMA		KWA-mbonambi		0782792841	
	CEHR		ke-sokhulu		0763512161	
	Shule ndwande	Mzingazi		Shule@gmail.com	0677854959	
	MUNGU NKOSI	Nsele ni			0827547252	
	Thembelike Duvir	medlenkela			0727597485	
	Thobele Buthelezi	IBlandantsh		thobelebuthe@gmail	0739585423	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Eric Hloqane	ESKHAWINI	CEO	eric@newstrade.co.za	0768587078	
	Hebeast	NSOLON	LD	-	0764652939	14VS
	Pitsoi Jomeanta	MANDLANKENLA		PO BOX 65127	0797857751	
	Khoyelihle	ESIKHONINI		Khoyelihle@yangaenergy.com	0789775220	
	SIPHOSIPHELE MUYANI				0837551427	
	Mokhebe				0716205060	
	Tshilile Maseke	MADLANKENLA			0607569692	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	GABSIIE	KASA-Mbenkathi	Branch		082 937 8525	
	Sikhumbuzo Ndlovu	MSelers			079 152 3580	<i>True</i>
	E.Z. Mthethwa	MSelers			073 856 0983	<i>EW</i>
	Alex van Roodt	Esikhawini			073 384 7590	<i>DR</i>
	S. Dlamini	MSelers			076 143 1017	<i>SD</i>
	B. Ntshona	MSelers		Clarens	082 343 8006	<i>R</i>
	Sikhumbuzo Ndlovu	MSelers		332	076 259 4610	<i>TS</i>

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY



IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	N. V. Mabantq				0607326600	V M
	Sizakele Sibisi				063 719 8494	Sisa
	David Rade				0732803914	D. Rade
	Mombizane Mombi				019 5580986	N. Mombi
	Thabo Mombi			thaboch 79@gmail.com	0728251156	Thabo Mombi
	Thabile Zibani				0717340442	Thabile
	Mombenke T. Mtshali				0825452382	M.T. Mtshali

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING



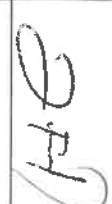


Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Nomusa Tembwe			Nomusa.tembwe@kempco.co.za	0835179715	
	Khangiso Makhisi			makhisi.khangiso@kempco.co.za	0835177576	
	Bunke Ntuli			ntulibunke@gmail.com	0764025175	B. Ntuli

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING



Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Gugu Nyeni	Zulu and observer	Journalist	gugu@206.co.za	0618452351	
	Sipho Masina	Community	Community member	n/a	073 033 44 25	
	Zaphele Mbat	Community	Millwright/Trade unemployed	zaphendev@qmail.com	0792903662	
	Siphiso Binyaka Northmeade 20	-	UNEMPLOYED	h.mn@206.co.za 0799424697	0799424697	
	Sengweni	Community		sengeni.com	07977165535	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY






IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Mthoko	mpangeni	member	-	0732723016	
	Ayanda	NAFCON	member		0715520211	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Winnie Ntseza				0818638913	
	FUNDISIWE Buthelezi				079 014 32 44	
	Thelkosi, Mkhurumani ZODWA			Maba	064021858	FM
	Nyabulo Madondo			Mkhurumani ZODWA HI@gmail.com	0835910237	
	Msimango NkAWHWA			Madondo 414@gmail.com Msimango NkAWHWA@gmail.com	06033328072 0603538646	 MD
	Sibeni So	Community	Community leader	Makhelane@gmail.com	013 879 6002	








PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	<i>Shirah Ndlovu</i>				<i>0677854959</i>	<i>[Signature]</i>
	<i>Senzo Cele</i>				<i>0716195562</i>	<i>[Signature]</i>
	<i>Zodumbe</i>				<i>0730007852</i>	<i>[Signature]</i>
	<i>Mthethwa</i>					
	<i># Gloria Mkhwa</i>			<i>gloriateresa@edgmail.com</i>	<i>0660117296</i>	<i>[Signature]</i>
	<i>Hombi</i>			<i>PinkySmangele@gmail.com</i>	<i>0738285277</i>	<i>[Signature]</i>
	<i>Simangele Gumeke</i>			<i>PinkySmangele@gmail.com</i>	<i>0823419076</i>	<i>[Signature]</i>
	<i>Zandile</i>					
	<i>Mkhwanazi</i>				<i>0723998025</i>	<i>[Signature]</i>

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	ZANELE DHENGYA			zanelewandy07@gmail.com	0730180009	
	NAMTHANDAZO			namthandaz87@gmail.com	079 716 88 29	
	SANGWENI JUSTICE				072 018 95 90	
	MSI MAMAZO					
	SINIKUZE					
	MKHEMBU				016 2594 610	
	KHOLEKANI SHOBEDA				013 75192560	
	ESHINO				0711708577	
	MUSI			Mseleni	0796878140	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Bonginkosi				0748605071	
	Sjabong				013614534	
	Siungiseni				0609570489	
	Sikumburo Shubiq				0791523580	
	SABELO MUCURANGO				0782961843	
	M Boyazi Mkusa			05. CO. ZA Mkusa@gmail.	0717878714	
	Luvuka Luvuka				072-9188812	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY







IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Nkosinathi Mgweni	N/A		Mgweni@n51@gmail.com	0720147383	
	Hester Mkhwanazi				0766652939	
	April Mkhwanazi				0768782036	
	Khanyi Sibisi				0725767343	
	Thupani				0721311781	
	Thupani MADIBE	N/A			0160360361	
	Nkosinathi	N/A			0780269168	








PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	SC VIKHAKZI	MTHONTANENI	ADMINISTRATOR	ccistoc@gmail.com	0690084519	
	E. MANTOHLE	IMPREGERI	DRIVER	shorosh@impregeri.com		
	S. NYASHENG	Empangeni	Boiler make Trade Tester (SD)	Sindi.nyasheng@gmail.com	0768657481	
	M. Sibilya	ESikhawini	N/A	N/A	0793378376	
	T. NDWANDWE	ESikhawini	-	-	0724878640	
	TC MTHIYANE	Mzindgerazi	-	-	0111197101	






PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Londise Hlangane				079 7361267	
	Samen ingwenye				072 726 7335	
	Jacobani Mbona				0653650524	
	Ndudu Tembe				0835179715	
	MPRATHO MNCUBE				0812877945	
	THABHE MBELE				079980 7179	
	JANE RESEI				071 0716860	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Nelly DLODLO			phelamanga@gmail.com? 0794610162		
	Raevie Mvondo				073 8936573	
	Nombi Mhinyane				073 175 3755	
	TS Mkhwanazi				0750057888	
	A. Mthelane				0835933357	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING





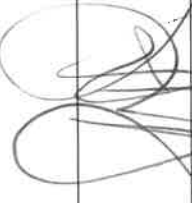
Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Mkhongo Sebzu			Mkhobest wadile mkhongo Sebzu@gmail.com	081 8487392	
	Mahaye Nduduzo			nduduzo mahaye@gmail.com	019 250 6809	
	Mark Zimzele			mark@umong.com	0836902728	
	Phumelele Donda			phumelele5743 ntobob@gmail.com	0713748197	
	Makwande Ngema			makwandengemamail.com	0682617297	
	Ricciardof M.Bugazi	Saleca		ricciardof@saleca usa.ca 24	083 288,53	
	Mwambi Ngwenyane			mwanambengwenyane@gmail.com	057 656 5721	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY








IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Siyabonga G		ward 16	passiongumede6655@gmail.com	06717230501	
	Nkululeko Mkhumbi		ward 16	nkululeko233@gmail.com	0842852183	N.Mkhumbi
	Siyabonga Dube		Ward 16		0788380127	Dube
	Mhsewenleasibekulo		ward 16		0726705643	
	Sethabile Game	R BIDZ	Environmental Officer	sethabile.game@rbidz.co.za	0840999624	
	Hansie TRONS	TRONK	TEAP	hansie@trons.com		
	Khanya	APM/KO	consultant	khanyadubisi@gmail.com	015367200	







PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
1	Dr G.N. Denny		Whip of Council		0837183477	
2	Rebber Louwrens Pieter			rebber@portofrichardsbay.co.za	0825572864	
3.	Dymstru 1 NGEMA	Private		dymstru1.ngema@gmail.com	0737267885	
	ZAWU TUB	Private			0604204610	
	Lungisani Sibinyi	private		Sibinyi	0735023567	
	M Sangafulu Mthethwa	MTS			0630984724	
	T. Bhandal	Amatigula			0786273148	T. B. Sibandaka








PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	LB MABERSHE			LBMALETSHIE@GMAIL.COM	0730244701	
	L.V. MATHETHANA			LVSMATHETHANA95@GMAIL.COM	0835877125	
	Z.P. MHLONGO			—	079141546	
	S. MGELESE			SkomphoSkompho1115	0138678475	
	S. MGENYI				0780656819	
	Sikhumbuzo Mngoma				0818152375	








PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	ZAKHELE Nxumalo			xxxxx MOSBETS TINISA @gmail.com	0719895249	
	TheLile Nenge			Emhobesi	0826201061	
	Mkoseni bha Mfuthi			Mkosenihumfuthi@gmail	0843764151	
	NDUVOZO XULU			NDUVOZOSPHEN@gmail.com	081803 2752	
	MANDLA DUBE				0765413386	
	Nkululeko Mlondo			nkululeko19londo@gmail	073 879 6002	
	Audile Methonsi			N/A	071 763603	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING








Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Bafano	C.W.P.		Bafano@portofrichardsbay.co.za	078 3040 521	
	Nobisi			Nobisi.Makhele@cpw.co.za	0633573292 078	
	Maitso				0600 53 2541	
	Velokosini				072 023 8677	
	Mandisa			mandisa@redafrica.org	0812187321	
	Sypronda			sypronda@portofrichardsbay.co.za	0711052267	
	Thabesile				0782110103	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY







IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Mbali NALA			Mbali.nala2015@gmail.com	073 1090024	
	Ncansile CHILI			ncansilechili16@gmail.com	076 8323091	
	Lindokuhle Nene			lnene9933@gmail.com	0663470270	
	Lungile Kennedy Sabole			lungilekennedy46@gmail.com	0603921923	
	Buthelezi			sabolebuthelezi110@gmail.com	0684465745	
				Sabolebuthelezi110@gmail.com	0785025930	
	Gumede				0785025930	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING







Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Bongani Alhanna Mkhosi			NA alhanna.mkhosi@edg.gov.za	0760848528 0165987933	
	Nondumiso Isse			nondumiso@grail.com	0676516105	
	Mangaliso Mkhosi				0710945646	
	Nkangiso Bigela			nkangisobigela@gmail.com	076 036 2892	
	SIZOPHILA MTHEMBU			parelencise@grail.com	078 4684148	
	Sizanele Givude			NA	0605940206	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

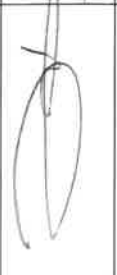
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Shnel'shwe Gumede			gumede.shnel'shwe@gmail.com	0765274210	
	Eric M. Aloushane	Private			0791107551	
	Zanele Mkhethwa			zanelekhath@gmail.com	0609350167	
	Fanele Mthebe				0607107583	
	Alumondzi Ntsele				0799392951	
	Seveme Zonel				0618373019	
	Mogosi				063785870	





PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Sphelale Murtlis			Phelalecmandlaga@gmail.com	063 6703207	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY
IN-PERSON PUBLIC MEETING



Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Burrie Mxwato				073 82 30348	
	Mona Mkhosi				072 668 7023	
	BUTHELEZI NOKUSANDA				068 406 6768	
	Khanyile Tolanda				072 338 7556	

PROPOSED GAS TO POWER VIA POWERSHIP PROJECT – PORT OF RICHARDS BAY

IN-PERSON PUBLIC MEETING

Date: 23 November 2022 at 10am

No.	NAME:	COMPANY / ORGANISATION:	DESIGNATION:	EMAIL ADDRESS:	CELLPHONE NUMBER:	SIGNATURE:
	Stnabile		MZALALISANTU		071 023 6111	
	LIZWILENKOSI		MZIKHGAZI		081 88 91150	
	Msoni Nxolisi		Madlankol		073 5707729	

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Buhle Nkomo

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

yes

EMAIL ADDRESS

PHONE NUMBER

067 257 4218

COMMENT:

Large empty rectangular area for providing a comment.

COMMENT CONT:

Mina UBanle Akwalo

Mizizwa Ngijabule Siyayi daga kakula

Siyayifuna lanta obakulama ngayo

Mina konke ebekeshworo ngakandele

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Nompumelelo Lindiswa Sibisi

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

N/A

PHONE NUMBER

079 337 8376

mzinzwengy

COMMENT:

No comment

COMMENT CONT:

--

Phelamanga



COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Thandi

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

PHONE NUMBER

07100 77380

COMMENT:

COMMENT CONT:

Thank so much For Presentation
and we thanks a lot for bring Karpowership
in Richard bay so that they give us a
opportunity For getting Jobs -

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	REV. NICHOLAS NITHEJHWA
ORGANISATION & DESIGNATION (IF RELEVANT)	AFM. REHOBOTH WORSHIP CENTRE (SENIOR PASTOR)
EMAIL ADDRESS	nyambose_holdings@yahoo.com
PHONE NUMBER	0784612066

COMMENT:

BASED ON ALL THE PRESENTATIONS PRESENTED TO US AS THE COMMUNITY, I AM CONVINCED THAT WE NEED KARPOWERSHIP ON BOARD.

THERE ARE MANY AREAS IN WHICH WE ARE GOING TO BENEFIT AS THE COMMUNITY OF UMHLATHuze, SUCH AS:

- JOB OPPORTUNITIES
- SMALL BUSINESS DEVELOPMENT - (WHICH IN TURN WILL CREATE MORE EMPLOYMENT OPPORTUNITIES)

1
COMMENT CONT:

--

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Tobile Mthimkhulu

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

PHONE NUMBER

076 3512162

COMMENT:

Large empty rectangular area for providing comments.

COMMENT CONT:

Shambire Sham Selokhy
Sifike ngo 8 Namanje
asidile niyokwazi pho
ukusinolele manisincishe
ukudla

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Phileani Mkhize

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

Phileani94@gmail.com

PHONE NUMBER

0606693699

COMMENT:

According to what presented by Karpowership and what project brings in our community about solving energy problem I think its good for the project to begin with an immediately effect.

Secondly Please make sure to keep your promises about employing our local community and skill development also.

Does the sound in ocean change or will always be at constant of 2db in every 5 seconds

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Sibongile Nxumalo

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

Sibongilenxumalo633@gmail.com.

PHONE NUMBER

0730372979

COMMENT:

There is nothing wrong with
KarpowerShip and we have
to support.

The impact of operation activity
about KarpowerShip is to end
Poverty

As Richards Bay ~~we~~ they will
~~and~~ gain work.

SR

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	Mary-lee Puttce
ORGANISATION & DESIGNATION (IF RELEVANT)	Technilaw
EMAIL ADDRESS	consulting.Sm07@gmail.com.
PHONE NUMBER	0722142688 0745036503
COMMENT:	all safety requirements we can provide

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	CYPRIAN KHUZWAYO
ORGANISATION & DESIGNATION (IF RELEVANT)	ZEDA Zululand Economic Development Agency
EMAIL ADDRESS	Cypriankhuzwayo09@gmail.com
PHONE NUMBER	073 87291102

COMMENT:

My recommendation is that Kaspership work through Zululand Chamber of Business Foundation (ZCBF) so that your programme is well co-ordinated

- They operate throughout the area of Zululand
- They have got space for training programmes
- They have been involved with this community for a period of over 30 yrs

Your project is welcomed and highly appreciated



COMMENT CONT:

--

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

GLORIA MTETWA

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

gloriامتetwa6@gmail.com

PHONE NUMBER

066 011 7296

COMMENT:

CONGRATULATIONS GUYS you did a good job.
Thanks for everything you explained to us
according to my side I heard everything.
God Bless you all.

COMMENT CONT:

--

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Zulu Lwazi

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Madlantala Reserve ward 12

EMAIL ADDRESS

PHONE NUMBER

079 6654 247 / 063 562 3285

COMMENT:

I just need a job please

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

GOODNESS FIKIE MTEZA

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

MADLANKALA RESERVE WARD 12

EMAIL ADDRESS

PHONE NUMBER

0768927385

COMMENT:

I WANT A JOB PLEASE.

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

MPILOZ GUMEDE

ORGANISATION &
DESIGNATION
(IF RELEVANT)

PHLANTZINI RESERVE WAROS OS

EMAIL ADDRESS

PHONE NUMBER

078 15 85 033 / 073 64 99 423

COMMENT:

NGIYABINGELELA NGITUZWILE AKOTE OKUKHULY
NGIWE. TSIFISO SAMI UKUKHI ZIPHELE
IZIXOXO SIGHASHWE.

Kanye nabantwana bethu bethole
imifundazwe

NGIYABONGA

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

NELLY DLADLO

ORGANISATION &
DESIGNATION
(IF RELEVANT)

WSELEVI Community member

EMAIL ADDRESS

dladlanelly58@gmail.com

PHONE NUMBER

0794670162

COMMENT:

When is the project gonna start

We are suffering as a community

COMMENT CONT:

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Dumiso MABANDA

ORGANISATION & DESIGNATION (IF RELEVANT)

EMAIL ADDRESS

dumiso.mabanda@gmail.com

PHONE NUMBER

079 99 08 144

063 4372882

COMMENT:

~~comment~~

I so happy about powership to port Richard Bay

1. Amathuba omsebenzi

2. ulufundiswa ngomsebenzi

3. Amathuba ulufundisa ingane reshoke

c.

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Thobile Buthelezi

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Mandlankala

EMAIL ADDRESS

butholezithobile@yoooho.com

PHONE NUMBER

073 95 85 423

COMMENT:

On my side I have no comment.
I want to appreciate on Karpowership
to done this opportunities in this community
of Umhlathuze.

We need job and Electricity if Karpowership
we done for create job, I will appreciate
very very well.

Karpowership please change life to
our community if you do that to give
us work we thank very very much.

COMMENT CONT:

--

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFEE Ref No. 14/12/16/3/3/2/2007

NAME	HAPPY S MACHANJA
ORGANISATION & DESIGNATION (IF RELEVANT)	AKABONGWE CO-OP AND EMTHONJENI CO-OP
EMAIL ADDRESS	Mthethwa happy@gmail.com
PHONE NUMBER	0834295023

COMMENT: THANK YOU FOR COMING TO OUR PLACE AND INTRODUCING YOUR HELP, WE HOPE IT WILL BE LIGHTING OUR FUTURE AND TAKE US TO NEXT PAGE AS WELL AS HELPING OUR KIDS WHEN COME TO THE BARSANIES

QUESTION! How can you hire us for a job as you know South Africa had a lot of corrupt

It will be better if you'll ~~send~~ your em by yourself

We also thank you for giving us a hope of electricity our appliances get damages because of loadshedding

THAT YOU KARPONESHIP FO RESCUE US

Hope you'll have some time to do your work

COMMENT CONT:

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Phile Mthembu

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

Philethand08@gmail.com

PHONE NUMBER

073 4710 710

COMMENT:

my comment is that we don't need an ample promises
we need jobs and careers

COMMENT CONT:

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	Smengele
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	Smengelejabu2@gmail.com
PHONE NUMBER	0714212012
COMMENT:	we want the skills development, learnership, Apprenticeship and bursaries.

COMMENT CONT:

--

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Stumbo nelwanelwe

ORGANISATION & DESIGNATION (IF RELEVANT)

EMAIL ADDRESS

Stumbo309@gmail.com

PHONE NUMBER

0677854959

COMMENT:

I just want to know how can I apply for a job if I have a certificate for welding but problem is of experience. WE need a email address or whatsapp number.

Yours sincerely Stumbo Siphomantla nelwanelwe

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Bafana Bongumisa M. Mkhelane

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

bafana.bongumisa@gmail.com

PHONE NUMBER

078 5040 921

COMMENT:

If I want to have a poultry business what can I do because I have a certificate of the chicken's.

I want to build a house for chicken and egg.

My question is that what can I do if I need a loan to make my business work?

COMMENT CONT:

--

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Siphwe Sithole

ORGANISATION & DESIGNATION (IF RELEVANT)

AKABONGWE CO-OP

EMAIL ADDRESS

Siphwe.Sithole68@gmail.com

PHONE NUMBER

0832341789

COMMENT:

Thanks for Karpowership to come to South Africa to help us, with job skills etc. We will be glad if Karpowership will fulfil their promises. What I would like to know ~~what~~ How will you hire people. you will give applications to Councillors or Ianduna that way doesn't help the communities because they hire their relatives only. We need the proper way of hiring people. We think Karpowership come to rescue us. VIVA KARPOWER VIVA!!

Another thing that worried us the work experience they want 3yrs experience etc if you dont have. you loose the job we hope KARPOWERSHIP wont do that.

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

BHOBI HEMBEHE

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

PHONE NUMBER

0762889089

COMMENT:

Angisebenzi. Ngifuna umsebenzi
Angingqali yokuzonDLA.
Kanye nezi ngq ne zani
Nonkosikazi Wami Akasebe-
nzi

COMMENT CONT:

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

KHAMU Sithe

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Richards Bay

EMAIL ADDRESS

PHONE NUMBER

0725 767343 / 081 75 79 270

COMMENT:

if I hear about Karpowership it very very good because it fight the poverty. it create jobs and busary etc. viva Karpowership. viva Karpowership.

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Fur Kwazi

DuBE

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

PHONE NUMBER

0733532595

COMMENT:

Kuzwakele wonke oku kubu kunywe
Siyacacelwa sicela ukuba kwanze
ke kungangqine kungokuxoxwa
ku phela

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

THUGANI - MADIDE

ORGANISATION &
DESIGNATION
(IF RELEVANT)

RICHARD BAY (EMANDLATINI)

EMAIL ADDRESS

PHONE NUMBER

0760 360 361

COMMENT:

THANKS TO KARPOWERSHIP for coming
and Choose Richards bay.
We need a job to support our
children. THANK YOU

COMMENT CONT:

COMMENT CONT:	

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Z.A. Mkhwanazi

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

PHONE NUMBER

072 398 8025

COMMENT:

FORWARD CAR Powership Forward

Ngibule ka kwazi ngo karpowership
ukuzosebenza nele e Bay Stosebenza
- Nampekubi NO Age restriction
- Learnership etc.

Shabong

COMMENT CONT:

--

Phelamanga



COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Nkosinathi Mgenje

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

PHONE NUMBER

0780269168

COMMENT:

/

COMMENT CONT:

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	Winnie NZARA
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	
PHONE NUMBER	08186 38913.
COMMENT:	Great @ job

--	--

COMMENT CONT:

That is a wonder Many things

That was saying Thanks for creating
Jobs & busseries so everything was
Greatfully So he we need jobs
Sicela nisoqalwe base nolfendise
amadalla

Phelamanga



COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

NOSISI

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

NOSISI@phelamanga.co.za

PHONE NUMBER

0633573292

COMMENT:

NO COMMENT

COMMENT CONT:

Phelamanga



COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

D S Mthembu

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

NORTH COAST WORKERS Forum

EMAIL ADDRESS

N2A@ABANTU

PHONE NUMBER

076 633 4553

COMMENT:

Empty comment box for providing feedback.

COMMENT CONT:

- THANKS FOR PRESENTATIONS IS GOOD
WE WANT KAPOWE SHIP TO RECRUIT
NUMBER OF PEOPLE TO OUR
ORGANISATION (NCWF)
- GIVE TRAINING TO UNEMPLOYED
PEOPLE

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	<i>Samueliso Cume</i>
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	<i>Samueliso Cume @ com sa</i>
PHONE NUMBER	<i>0785025930</i>
COMMENT:	<i>Creative Job opportunity</i>

COMMENT CONT:

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	NANA MFKATI.
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	nana.mfkati@marl.com
PHONE NUMBER	0726687023
COMMENT:	I'm feel comfortable

COMMENT CONT:

When did start bus project

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	THANDAZILE P. NDWAMDWE
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	tsikhawini
PHONE NUMBER	0724878640
COMMENT:	No comment because I need you Job . before after dealing the project

No comment because I need you Job . before after dealing the project

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Lordine Ntuli

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

PHONE NUMBER

0712870415

COMMENT: hle d

We have a problem in our ward, me I'm from ward 15
If there is job opportunities that are opened the council
are give their friends and family only. At home there
is no one that is working I'm staying with my
mother, grandmother and also my 2 sisters. We
are living with the old grant of our parent. They
Support us with the old grant. So can we please
get help in our home to get employed so that
we can support our self and our children.
If there is any help that I will get, it will be
really, really appreciated I do need job. Please
TAKE CARE THANK! YOU!!

COMMENT CONT:

We have tried to submit our cv's in different places but we didn't get any job or help. Which is very hurt to use. We see our selves as it like better life is not suitable for us.

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

MAKHOSONKE Zikhali

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

PHONE NUMBER

066 0450 730

COMMENT:

Large empty rectangular area for providing comments.

COMMENT CONT:

For these presentation it comes to developed
their opportunities of job. So it mean it may
being welcome to Mhatware Community
because of reduction their opportunity
of job. So that it must be these company
may give a chance for providing their job
opportunity in the area of Mhatware
or Richsburg

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Siyabonca Newane

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

NATHI.NEWANE.CO.122

PHONE NUMBER

0798398589

COMMENT:

Siyabonca kakhulu encikuzwile kuyancijabuli
SA UMA NCIZWA OKWHE KAMJE NCI-BONCE

COMMENT CONT:

COMMENT CONT:	

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	Genzo Siyabonga
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	EMkhobisa Reserve Ten
PHONE NUMBER	0818487392
COMMENT:	

* No comment everything is Right
* Employment Everything is ben Right.
* My comment is to Employed for Powership

COMMENT CONT:

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME *ARIE MAMUWA*

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

P.O. BOX 2722 Empangeni 3880

PHONE NUMBER

0799913074 or 0835933351

COMMENT:

CBS Richards 3990

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Bonakele Nobuhle Xulu

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Yes

EMAIL ADDRESS

PHONE NUMBER

063 589 2111

COMMENT:

Ngowami umbono ~~uthe~~ or I comment.
- Ikarpowership. Isilungele and siyayeseka
Ngifisa iqhubeka sitatukozele
Ukuba sizolathukozela Kalchulu
ukonke ezanakho sicelo ingasiphoxi.
P12 R12 P12

COMMENT CONT:

--

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

ZAKHE

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

ESIKHAWINI Rescued

EMAIL ADDRESS

PHONE NUMBER

0764285486

COMMENT:

THANKS FOR your jobs opportunities

COMMENT CONT:

076 4285486

I'm ZAKHE Mfontshenene

I will like to be the apart of this opportunitie
Because this is A good job Recreation with me
SO I need to be apart of it.

Thank you with KARPWESHIP

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

SITHEMBILE NUAMA

ORGANISATION &
DESIGNATION
(IF RELEVANT)

RICHARD BAY

EMAIL ADDRESS

Sithembile nuama@gmail.com

PHONE NUMBER

078 7612 217

COMMENT:

As I'm a community at Richards Bay Car power ship is right to us as a local it assist us to availability of job we fully support to integrated Resource Plan. the country energy toward 2030 which mention the role of gas in the energy mix together with renewable such as solar, wind and other. for these reasons. We support Karpower ship in Richards bay.

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	BHEKI S MASINGA
ORGANISATION & DESIGNATION (IF RELEVANT)	NORTH COAST WORKER FORUM
EMAIL ADDRESS	Bhekinkululekotriding1@gmail.com
PHONE NUMBER	073 033 44 25
COMMENT:	

I HEREBY TO CONFIRM that I AM so excited ABOUT this project. According to my Concern I would like to see this Company to Continue Commencing the project. Those who refuse to see this project to be Comence, they should understand that the majority of this area are not putting anything on the table for their families. This project will help peoples get jobs so that support their families. So please just Continue with this project. we full support Jarpowership to operate at our City.

COMMENT CONT:

--

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Vusi MITHETHAKA

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

Vusi.MITHETHAKA95@gmail.com

PHONE NUMBER

0835377125

COMMENT:

Thanks to KAPPOWORSHIP TO come in Richards BAY to help us not only ^{with} the electricity problem but to also help us in our community. With businesses, job creation and many more. so thank you very much!!!

COMMENT CONT:

--

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	NhIAKANI PNO MMELI GUMEDC
ORGANISATION & DESIGNATION (IF RELEVANT)	
EMAIL ADDRESS	samkehgumz@gmail.com
PHONE NUMBER	078 5025 930
COMMENT:	Creative Job opportunity

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Lucky MOLETSHE MR

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Community

EMAIL ADDRESS

LBMOLETSHE@GMAIL

PHONE NUMBER

073 024 4701

COMMENT:

COME KRAPOWERSHIP, I HOPE YOU'LL
FULFIL ALL THE PROMISES YOU HAVE SAID
HERE.

AS A COMMUNITY MEMBER, I ALSO CONCERNED ABOUT ELECTRICITY PRICES. AS YOU GOING TO SELL POWER TO ESKOM, FROM ESKOM TO MUNICIPALITY THEN THERE WILL BE NO LESS PRICE THAN WHAT WE PAYING NOW. UNLESS IF NESA CAN LOOK IT OTHERWAY.

THANKS

COMMENT CONT:

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME	Smanga Es
ORGANISATION & DESIGNATION (IF RELEVANT)	ESKHAWIMI
EMAIL ADDRESS	
PHONE NUMBER	0728142227

COMMENT:

Please take serious of that one who's more than 35 year, because they are not working to other Companies and not getting pension grant, even in the Government departments not getting jobs. Please Karpowership take us. we've got families and ^{they} want food from us because we are the breadwinners. Carefully there are thief and Corruption^{or} who's gonna steal yours. and left us poor. we are Hungry!!!

COMMENT CONT:

COMMENT CONT:	

Phelamanga



COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Nkosinathi Magubane

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

N/A

EMAIL ADDRESS

Magubane n57@gmail.com

PHONE NUMBER

0720147383

COMMENT:

My comment EVERYTHING IS OK THANKS

COMMENT CONT:

Konke kuhlambekahle sibongile ka kwisi
Ngoku letwelwa amafuba emisebenzi ERICHARDS

bay -

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

April Mkhumbeni

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

PHONE NUMBER

076 5730036

COMMENT:

I need for powership

COMMENT CONT:

Karpowership is very good
for us as the resident of
Richards Bay - in these days
we suffered load shedding
all over the wood now
we at Richards Bay we are
in a good luck to get
Karpowership - its got to
solve our problems

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

THULANI MATHABA

ORGANISATION &
DESIGNATION
(IF RELEVANT)

RICHARDS BAY (ENSELENI)

EMAIL ADDRESS

PHONE NUMBER

071 213 1178

COMMENT:

THANK KAPPOWER for your promising
Us. The life will never be the same

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triple4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Eabangile Ncube

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

Cabane⁰¹²³@gmail

PHONE NUMBER

0636322942

COMMENT:

Nlina ngiyabonga kakhulu ku Ka Powership
ngokusi bona ukuthi sisobizini abukhulu
lokungasebenzi siphindadeke ~~si~~ sibulawe
yindlala. Isifiso sami ukuthi ngathi
i(project) ingaqala as soon as possible.

Ngoba siya emabonakalini ka December
kubekungu ngoba kasisebenzi asikwazi
ukuthengela izingane izipho zika
(Christmas) ngisabali eyokwala kanye
ne (uniform) ya next year yesikole

Siyacela kakhulu ukuthi kussheshe
kugqalwe. (PLEASE).

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Misane Matoto Phumelele.

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

PHONE NUMBER

0833285919

COMMENT:

1. Ngibona leproject izosekhula umthwalo esiwuthwele wokungaqashelki.
2. Ukuba no cimi cimi or load shedding kusitimizela impahla. Iholukuthi nabanye bayashona ngenxa yokuhamba kagesi. So Viva karpowership.
3. Ngijabule ka khulu kule teminyaka eoz sengimdala, i the mba libuyile kimi uluthi sengizosebenza. Akuthi umq uqasha nami ngibe sohlelweni labaqa shekayo (Ngiyacela).
4. Izingane zethu zithola uqeqesho siyabonga kalhulu.

COMMENT CONT:

Muhle umsebenzi eni wenzayo nokutshi
nikhethe I Richards Bay. Nigibone izanelwe
ilama thuba.

We Thank you
Karpowership

M.P. ~~AB~~

Phelamanga



COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

THEMBINKOSI GOMEDU

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

EMZINGAZI

PHONE NUMBER

0722130467

0661165765

COMMENT:

NO COMMENT

COMMENT CONT:

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Herbert Mthembu

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

PHONE NUMBER

0764652939

Cell

COMMENT:

Cell number 2415

COMMENT CONT:

Car power Sir: Ah

is very good thanks

~~to~~ Car name Sirs

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Syabonga Gumede

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

N/A

PHONE NUMBER

N/A

COMMENT:

060 594 0205
N/A

COMMENT CONT:

--

Phelamanga



COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Nusi Mabanga

**ORGANISATION &
DESIGNATION
(IF RELEVANT)**

EMAIL ADDRESS

mzingwenya

PHONE NUMBER

060 7326600

COMMENT:

No comment

COMMENT CONT:

--

Phelamanga

COMMENT FORM



PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

S.T DuBe

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Kwambonambo Co-operation

EMAIL ADDRESS

PHONE NUMBER

073 592 7895

COMMENT:

I here by of concern about any gas leaking that might arise in this project.

So, going forward what is it that karpowership have in place to avoid that gas from the extent of reaching community member.

COMMENT CONT:

COMMENT CONT:	

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

GLADYS SIKOBO MTHETHWA

ORGANISATION &
DESIGNATION
(IF RELEVANT)

MTHETHWA CO-OP

EMAIL ADDRESS

PHONE NUMBER

083 5019758

COMMENT:

IT IS A GREAT PLEASURE TO US FOR YOU TO
COMING HERE, WE HAD A GREAT TIME
AND WE ALSO THANK YOU FOR HELP YOU
~~TO~~ INTRODUCING TO US TODAY. WE HOPE
THAT IT WILL BE TAKING US TO THE
NEXT PAGE AND LIGHTING FOR OUR
KIDS FUTURE AND OUR FUTURE
AS WELL

QUESTION: How will you HIRE A PEOPLE FOR JOB
AS YOU KNOW SOUTH AFRICA HAS
A LOT OF CORRUPTION.
will you Give them a chance to
hire us or you will do it for
Self

Thank you KAPPOWERSHIP YOU'VE DONE
A GREAT JOB

COMMENT CONT:

--	--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Siphesihle Zulu

ORGANISATION &
DESIGNATION
(IF RELEVANT)

N/A

EMAIL ADDRESS

Zulusiphesihle8@gmail.com

PHONE NUMBER

078 444 2970

COMMENT:

My comment is more concerned about the training and skills that you're going to offer, and the age restriction of above 35 years of age.

Please HIRE US!!!
Surely Goddess and mercy shall follow you.

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Phiwanda Ndlezi

ORGANISATION &
DESIGNATION
(IF RELEVANT)

Aquaphiswazi fishing Co. op

EMAIL ADDRESS

phiwandle9221@gmail.com

PHONE NUMBER

0822206345

COMMENT:

I want the clarity about business for our kids especial the ~~send~~ High school? Because mostly they give Higher education eg. Tertiary students.
If I want to apply for kids what must I do?

COMMENT CONT:

--

Phelamanga

COMMENT FORM

triplo4
sustainable solutions

PROPOSED GAS TO POWER VIA POWERSHIP AT PORT OF RICHARDS BAY

DFFE Ref No. 14/12/16/3/3/2/2007

NAME

Thembalethu Dlamini

ORGANISATION &
DESIGNATION
(IF RELEVANT)

EMAIL ADDRESS

PHONE NUMBER

COMMENT:

Methane GAS

1. The impact that will arise from the methane is not clearly depicted. Are there immediate impact that will arise thereof?
2. Will there be a possibility of methane gas releases? what are the mitigation measures?

Overall this is ~~the~~ seemingly a great proposed project with great economic impact to the City of Mhlathuze. However smaller environmental impacts should not be overlooked.

COMMENT CONT:

--

APPENDIX 3.15.2: VIRTUAL MEETINGS

Public Participation Workshop: Richards Bay

Draft Environmental Impact Assessment (EIA)
Report for the Proposed Gas to Power via Powership Project
at the Port of Richards Bay, uMhlathuze Municipality within
King Cetshwayo District Municipality, KwaZulu Natal
(DEA/EIA/ 14/12/16/3/3/2/2007)

Online Meeting - AirMeet
23 November 2022



Item	Responsibility	Estimated time
Welcome & introductions	Rose Owen (facilitator)	5 min
Project Context	Prof Lwazi	8 min
Karpowership SA	David Clark	5 min
Overview of project	Hantie Plomp	5 min
Transdisciplinary approach	Hantie Plomp	10 min
Discussion	All (lead by facilitator)	10 min
Specialist presentations	Various	
Economic Development	Waldo Adams	10 min
Socio-economic	Eugene De Beer	10 min
Discussion	All (lead by facilitator)	10 min
Climate Change	Robbie Louw	10 min
Terrestrial Noise	Dr Brett Williams	5 min
Air Quality	Dr Mark Zunckel	5 min
Major Hazard Installation	Claude Thackwray	5 min
Discussion	All (lead by facilitator)	10 min
Marine Traffic and Thermal Plume	PRDW	5 min
Underwater Noise	Tim Mason	5 min
Coastal, Estuarine, Marine Ecology, Avifauna & Fisheries	Catherine Meyer & Dr Barry Clark	20 min
Overview of low / negligible impacts	Hantie Plomp	10 min
Discussion	All (lead by facilitator)	20 min

Welcome and Introductions



Engagement courtesies & housekeeping

- ▶ Discussion time has been planned - please put your Questions / Comments into the Q&A block so that we can collect them for the specialists to respond to during the Discussion time
- ▶ If a Question / Comment has been put in and you support or would also like clarity to the same Question / Comment, please use the “**Upvote Arrow**” to show you are also looking for a response or clarity to this item so we can track this.
- ▶ Please state your name, organisation & position clearly with your Q&A so we can follow up and for record keeping purposes
- ▶ Commenting period:
 - ▶ 10 November - 13 December 2022
 - ▶ email: richardsbayksa@triplo4.com

“No Frogging, No Hogging, No Bogging”



Key desired outcomes for today

- ▶ Introduce the proposed project
- ▶ Explain the Environmental Impact Assessment process, and your role
- ▶ Share the key findings from the specialist assessments
- ▶ Opportunity to comment and engage with specialists
- ▶ Open discussion, engagement and learning



Project Context – Prof Lwazi



PROJECT CONTEXT

- How did we get here?
 - A response to a RFP issued by the DMRE in July 2020
 - As a risk mitigation (response) to the energy crisis
 - Within the IRP2019 planning
 - The provision of electricity through this project is structured different – will generate electricity only when issued a dispatch instruction
 - 8 Preferred bidders announced in March 2021, then 3 more projects in June 2021
- Energy Security/Poverty
 - Access to Electricity
 - Clean Cooking
 - Health
 - Human Development Index

- International Approaches to Energy Security

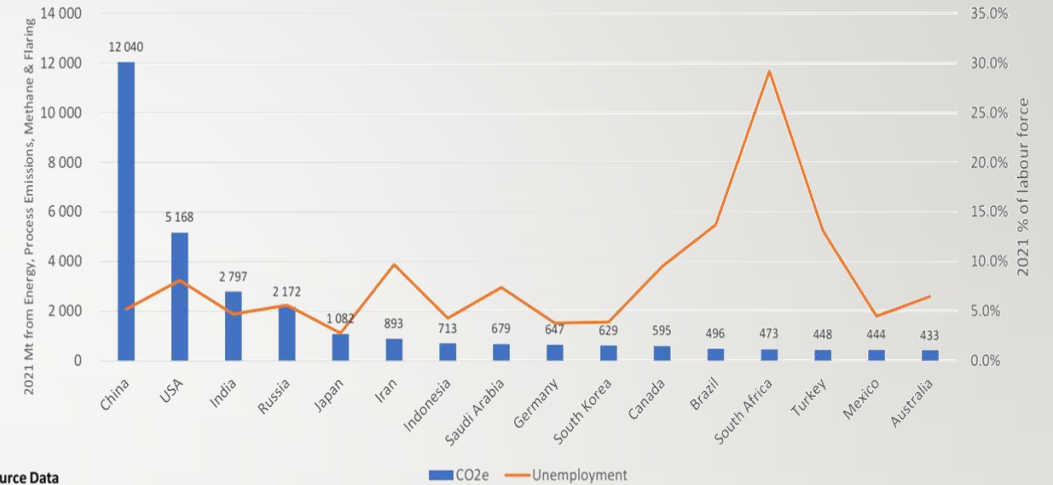
- [North America](#)
- [Europe](#)
- [Global](#)

- Lessons for South Africa

- Energy security needs to be a deliberate policy decision
- Developed world put their energy and national security concerns and priorities above their climate commitments.
- Energy geopolitics are intertwined with global political agendas – implications for policymaking.
- Rest of the world sees Gas as a bridge to a lower-carbon future.
- South Africa and the continent, has poor indicators including electricity access, access to clean cooking, child health rates etc., a direct result of being energy poor.
- Transitioning recklessly to a low-carbon economy puts the country's energy security at risk.
- The uptick in renewable energy has not translated to lower energy prices for the consumer.
- The ideal of a low-carbon future may not be attainable in the near future because of many constraints

Just Energy Transition

- South Africa's "just transition" framework is based on 3 principles of justice (**Presidential Climate Commission, 2022**):
 - **Distributive**
 - **Restorative and**
 - **Procedural justice**

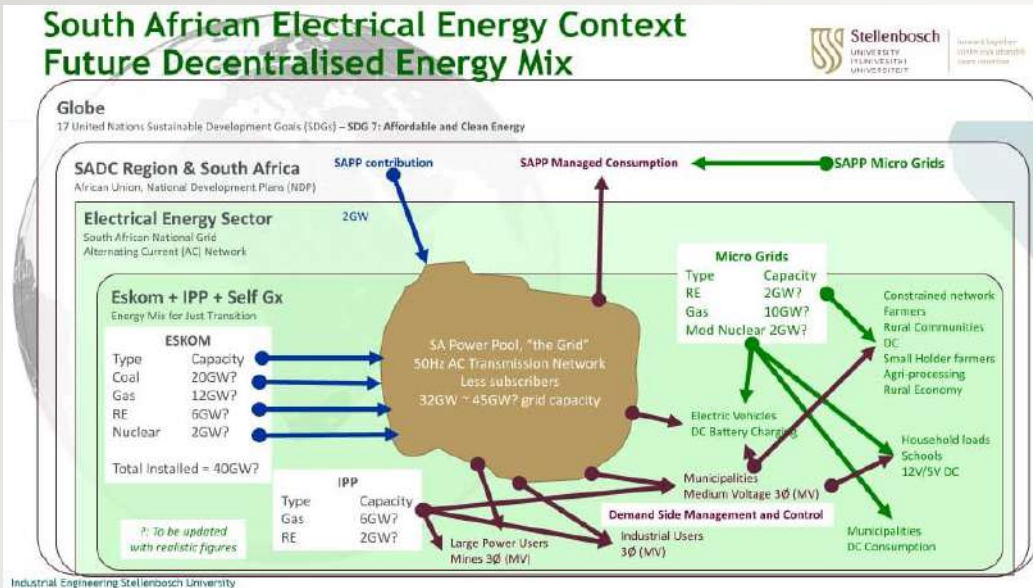


Source Data
BP Statistical Review of World Energy 2022
www.worldpopulationreview.com



© Dynamic Energy Consultants 2022

South Africa's Pressing Challenges





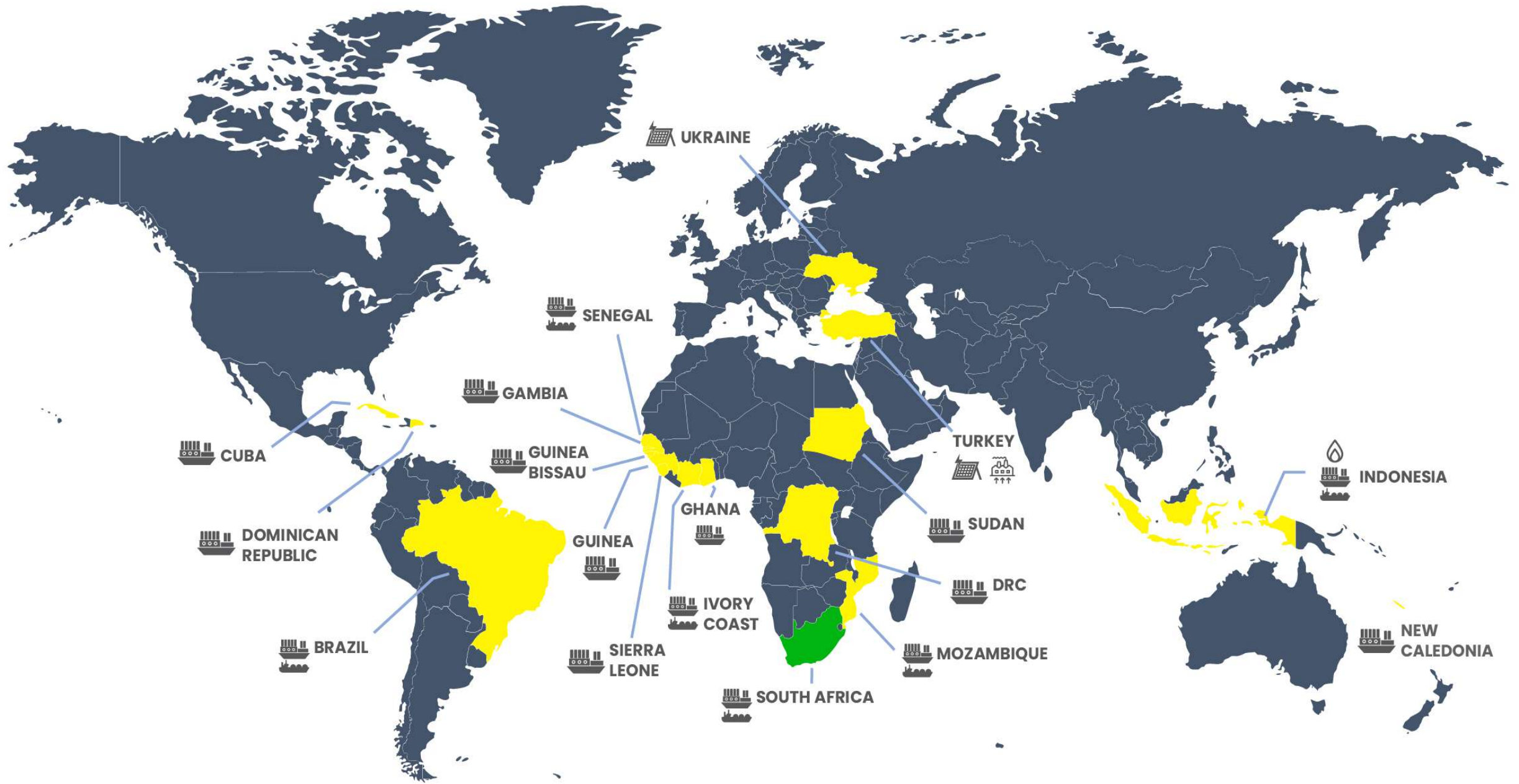
THANK YOU

Karpowership South Africa – David Clark



KARPOWERSHIP

POWERING
life



Overview of Project – Triplo4



Overview of Project

Scoping Phase

- Approval of Final Scoping and PoS received from DFFE - 06 January 2021.

EIA Phase (2021)

- Final EIAR & EMPr submitted to DFFE – 26 April 2021;
- EA application refused as per Record of Refusal – 23 June 2021
- KSA appealed the refusal – 12 July 2021
- Minister dismissed the appeal – 01 August 2022
 - exercised her powers in terms of Section 46(3) of NEMA
 - remit the matter to CA – various gaps in information and procedural defects to PPP to be addressed for reconsideration, within EIA process timeframes

EIA Phase (2022)

- Pre-Application with DFFE– 24 August 2022;
- dEIAR Public Participation comment period - 10 Nov – 13 Dec 2022 (33 days)
- Final EIAR – due in January 2023

Main aspects from appeal

- ▶ PPP - All I&AP to have an opportunity to comment on noise information
- ▶ Noise from the Powership
 - ▶ Underwater noise & impacts
 - ▶ Terrestrial noise
 - ▶ Need & desirability
 - ▶ Socio-economic and ecological aspects
 - ▶ Socio-economic
 - ▶ Tourism
 - ▶ Small-Scale Fishers
 - ▶ Polycentric approach
 - ▶ Considering all matters integratively





Legend

-  Access routes
-  OHL Route (Preferred)
-  OHL Route (Alternative)
-  Land Cover - Transformed

CLIENTS



NOTES

1. All data is approximate and subject to survey

PROJECT

Gas to Power Project

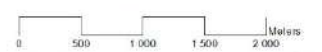
MAP TITLE

Richards Bay Port Locality

COMPILED BY



Scale 1:40 000 (on an A3 page)



Map Ref: RB_EIA_Locality_G2-Transformed Date: 08-Nov-22

Dataset Credits: Department of Rural Development & Land Reform; CDNGI & CSG; PRDW, SAND & Tripoli



Transmission component



Transdisciplinary Approach – Tasneem Steenkamp



Transdisciplinary Approach

SPECIALIST REPORTS			SPECIALIST COMPANY
A TERRESTRIAL BIODIVERSITY & ECOSYSTEMS	A1	Hydrology Assessment	GCS (Pty) Ltd
	A2	Aquatic Assessment	GCS (Pty) Ltd
	A3	Hydropedology Assessment	GCS (Pty) Ltd
	A4	Geohydrological Assessment	GCS (Pty) Ltd
	A5	Water Balance Assessment	GCS (Pty) Ltd
	A6	Wetland Delineation and Functional Assessment	ENVASS / Triplo4
	A7	Archaeological Impact Assessment	Agency for Cultural Resource Management
	A8	Terrestrial Ecological Assessment	The Biodiversity Company
	A9	Terrestrial Avifauna Impact Assessment	Dr Paul Martin
B MARINE , COASTAL & ESTUARINE BIODIVERSITY & ECOSYSTEMS	B1	Baseline Underwater Noise Assessment	Subacoustech Environmental Ltd
	B2	Underwater Noise Assessment	Subacoustech Environmental Ltd
	B3	Underwater Heritage Assessment	Contract Maritime Archaeologist
	B4	Marine Ecology, Avifauna Fisheries and Coastal Assessment	Anchor Environmental, Coastwise Consulting & GroundTruth
	B5	Estuary Compliance Statement Assessment	Coastwise Consulting & GroundTruth
C ATMOSPHERIC CONDITIONS	C1	Atmospheric Impact Assessment	uMoya-NILU Consulting (Pty) Ltd
	C2.1	SA Terrestrial Noise Assessment	Safetech
	C2.2	Ghana Airborne Noise Assessment	Subacoustech Environmental Ltd
	C3	Climate Change Impact Assessment	Promethium Carbon
D SOCIAL CONDITIONS AND RISKS	D1	Socio-Economic Impact Assessment	Afro Development Planning Pty Ltd
	D1.1	Small Scale Fishers Engagement	Afro Development Planning Pty Ltd
	D1.2	Tourism Impact Research	3T Business Fusion
	D1.3	Traffic and Transportation Evaluation	Fulcrum Development Consultants
	D2	Landscape and Visual Impact Assessment	Environmental Planning and Design
	D3	Major Hazard Risk Installation Assessment	Major Hazard Risk Consultants
	8.1	Gas to Power Projects and the Just Energy Transition from Fossil Fuels in the South African Political Economy	Political Economy Southern Africa
	8.2	South Africa Country Specific Energy Security Assessment	Prof Lwazi Ngubevana
	8.3	The Economic Impacts of Rolling Blackouts in South Africa	Afro Development Planning Pty Ltd
8.4	Sustainability Assessment	Afro Development Planning Pty Ltd	

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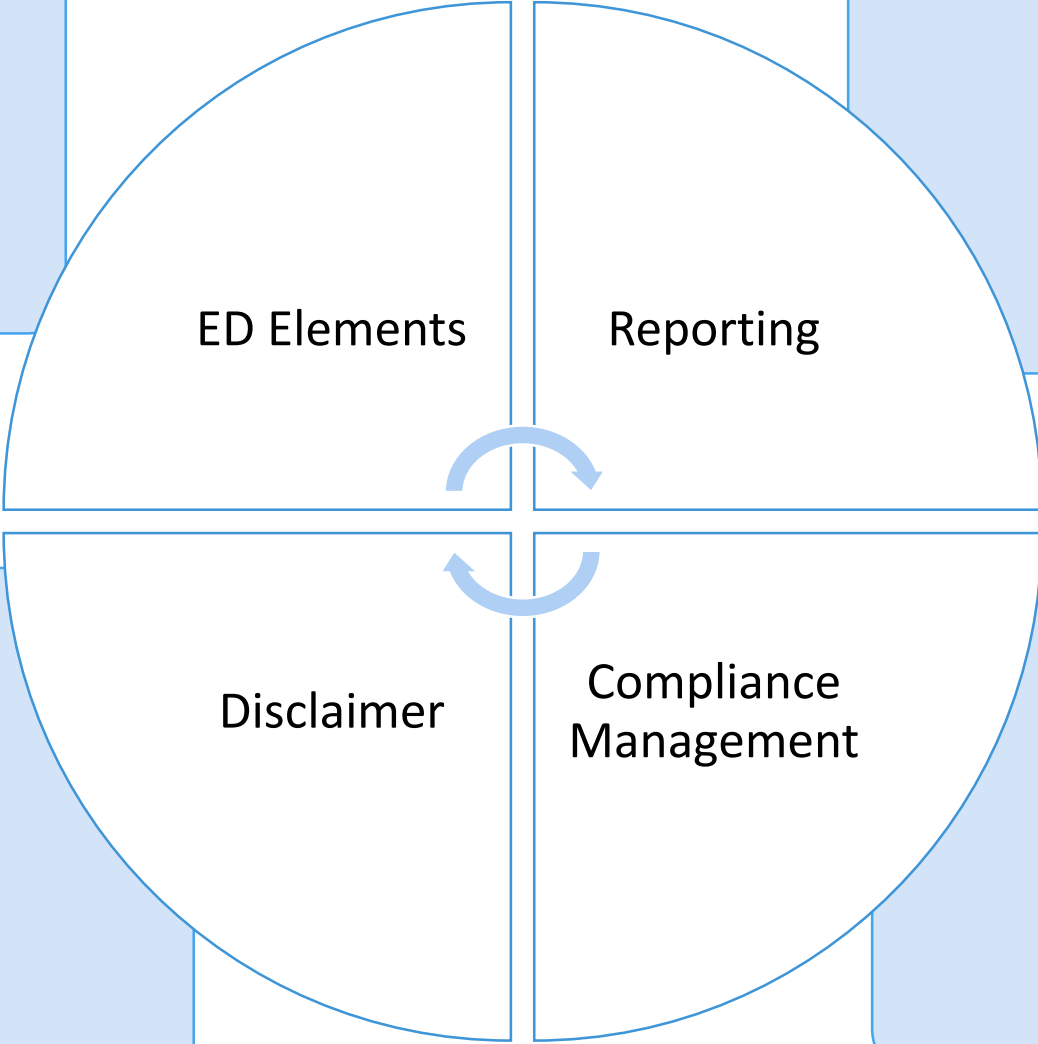


Economic Development – Waldo Adams



Economic Development

- Job Creation
- SED
- Enterprise Dev
- Supplier Dev
- Skills Dev



- Monthly reporting
- Onsite Monitoring and confirming compliance on a day-to-day basis
- Verifications of data

• The values which are communicated in the following slides as per the financial model determined in 2020, so these numbers may vary

- Quarterly submissions to the IPPPO
- Penalties for non-compliance
- Annual Independent Audits

Job Creation Commitments

Construction Phase:

- 190 employees at Peak of the Construction
- These numbers may vary based on the Construction phase, i.e. Mobilisation / Peak / De-mobilization
- The downstream procurement will allow for additional job creation opportunities

Operations & Maintenance Phase:

- 200 full time employees
- Plus, the downstream procurement opportunities will add more full-time employment opportunities



Socio-Economic Development

To be spent in the Richards Bay area:

- R586 533 198 [Projected for the full 20-year PPA]
- R29 326 659 [Projected per annum]
- R2.44m [Projected per month]

Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:

- R146 633 299 [Projected for the full 20-year PPA]
- R7 331 664 [Projected per annum]
- R611 000 [Projected per month]

SED PROJECTS

- | | |
|--|--------------|
| 1. Primary & Secondary School focus on building educator and learner capacity (STEM) | R3m annually |
| 2. Bursary/scholarship (20 students annually) | R3m |
| 3. Solar water geysers and photovoltaic (PV) systems | R8m |
| 4. Environmental Sustainability | R2.4m |
| 5. Support to vulnerable communities | R3m |
| 6. Sport and recreation | R2.5m |



Solar Lights, Low Cost Housing ...



Enterprise Development

To be spent in the Richards Bay area:

- R234 613 278 [Projected for the full 20-year PPA]
- R11 730 663 [Projected per annum]

Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:

- R58 653 319 [Projected for the full 20-year PPA]
- R2 932 665 [Projected per annum]

- Startup Business Grants
- Business Training
- Business Loans



ED PROJECTS

1. Maritime SMMEs	R2m annually
2. Agricultural & Aquaculture	R3.5m
3. Youth Entrepreneurial SMMEs	R2m
4. Enterprise Development Fund	R2.4m

Supplier Development (SD)

To be spent in the Richards Bay area:

- Approximate Projected Budget for the Construction Phase is R650 000, to be split over 12 months
- Approximate Projected Budget is R1.1 million, per annum, over the 20-year Power PPA period (Operations Phase)

Aim of SD is to assist beneficiaries to among others:

- Increase turnover
- Improve internal business processes
- Increase number of jobs / employees
- Increase clientele
- Ensure or improve compliance, i.e., SARS, CIPC, Labour or relevant industry specifications,
- Increased independence and leadership capabilities

Supplier Development

Clear objectives with respect to the development, these areas that may be targeted for development are not limited but could include:

1. Provision of business equipment or tools;
2. Planning, tendering and programming skills transfer;
3. Legal and Contractual compliance;
4. Tender or Proposal writing training;
5. Marketing and branding; and
6. Access to or implementation of business system.

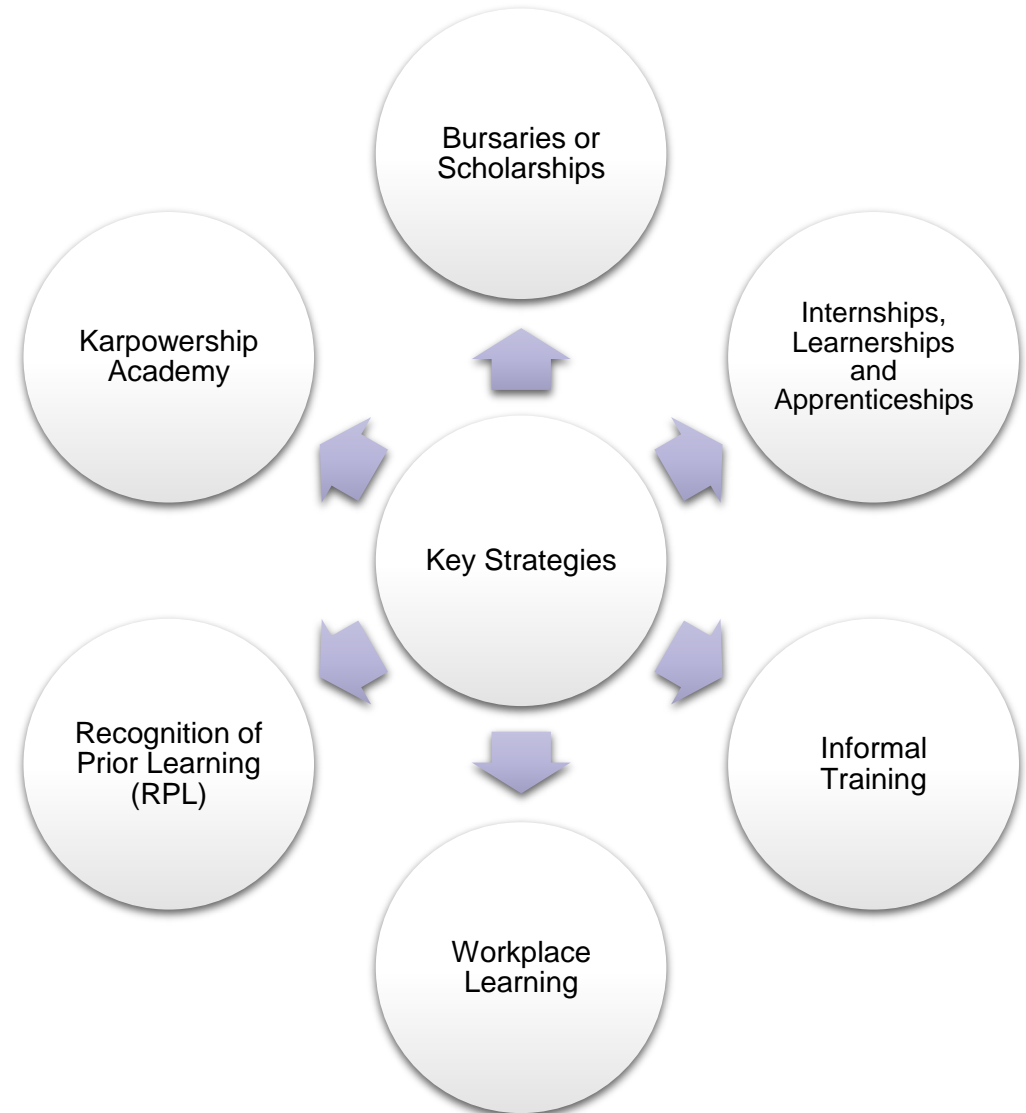
Skills Development

To be spent in the Richards Bay area:

- Approximate Projected Budget is R32 585 178 over the 20-year PPA period (Operational Phase)
- Approximate Projected Budget is R1 629 259 per annum

Projected budget for Skills Development initiatives within the KZN Province shall be:

- Approximate Projected Budget is R8 146 294 over the 20-year PPA period (Operational Phase)
- Approximate Projected Budget is R407 000 per annum



Socio-economic – Eugene De Beer



Socio-economic impact assessment

SOCIO-ECONOMIC IMPACT ASSESSMENT

IMPACTS DURING CONSTRUCTION AND OPERATIONS	NATURE OF THE SEIA IMPACT	SIGNIFICANCE OF THE SEIA IMPACT
Indirect impacts: biodiversity and climate change - not localised	Low negative	Low cumulative
Indirect impacts: small scale fishers due to marine ecology impacts	Low negative	Low to medium positive with mitigations
Indirect impact on tourism and related activities	Low negative	Positive with mitigations
Municipal services and facilities due to increase in employment	Low negative	Low with mitigations
Impact on the sense of place	Low negative	Low with mitigations
Skills and enterprise development during construction and operation	Positive medium	Medium to high with mitigations
Electricity provision; increases in economic production, value and income	Positive medium: direct, indirect and induced impacts	Medium to high with mitigations

Socio-economic impact assessment

MITIGATIONS

1. Implement Karpowership's Economic Development Programme.
2. Provide support, education, and training to the small-scale fishers to find alternative employment
3. Together with the Municipality, NGOs and CBOs address the **poverty of the fishers**.
4. Together with the Municipality and tourism organisations, develop a **marine / industrial tourism attraction, routes, and tours**.
5. Contribute to the **tourism education and skills development - tourism guides**.
6. Implement **managed labour recruitment practices**.
7. **Local employment and procurement practices** as per the RMIPPP requirements.
8. Implement a **monitor system and complaint lodging system** to address problems that may arise
9. Do **knowledge and skills transfer**
10. **Operations limited to business hours**.

No fatal socio-economic flaws have been identified. It is recommended that the Project continue from a socio-economic point of view.



Discussions (Q&A)

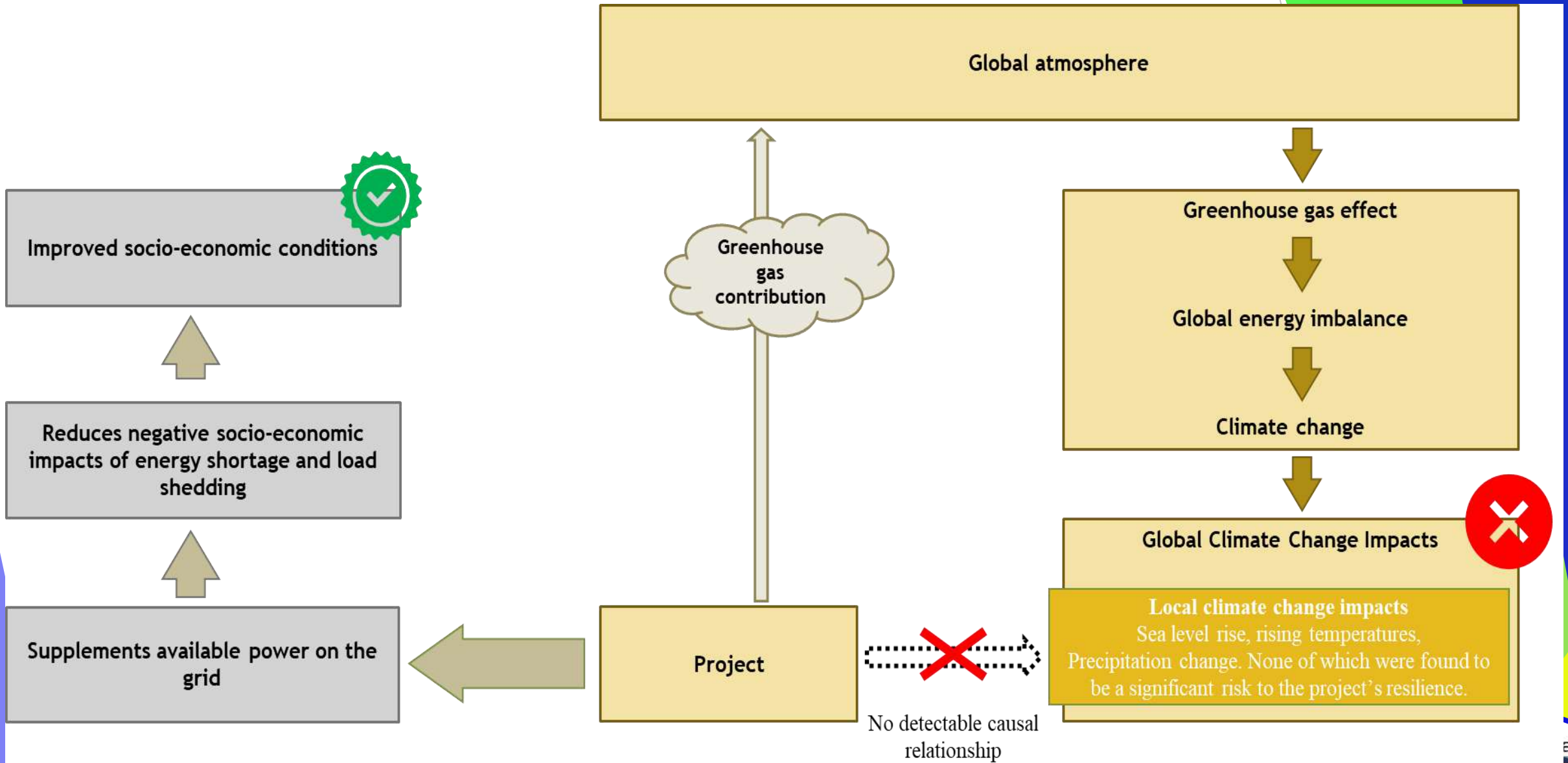


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Climate Change – Robbie Louw



Context



Key findings

Opinion:

- ▶ Lifetime emissions 31 MtCO₂e (runs at 100% contracted capacity)
- ▶ RMIPPP RfP states that the power from the plant must be dispatchable at required of the grid operator and requires that the plant bid into this program must be capable of stable operation at 25% of the contacted capacity. If the plant is run at a 25% output, then the lifetime emissions will be 7.7 MtCO₂e
- ▶ Noting all impacts related to the Project, it can be considered to have a low positive impact. Despite having a high intensity impact from operational emissions, the project enables significant reductions through avoided emissions and enabled renewables. Furthermore, it allows for economic development to occur by providing dispatchable power onto the grid which is critical for the economy
- ▶ Methane emissions related to this project have been considered, and are included and referred to under the carbon dioxide equivalent (CO₂e)
- ▶ In accordance with the findings of this assessment, we advise that the proposed Karpowership Project at the Richards Bay Port should not be refused environmental authorisation based on climate change related issues.



Terrestrial Noise – Dr Brett Williams (Safetech)



Noise Impact

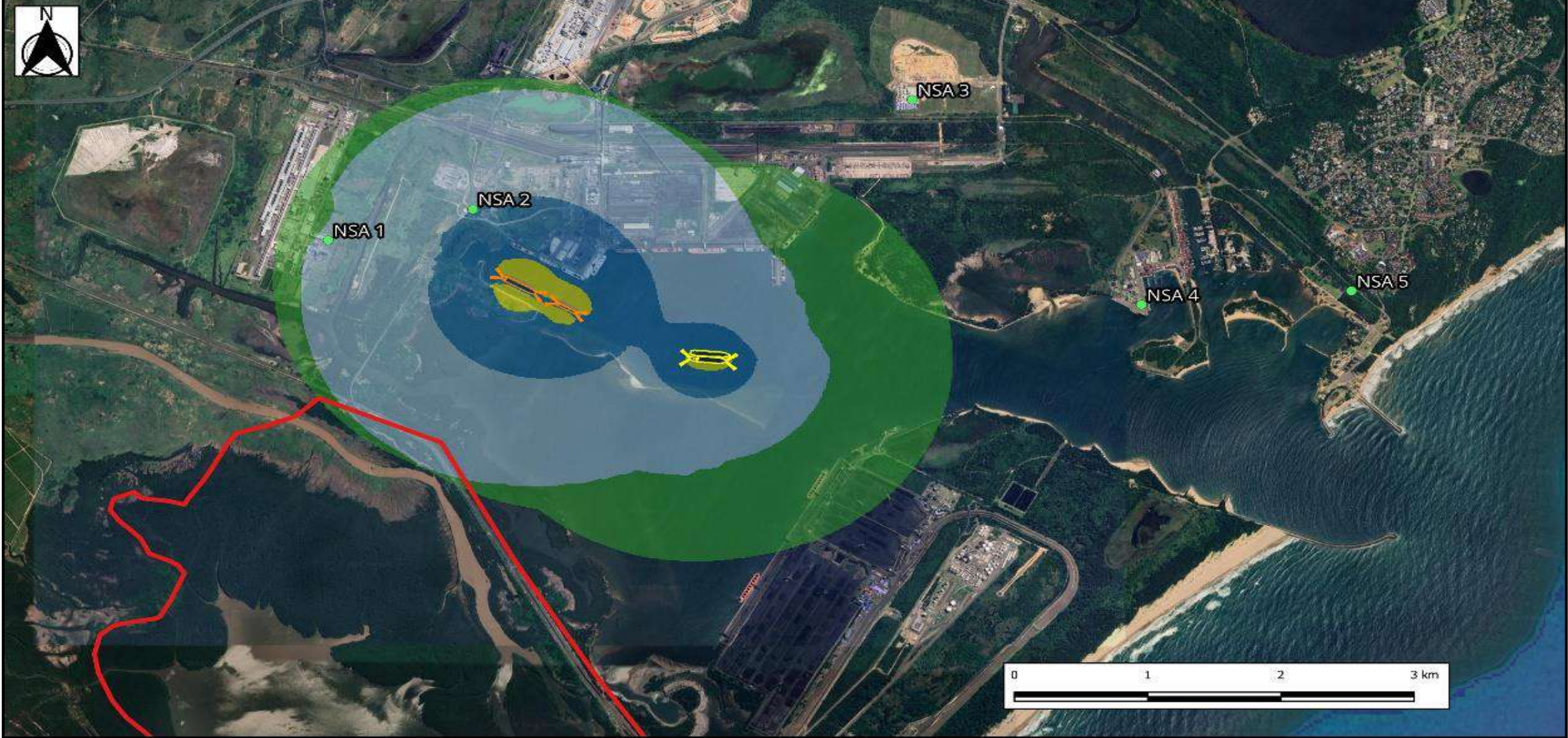
- ▶ PhD in Environmental Management
- ▶ Registered Occupational Hygienist with the identification of noise stress and management thereof as part of the qualification requirements.
- ▶ SANAS Accredited Inspection Body including Noise
- ▶ 30 years experience.
- ▶ Conducted many noise impacts assessments for clients that produce energy.



Noise Impact

- ▶ The field study results showed that the ambient noise levels in the area of the proposed development was 45dB(A).
- ▶ The closest noise sensitive areas may not experience any noise impact as the noise from construction could be masked by the ambient noise from the other port operations.
- ▶ The noise impact associated with the operational activities of the project is predicted to be of Low significance after mitigation.
- ▶ The construction related noise impacts will be of Low significance.
- ▶ From a human perspective there does not appear to be any significant noise impacts.





 <p>SAFETECH Since 1992</p>	<p>Project:</p> <p>Karpowership: Port of Richard's Bay</p>	<p>Legend</p> <ul style="list-style-type: none">  Khan and Shark Powerships  FSRU and LNGC  Noise Sensitive Areas  Richard's Bay Game Reserve 	<p>Noise Levels (dBA)</p>	
	<p>TITLE:</p> <p>Alternative 1 Modelling Results</p>		<ul style="list-style-type: none">  30 - 40  40 - 50  50 - 60  60 - 70  70 - 80  80 - 90  90-100  100+ 	

Drawn by: Jason Hutten
Date: 13/10/2022



Air Quality – Dr Mark Zunckel



Air Quality

Baseline

- ▶ Data from RBCAA was assessed from 1997 to 2020
- ▶ There are a number of major SO₂ sources in Richards Bay. The long record indicates a slightly upward trend in ambient concentrations, but from 2013 to 2017 a significant downward trend is observed.
- ▶ Long term monitoring shows annual average for SO₂ are below the NAAQS, with occasional exceedances of the 24-hr and 1-hr limit value at some stations, e.g. Harbour West and Scopio
- ▶ Annual average NO₂ concentrations complied with the NAAQS, but some exceedances of the 1-hr limit value at Brakenham.
- ▶ There are a number of major sources of particulates in Richards Bay but it is important to note that particulates are regional pollutants and background PM₁₀ concentration is relatively high.
- ▶ Annual average PM₁₀ concentrations complied with the NAAQS, but some exceedances of the 24-hr limit value at eSikhaleni.
- ▶ There has been a significant increase in the number of complaints concerning the deposition of coal dust in September 2022 from Arboretum, Alton, Birdswood, Veldenvlei, amongst others. The major source of the coal dust is the Richards Bay coal terminal.

Air Quality

Emissions

Emissions result from electricity generation, FLNG, LG carriers

- ▶ LNG is a very clean fuel containing almost negligible sulphur and particulates
- ▶ Combustion of LNG therefore results in very low SO₂ and particulate emissions
- ▶ NO_x emissions are controlled at source using selective catalytic reduction
- ▶ Emissions are very low and well below the Minimum Emission Standards for gas combustion



Air Quality

Predicted ambient concentrations & impact assessment

- ▶ Maximum predicted concentration of SO₂ and PM₁₀ are < 1% of the NAAQS
- ▶ Maximum predicted concentration of NO₂ is < 4% of the NAAQS
- ▶ Maximum concentrations predicted to occur within 2 km of the project, downwind on the prevailing wind NE wind, elsewhere predicted ambient concentrations are very low
- ▶ Contribution from the Karpowership project to ambient SO₂, NO₂ and PM₁₀ concentrations is very low and the cumulative effect is highly unlikely to result in exceedance of the NAAQS, even at the point of maximum predicted concentrations.
- ▶ The significance of the impact on ambient air quality is predicted to be very low

MHI Risk Assessment – Claude Thackwray

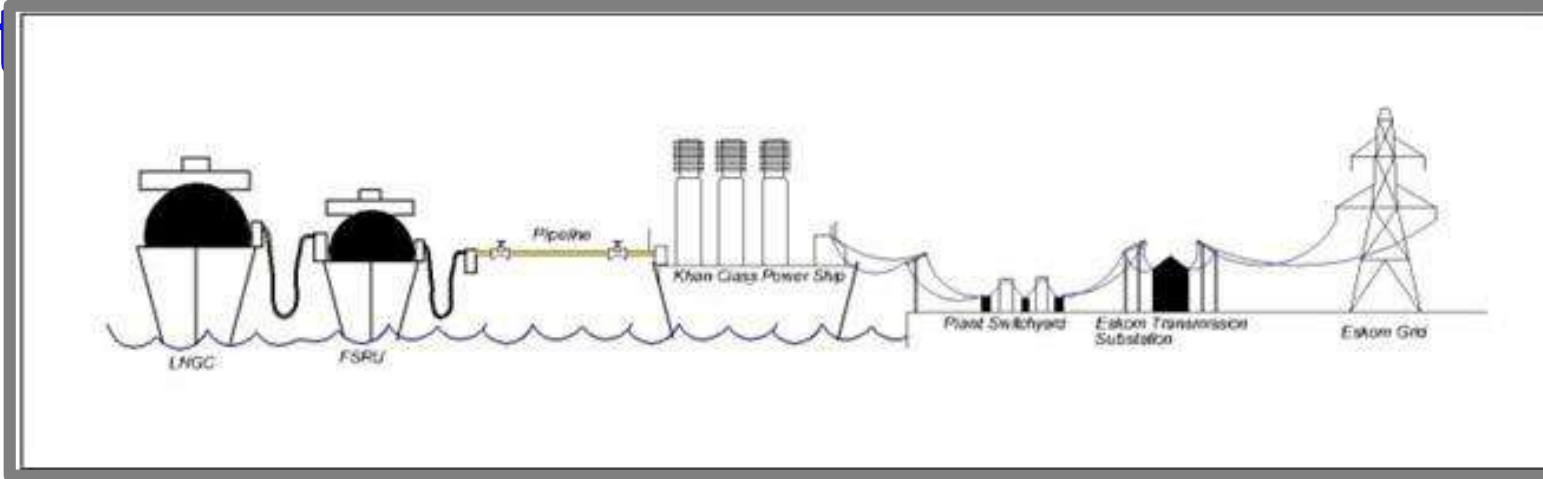


MHI Risk Assessment

- ▶ MHR Consultants - operating for 16 years
 - ▶ SANAS Accredited for Assessment of Risks on Major Hazard Installations
 - ▶ Registered with Department of Employment and Labour to undertake Type A Major Hazard Risk Assessments
 - ▶ 37 years experience in Oil & Gas Industry
 - ▶ Over 1000 Risk Assessments conducted internationally
 - ▶ Major clients include: Total, Afrox, BP, Engen.
- ▶ Conducted MHI for Port of Richards Bay in 2017
- ▶ Conducted MHI for Ship to Ship Transfer of LPG in the Port of Richards Bay in 2019 and again in 2020.

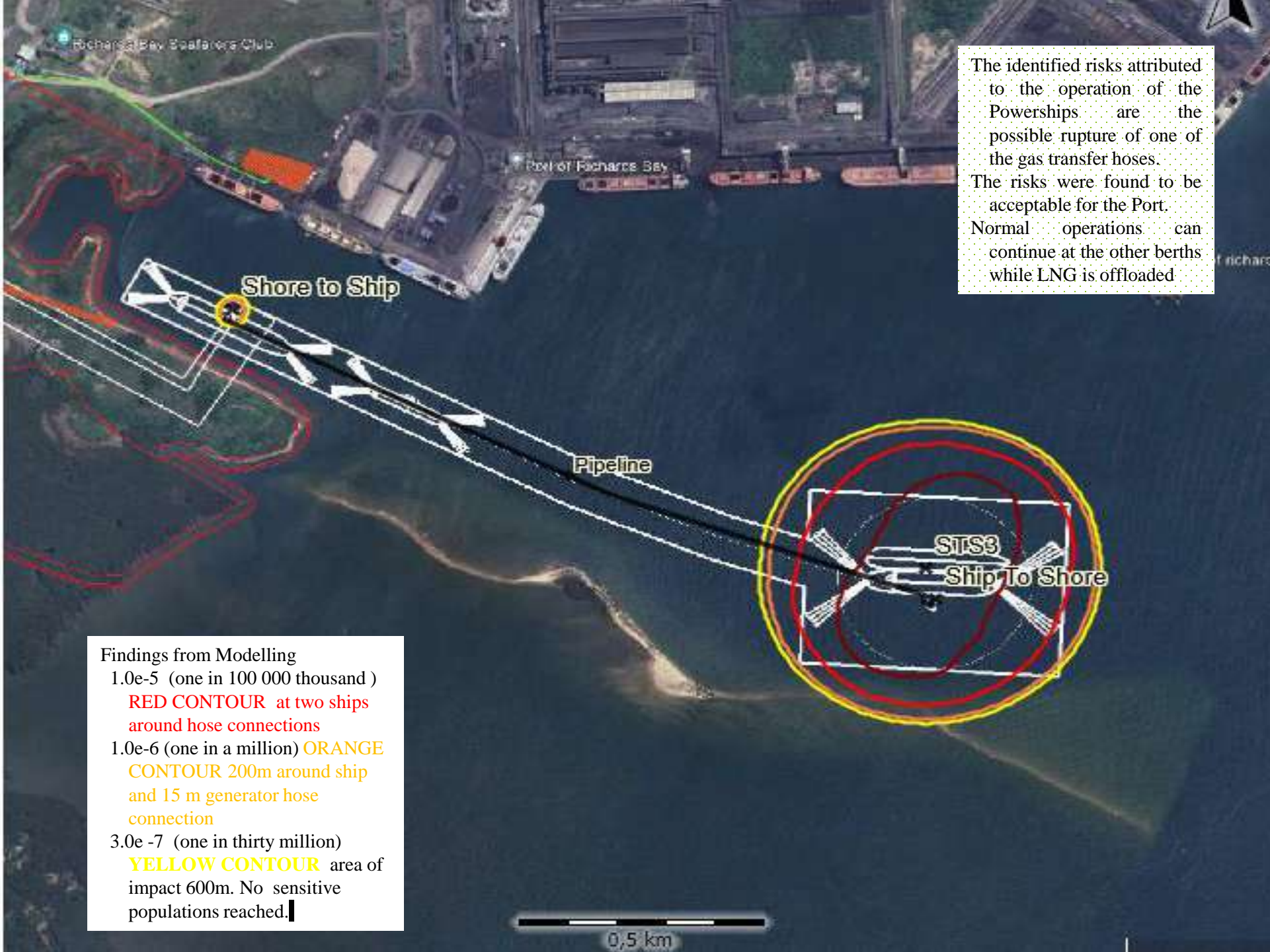


MHI Risk Assessment: Process & Methodology



- ▶ Consequence were calculated using the computer software “effects” by TNO in the Netherlands
- ▶ The risk calculations were made using the computer software “Risk Curves” by TNO in the Netherlands.
- ▶ Risk Assessment was conducted as per SANS 1461:2018 Codes of Practice
- ▶ Report includes: Local By-laws & NPA No. 12 of 2005 Part C





The identified risks attributed to the operation of the Powerships are the possible rupture of one of the gas transfer hoses.

The risks were found to be acceptable for the Port.

Normal operations can continue at the other berths while LNG is offloaded

Findings from Modelling

- 1.0e-5 (one in 100 000 thousand)
RED CONTOUR at two ships around hose connections
- 1.0e-6 (one in a million) **ORANGE CONTOUR** 200m around ship and 15 m generator hose connection
- 3.0e -7 (one in thirty million) **YELLOW CONTOUR** area of impact 600m. No sensitive populations reached.



MHI Risk Assessment: Conclusion

- ▶ From the modelling and assessment LNG operations pose a very low risk;
- ▶ It is one of the safest fuels and the risk is much lower than the LPG risk assessment concluded for the Richards Bay Port Terminal;
- ▶ To put the risk into perspective:
 - ▶ It is similar to that of an ordinary gas pipeline and connection at a domestic home;
 - ▶ There is a higher possibility to be struck by lightning and succumb to injuries.



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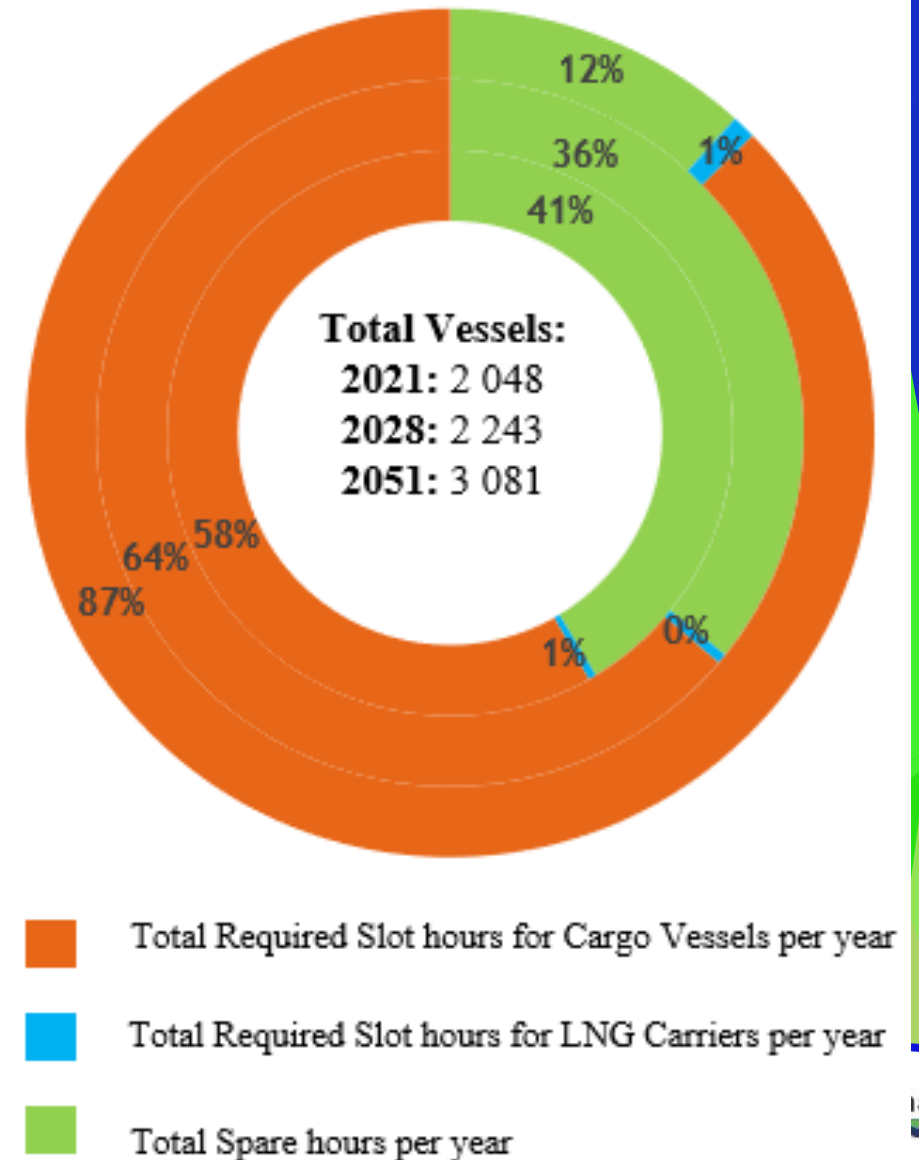
Marine Traffic and Thermal Plume



PRDW – Marine Traffic Study

- ▶ To quantify the present and future vessel traffic at the site and identify possible areas of congestion
- ▶ Methodology
 - ▶ Estimate current and future traffic volume based on an analysis of traffic and cargo demand projections; and
 - ▶ Analysis of port vessel arrival data to define vessel slot hours for vessels arriving and departing the port.
- ▶ Outcome
 - ▶ LNG vessels only represent 1% of the 2051 vessel traffic slot durations and will not add significant congestion within the port.
 - ▶ The Port is forecasted to have approximately 41% and 12% spare slot capacity in 2021 and 2051 respectively.

Port of Richards Bay



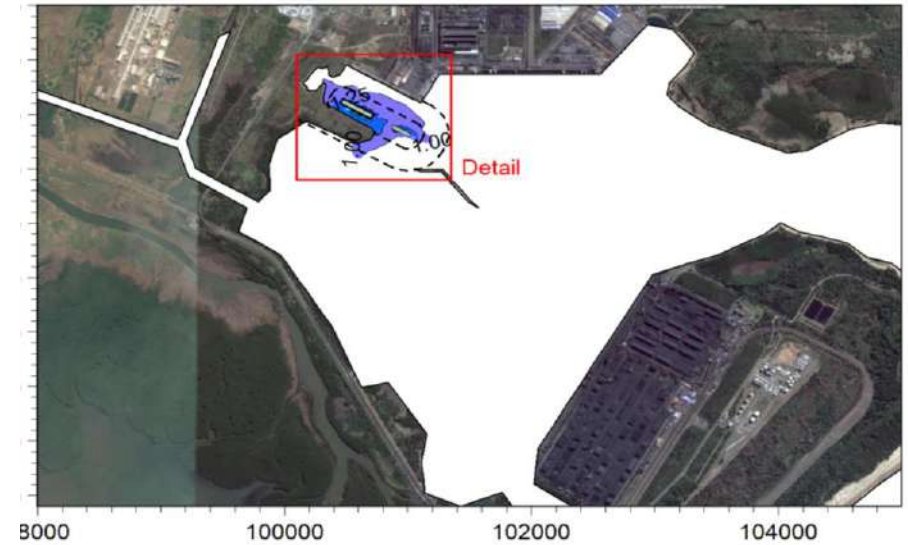
PRDW – Thermal Plume

▶ A closed loop FSRU will be utilized and there will be no discharge of hot or cold seawater from the FSRU. Therefore for the thermal plume study only the Powership was considered.

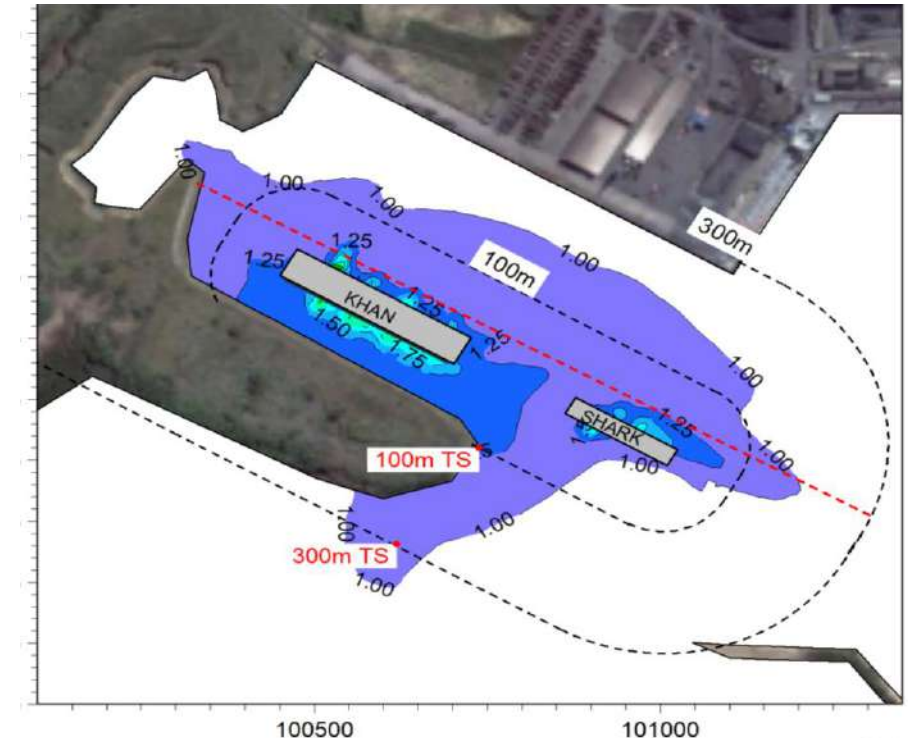
▶ Modelling

- ▶ A calibrated 3D hydrodynamic model was used to predict the extent of the thermal plume in the sea.
- ▶ No constituents, such as chlorine or excess salinity, are added to the cooling water discharge
- ▶ Seawater used for cooling the power generators on the Powership results in seawater being returned to the sea a maximum of 10 to 15°C warmer.
- ▶ Model simulated the Powership operating at 100% load for 24 hours per day, while the Powership will only operate for 16.5 hours per day.

Thermal Plume in Richards Bay



Detail of Thermal Plume Around Powership

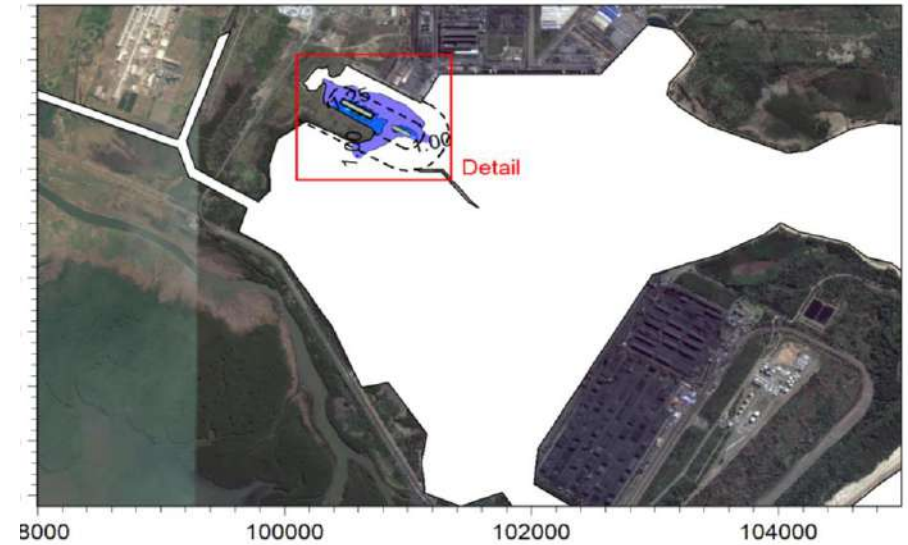


PRDW – Thermal Plume

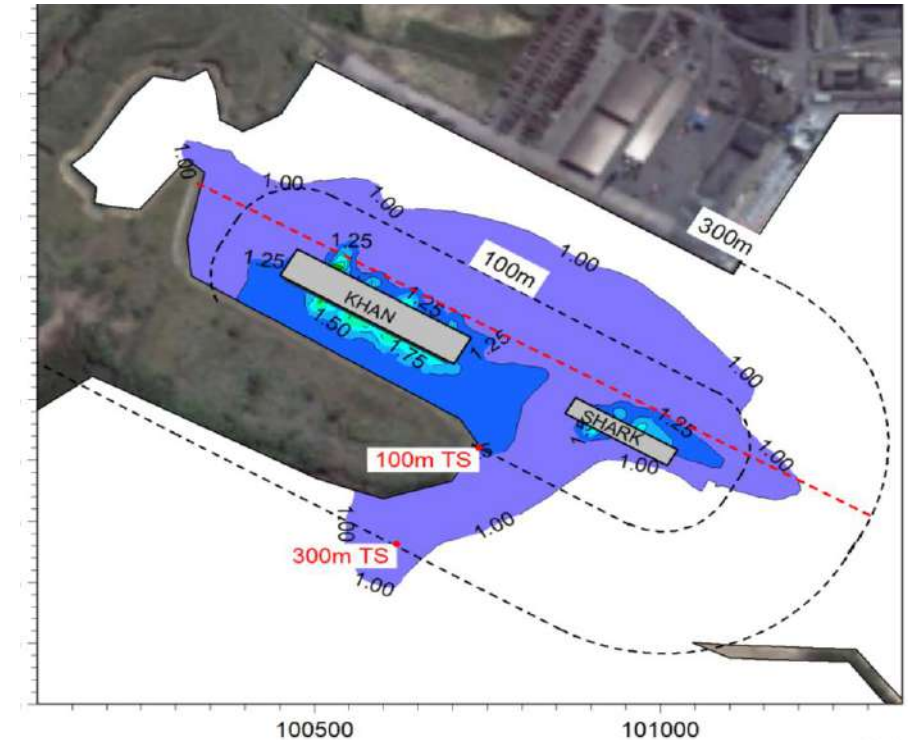
Outcomes

- ▶ The results show that a smaller footprint of temperature increase (ΔT) is achieved when discharging at a deeper depth below the water surface.
- ▶ When the cooling water is discharged 8 m below the water surface the maximum ΔT at a reference point in the model is 1.3°C at a distance of 100 m from the Powership, 0.3 °C above the guideline value.
- ▶ These results were used to inform the marine ecology assessment as described in a later presentation.

Thermal Plume in Richards Bay



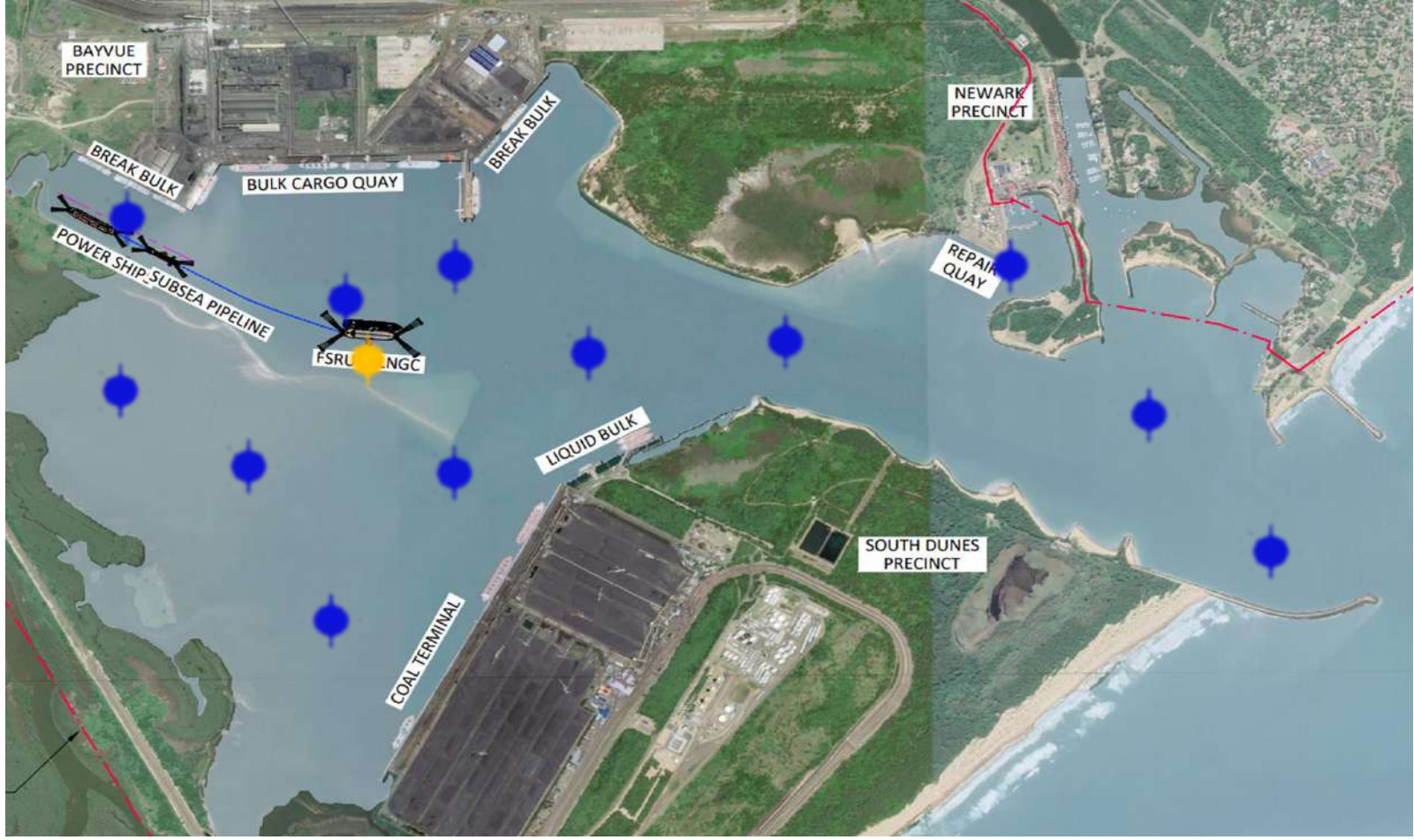
Detail of Thermal Plume Around Powership



Underwater Noise – Tim Mason



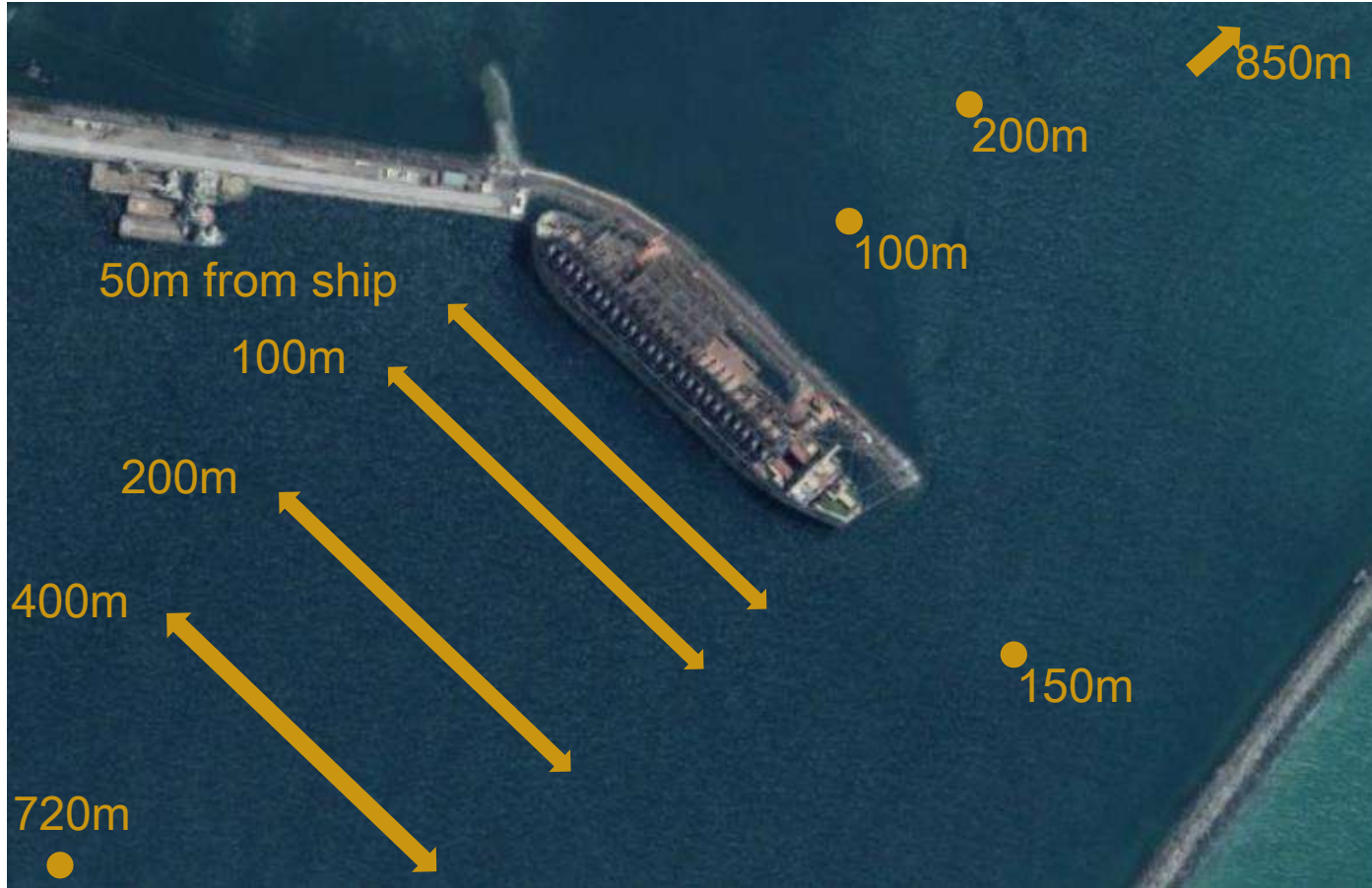
Underwater Noise: Existing background noise measurements



Richard's Bay – background noise measurement locations



Underwater Noise: Existing background noise measurements



Ghana, Sekondi-Takoradi – Powership underwater monitoring locations





Underwater Noise: Existing background noise measurements

background

with
Powership



 Underwater noise by the sand bar

 Background noise increased by 2dB at 5 secs



Coastal, Avifauna, Estuarine & Marine

Ecology – Catherine Meyer, Dr Barry Clark, Tandi Breetzke, Adam Rees, Jane Turpie & Leigh-Ann De Wet



Coastal, Avifauna, Estuarine & Marine Ecology

- uMhlathuze/Richards Bay estuarine complex - historically one system
- Both estuaries are highly modified but are still important for conservation of estuarine biodiversity (Mhlathuze ranked 10th, Richards Bay = 26th)



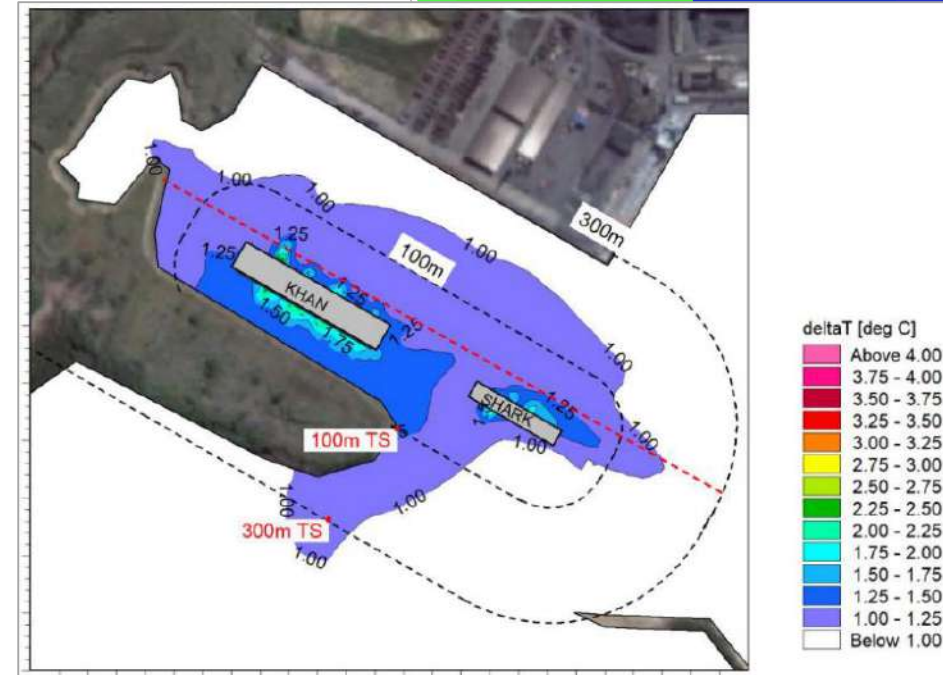
- Large estuaries (lots of estuarine habitat), high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water)

- Ecosystem goods and services:
 - important nursery areas for marine species (fish + prawns)
 - Aquaculture Development Zone, successful experiments with finfish culture
 - Carbon sequestration
 - Nutrient cycling
 - Assimilation waste
 - Transportation
 - Ecotourism



Coastal, Avifauna, Estuarine & Marine Ecology

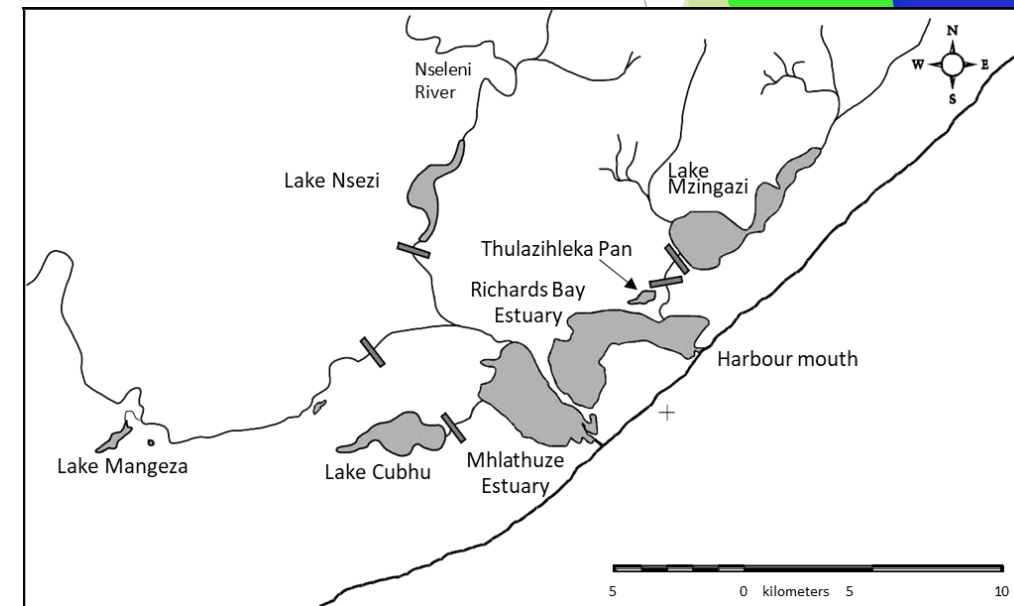
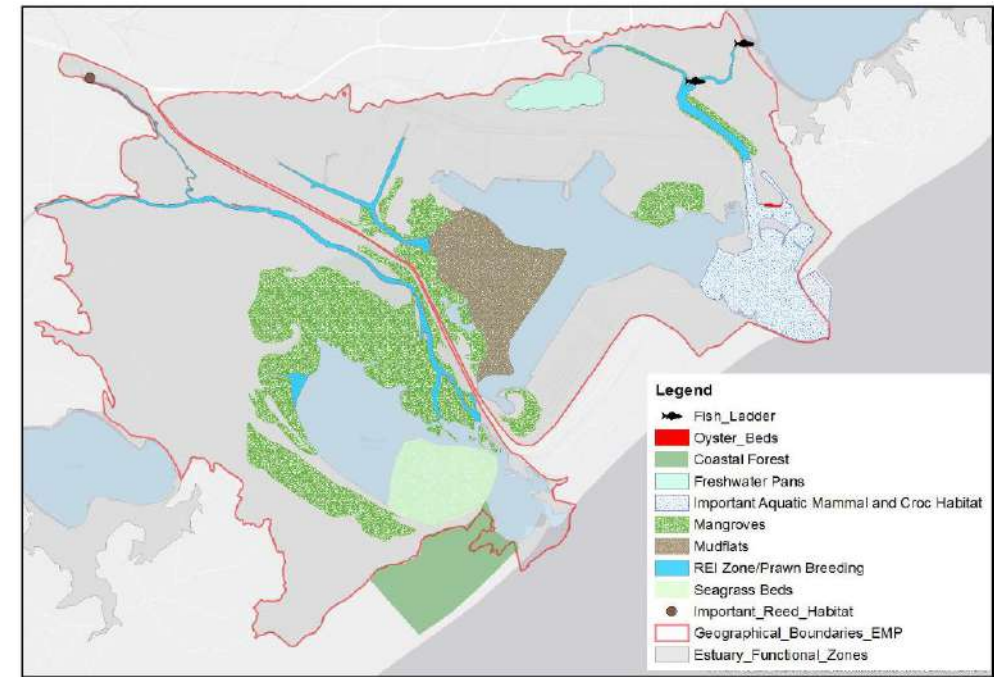
- ▶ A baseline description (with site investigations) and subsequent impact assessment, focussing on receptors in the water column, in and on the seabed, and the local avifauna within the Port.
- ▶ Ecosystem services (fisheries, mariculture) and conservation areas (Richards Bay Nature Reserve) were also considered.
- ▶ Consideration (integration) of terrestrial ecology & vegetation including wetlands
- ▶ Within an established industrial port – long-term ecological monitoring undertaken biannually by CSIR
- ▶ Utilised thermal plume and noise modelling outputs.



Impact	Phase	Significance		Mitigation
		No mitigation	With mitigation	
1. Habitat loss (Powership and other infrastructure))	Construction	6.8 (Med-Low)	3.5 (Low)	Minimise disturbance of natural habitat, avoid sensitive areas
2. Impaired water quality	Construction	8.0 (Medium)	6.0 (Med Low)	Minimise disturbance (sediment), spillage, avoid sensitive areas
3. Noise during construction	Construction	10.5 (Med-High)	6.8 (Med-Low)	No unnecessary production of noise
4. Solid waste production during construction	Construction	6.9 (Med-Low)	3.4 (Low)	Adopt best practice waste minimisation procedures (recycling, reuse, safe disposal), awareness raising
5. Spills of hazardous substances	Construction	9.0 (Med-High)	6.0 (Med-Low)	Responsible storage, handling and use of hazardous chemicals, Spill Prevention and Management Plan
6. Cooling water uptake	Operation	8.0 (Med)	6.0 (Med-Low)	Intake velocities <0.15 m/s, water intake >1 m deep, direct intake structures horizontally
7. Cooling water discharge	Operation	9.2 (Med-high)	8.1 (Med)	Refer to dispersion modelling study
8. Underwater noise and vibration	Operation	9.3 (Med-High)	8.1 (Med)	Refer to noise modelling study
9. Light pollution	Operation	10.8 (Med-High)	6.0 Med-low	Keep lighting to minimum, use screening/shielding
10. Cumulative impacts	Construction and operation	Med-High	8.1 (Med)	Limit further development in the port/estuary

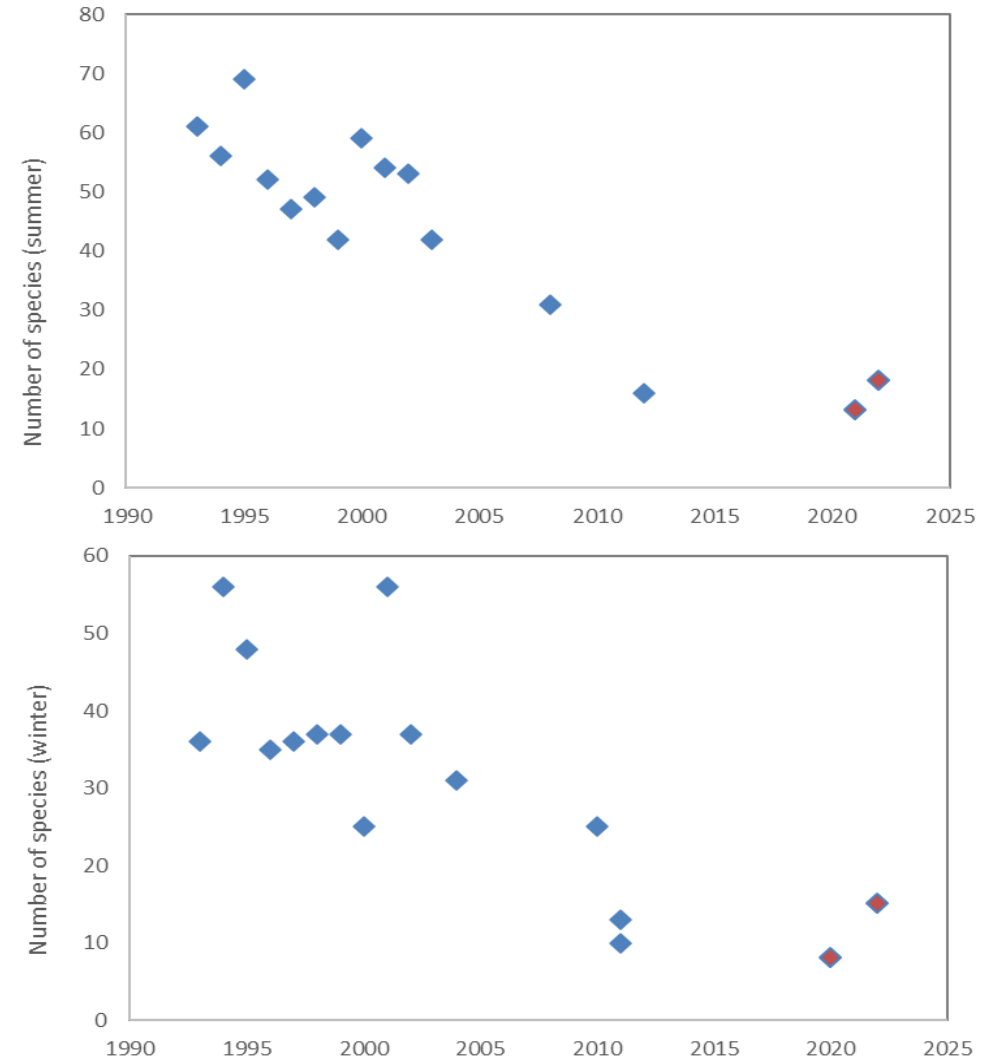
Coastal, Avifauna, Estuarine & Marine Ecology

- Richards Bay - uMhlathuze Estuary ranked 11th most important in terms of species richness, and 3rd overall in terms of conservation importance for estuarine waterbirds in South Africa (Turpie, 1995)
- high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water)
- In close proximity to (and closely linked with) other nearby wetlands (Lake Mzingazi, Lake Cubhu, Thulazihleka Pan)
- Karpower vessels will be moored very close to the sand spit and Kabeljous Flats = most important area for water birds



Coastal, Avifauna, Estuarine & Marine Ecology

- Recent data suggest that numbers of birds using the estuary have declined dramatically in the last 30 years
- Listed as an globally important bird area (IBA) but has been downlisted to a sub-regional IBA since bird numbers now “only occasionally surpass the threshold of 10 000 waterbirds”.
- Still many species of conservation concern that are present at the site



Impact	Phase	Significance		Mitigation
		No mitigation	With mitigation	
1. Habitat loss (Powership)	Construction and operation	5.1 (Med-Low)	5.1 (Med-Low)	n/a
2. Habitat loss (other infrastructure)	Construction and operation	5.1 (Med-Low)	1.7 (Very Low)	Avoid functional natural habitat
3. Project infrastructure: collisions	Operation	10.5 (Med-High)	6.8 (Med-Low)	Follow existing routes, stagger pylons, set transmission lines low, mark them for diurnal and nocturnal visibility
4. Project infrastructure: electrocution	Operation	6.7 (Med-Low)	5.3 (Med-Low)	Infrastructure to be nest proofed, and must include anti-perch devices
5. Powership: light pollution	Operation	4.6 (Low)	3.0 (Low)	Essential lighting only, lumens to be kept to a minimum, lights installed as low as possible, windows shuttered at night
6. Powership: noise and vibration impacts	Operation	8.1 (Med)	8.1 (Med)	See noise mitigation study
7a. Powership and infrastructure: human disturbance	Construction	7.7 (Med)	6.0 (Med-Low)	Limited access to designated areas only
7b. Powership and infrastructure: human disturbance	Operation	5.8 (Med-Low)	2.3 (Very Low)	Approach and access ships from the north side, no activities between the ships and the sandspit, other activities (e.g. maintenance) in direct contact with the vessels
8. Cumulative impacts	Construction and operation	Hight	Med High	Limit further development in the port/estuary

Overview of No / negligible / very low / low & med-low Impacts – Triplo4



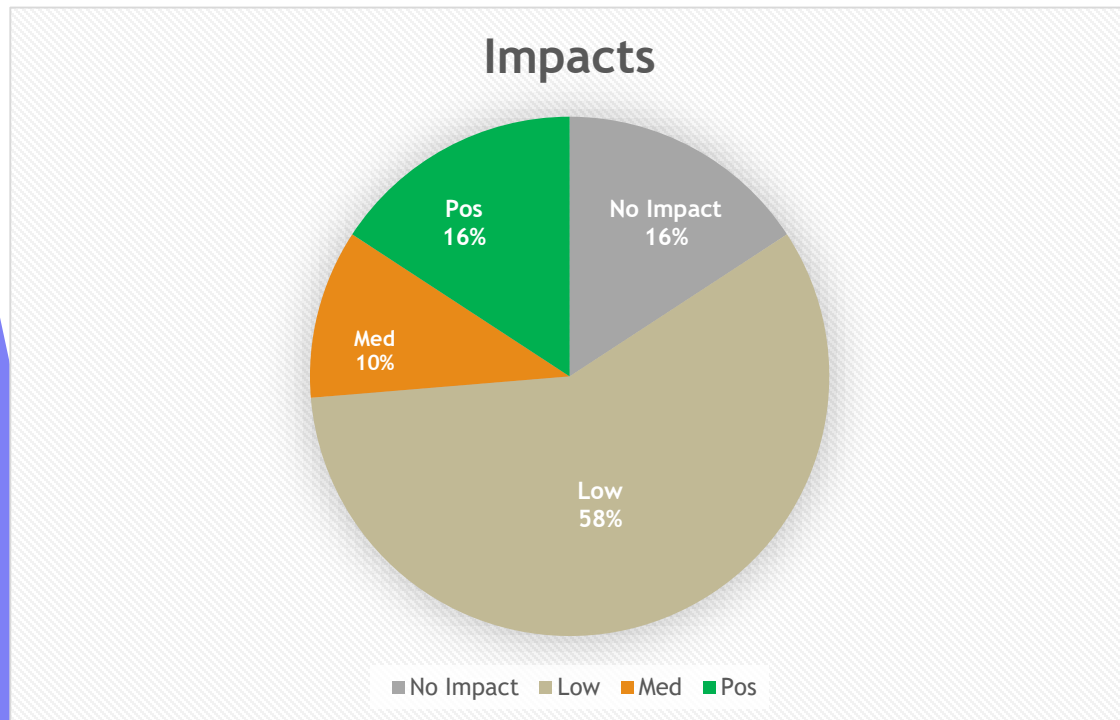
Overview of No / negligible / very low / low & med-low Impacts – Triplo4

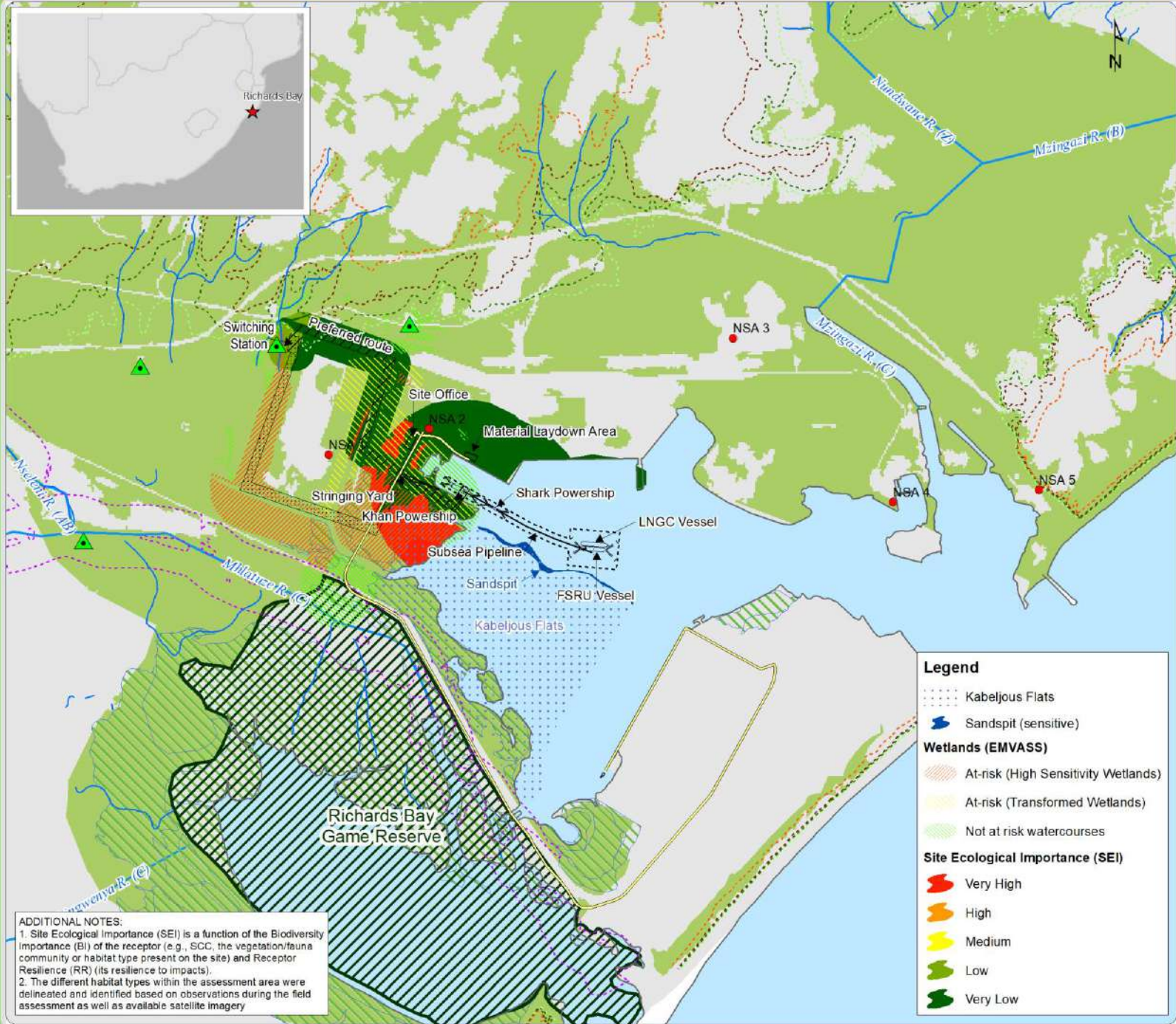
► No impacts

- Archaeology and Palaeontology
- Visual
- Traffic (Terrestrial & Marine)

Negligible / very low / low / med-low / medium impacts

- Hydrology Impacts (Low)
- Aquatic Impacts (Low)
- Hydropedology Impacts (Negligible)
- Geohydrology Impacts (Negligible)
- Wetland Impacts (Low to Very Low)
- Terrestrial Biodiversity Impacts (Low)
- Avifaunal (Medium, Med-Low, Low to Very Low)
- Underwater Archaeology (Negligible)
- Coastal, Estuarine and Marine Ecology (Medium, Med-Low to Low)
- Atmospheric Impacts and Risks (Low)
- Terrestrial Noise Impacts and Risks (Low)
- Underwater Noise (Low)
- Tourism (Negligible)





Legend

- Aquatic Sites
 - Noise Sensitive Areas
 - Rivers and Streams
 - NFEPA River
 - Access routes
 - 1:50 year floodline
 - OHL Route (Preferred)
 - OHL Route (Alternative)
- Risk Lines**
- SLR Worst Case (10yrs)
 - SLR Worst Case (25yrs)
 - SLR Worst Case (50yrs)
 - SLR Worst Case (100yrs)
- Protected Area
 - Mangrove Forest
 - CBA Irreplaceable

CLIENTS



NOTES

1. All data is approximate and subject to survey
2. NFEPA Rivers: the letter in brackets denotes river condition -
 - A = Unmodified, Natural
 - B = Largely Natural with few modifications
 - AB = A or B above
 - C = Moderately Modified

PROJECT

Gas to Power Project

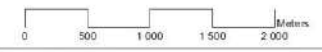
MAP TITLE

Richards Bay Port Sensitivity Map

COMPILED BY



Scale 1:40 000 (on an A3 page)



Map Ref: RB_EIA_Sensitivity_05 Date: 07-Nov-22

Dataset Credits: Department of Rural Development & Land Reform: CDNOI & CBO; Ezenvelo KZN Wildlife PRDW, SANBI, Sefelach & Triplac

Legend

- Kabeljous Flats
 - Sandspit (sensitive)
- Wetlands (EMVASS)**
- At-risk (High Sensitivity Wetlands)
 - At-risk (Transformed Wetlands)
 - Not at risk watercourses
- Site Ecological Importance (SEI)**
- Very High
 - High
 - Medium
 - Low
 - Very Low

ADDITIONAL NOTES:
 1. Site Ecological Importance (SEI) is a function of the Biodiversity Importance (BI) of the receptor (e.g., SCC, the vegetation/fauna community or habitat type present on the site) and Receptor Resilience (RR) (its resilience to impacts).
 2. The different habitat types within the assessment area were delineated and identified based on observations during the field assessment as well as available satellite imagery



Discussion (Q&A)



Item	Responsibility	Estimated time
Welcome & introductions	Rose Owen (facilitator)	5 min
Project Context	Prof Lwazi	8 min
Karpowership SA	David Clark	5 min
Overview of project	Hantie Plomp	5 min
Transdisciplinary approach	Hantie Plomp	10 min
Discussion	All (lead by facilitator)	10 min
Specialist presentations	Various	
Economic Development	Waldo Adams	10 min
Socio-economic	Eugene De Beer	10 min
Discussion	All (lead by facilitator)	15 min
Climate Change	Robbie Louw	10 min
Terrestrial Noise	Dr Brett Williams	5 min
Air Quality	Dr Mark Zunckel	5 min
Major Hazard Installation	Claude Thackwray	5 min
Discussion	All (lead by facilitator)	15 min
Marine Traffic and Thermal Plume	PRDW	5 min
Underwater Noise	Tim Mason	5 min
Coastal, Estuarine, Marine Ecology, Avifauna & Fisheries	Catherine Meyer & Dr Barry Clark	20 min
Overview of low / negligible impacts	Hantie Plomp	10 min
Discussion	All (lead by facilitator)	20 min



What next

- ▶ Commenting period:

- ▶ 10 November - 13 December 2022

- ▶ email: richardsbayksa@triplo4.com



Closure

Thank you



Public Participation Webinar: Richards Bay Draft Environmental Impact Assessment (EIA) Report for the Proposed Gas to Power via Powership Project at the Port of Richards Bay

Meeting held at 17.00 on Wednesday 23 November 2022

Via an online webinar - AirMeet

Present

(as per the attendance register available on request per POPIA requirements)

Facilitator

Ms Rose Owen (RO)

Phelamanga

Webinar and transcripts provided by WAHM using the AirMeet platform.

Minutes include an introduction of content of each slide in advance of each presentation / section this is for reference to understand what was being discussed and presented. In some instances, only images were provided, and these minutes should therefore be read in conjunction with the presentation.

1. WELCOME, INTRODUCTION & APOLOGIES

1. Good evening, everyone. Welcome to our online webinar with regards to the Public Participation for the Richards Bay draft environmental impact assessment report for the proposed Gas to Powership project at the Port of Richards Bay, thank you all for making your time available this evening, we looking forward to a very informative session. I've put up on your screen and I'm hoping you are able to see, our agenda, as you can see it's a lengthy agenda, were hoping to cover all of the push points for people and address the questions that people may have.
2. Before we start, just to make you all aware
3. Hi Rose, we can't see your camera or the agenda?
4. My apologies, I shall put the screen back up, I'm not sure why that's happened, it was showing perfectly earlier so let me just start it again.
5. We tested it all and it was all working beautifully.
(TECHNICAL DIFFICULTIES _ STARTING AGAIN)

6. I trust you can all see my screen now, so as I said, thank you for making yourselves available this evening, I'm going to put the agenda up for you to see:
7. We have a number of specialists available this evening and a number of audio files to listen to and video files to look through to get to grips with the reports on this project.
8. Please note that we do have a sign language interpreter and she is available and we hopefully loading her shortly onto your screen so that she will be available to those that need
9. Please note that you are welcome to ask your questions in English and isiZulu and Afrikaans, we do have interpreters available, so you are welcome to use the Q&A section to ask those questions.
10. So, looking at that there is a Question and Answer box, please do put your queries, questions, comments and answers into the Q&A box.
11. We are looking through them throughout to also try and group them, so if we get about six or seven that are the same, we might only publish one. If you are in agreement or you would also like to get a response to that question, please use the "UPVOTE" button, it's a little "UPVOTE" that allows you to say I also want a response to that or please could somebody address that question. That then allows us to see how many people are looking at an answer as well. When you are putting your question and answer in, depending on how you've registered it would be really useful for us to understand who is asking the question so we can also follow up and come

back to you. There will no doubt be a number of questions asked this evening and we might not get to all of them, but they are all being recorded, and we will follow up with them so please do put them there.

12. As you will see the commenting period is open from the 10 Nov to 13 Dec and the richardsbayksa@triplo4.com is the email you can use for any of those questions and queries.

(INAUDIBLE CHATTERING)

2. ENGAGEMENT COURTESIES & HOUSEKEEPING

1. We have specifically set time within the agenda that allows you to look through questions and then respond to questions. You will see that we are allowing for some time after certain groupings of presentations to ensure that we are able to engage.
2. So, the desired outcome of this evening is to introduce the proposed project, explain the EIA process, share key findings and opportunity to comment and engage for engagement and learning to occur.
3. So, to get to grips with the project I'm going to ask Prof Lwazi to come online, and he is going to introduce the project.

3. PROJECT CONTEXT (PROFESSOR LWAZI NGUBEVANA (NOQAZO GROUP))

[below is an overview of the text / slides presented]

1. Energy Security/Poverty
2. Access to Electricity
3. IRP
4. RMI4P
5. 1,220MW
6. Clean Cooking
7. Health
8. Human Development Index
9. International Approaches to Energy Security
 - a. North America
 - b. Europe
 - c. Global
10. Lessons for South Africa
 - a. Energy security needs to be a deliberate policy decision
 - b. Developed countries put their energy and national security concerns and priorities above their climate commitments.
 - c. Energy geopolitics are intertwined with global political agendas – implications for policymaking.
 - d. Rest of the world sees Gas as a bridge to a lower-carbon future. Very important in the context of the South African energy mix and the Karpowership projects.
 - e. South Africa and the continent, has poor indicators including electricity access, access to clean cooking, child health rates etc., a direct result of being energy poor.
 - f. Transitioning recklessly to a low-carbon economy puts the country's energy security at risk.
 - g. The uptick in renewable energy has not translated to lower or constant energy prices for the consumer.
 - h. The ideal of a low-carbon future may not be attainable in the near future because of many constraints: availability of materials, supply chains, and the need for reliable energy security.

Just Energy Transition

11. South Africa's "just transition" framework is based on 3 principles of justice: **distributive, restorative and procedural justice (Presidential Climate Commission, 2022)**.
12. The principle of distributive justice can be embodied in South Africa by:

- a. “Equipping South Africans with **skills, assets, and opportunities** to participate in industries of the future, with particular attention on impacted groups, the poor, women, people with disabilities, and the youth.
 - b. Implementing transformative national economic and social policies that clearly consider how benefits and burdens will be distributed (**this includes clear indication of where jobs are gained, where jobs are lost, and the quality and longevity of future employment**).
 - c. Increasing provincial and local capacity (**both resources and skills**) to promote local economic development.
 - d. Ensuring corporate responsibility to support a green and inclusive economy”.
13. The principle of restorative justice can be embodied in South Africa by:
- a. “Acknowledging the health and environmental impacts to communities in coal and other fossil fuel impacted areas and supporting all South Africans’ constitutional rights to a healthy environment.
 - b. Shifting away from resource intensive sectors and fossil fuels to (1) improve ecosystems with community ownership and stewardship, **(2) improve energy security and eliminate energy poverty**, and (3) create opportunities for rehabilitation of degraded land, air sheds, and water systems, the improvement of biodiversity, **as well as related employment opportunities**.
 - c. Creating a more decentralised, net-zero-emissions economy, which allows for greater economic inclusion, ownership, and participation, especially for women and the youth.
 - d. Remedying past harms by building on, and enhancing, existing mechanisms such as equitable access to environmental resources, land redistribution and Broad-based Black Economic Empowerment”.
14. The principle of procedural justice can be embodied in South Africa by:
- a. “Assisting communities to understand what the just transition entails, specifically, and discuss points of agreement and disagreement openly and transparently.
 - b. Supporting worker and community organisations (unions, civics, advocacy groups, etc.) to participate actively in just transition policy-making processes **ensuring decisions are made in their best interests and allow them to take advantage of opportunities**.
 - c. Collaborating actively with a range of stakeholders, through inclusive and participatory decision-making structures, allowing each to play to their respective strengths, fostering a more dynamic, competitive, diversified, and equitable economy.
 - d. Supporting the design and implementation of just transition projects, as proposed by individuals and communities in affected areas”.
15. South Africa’s Pressing Challenges
16. South Africa’s Future Energy Mix

3.1. Prof Lwazi Ngubevana (Noqazo Group) Presentation / Discussions

Thanks Rose

RO: Before we move to you Prof, I would just like to check if there is anybody in the meeting who would like the sign language person, we just want to make sure that she’s visible to them. You can use the Q&A to indicate a desire for the sign language, we just want to make sure, ok, we are not seeing anyone yet, if somebody does need the sign language interpreter, please do let us know so we can make sure she jumps on.

Prof Lwazi, the floor is yours, I will forward your slides accordingly.

Professor Lwazi Ngubevana (Noqazo Group):

1. Thank you very much, Good evening, everyone, as Rose has said my job really is to just set the context as to why we here, why we having this conversation to begin with. I’m pretty certain that everyone in the room is well aware of the problems that energy supply, in particular electricity that we face in the country. This is not a new problem and because of that in 2020, about July, the Department of Minerals and Energy issued a request for proposal to which a number

of companies including Karpowership actually responded to this RFP for the procurement to what called the RMI4P, that's a Risk Mitigation Power Producer Purchase Programme. And the RMI4P falls within our electricity planning which is a tool that we have that's called an integrated resource plan and the latest of that is the 2019 plan which really sets out the future for energy particular electricity supply in this country and so the points I'm making with that is, you know, these projects are part of a bigger plan, part of our policy and that projects were awarded in line with policy following competitive bids in a long drawn out public process, its well understood throughout the country. So, in this process Karpowership was awarded three of these projects, with one being here in Richards Bay, also Saldanha Bay and the Port of Ngqura in the Eastern Cape.

2. And I think it's important when we speak of this kind of work, of this kind of project that we really put it into context in terms of energy security and energy poverty. We are well aware of the dire need for energy on the African continent but also in South Africa because as things stand with over two million South Africans with no access to electricity and the impact that has on peoples livelihoods, on businesses, it's been well documented that for example load shedding in this country costs anything between 800 million to 2 billion rand a day depending on the schedule that we have and quite frankly the economy cannot afford that anymore and we need to start moving to try and solve this problem. And gas to power is but one of the solutions that's been offered and also very important when we speak of energy poverty, we cannot forget the linkages between the lack of access to energy to health, it's been shown globally that there is a clear correlation between health and energy consumption and or access in a country.
3. You will see in front of you there's two maps, if one overlays one over the other, the one on your left speaks to energy consumption per capita and then you look against the percentage of children for example who are under the age of five who are underweight globally, you can see there is a clear correlation, that if you can't provide energy you are going to raise unhealthy children. And this is for a number of reasons, you know, a simple example would be people being forced to cook on open fires to provide energy, or rather to provide food for their families and this is a situation we cannot allow to happen in South Africa. In South Africa you've got well over 9 million South Africans with no access to clean cooking and this is untenable. Next slide please Rose.
4. I'm going to wrap up my conversation on a few key things, that I wanted to highlight, that is my view is that as a country we need to be pragmatic in how we approach our energy solutions, we need to look at what the rest of the world is doing, if one was to look at for example oil and gas consumption across the world whether you look at North America, Europe, or the global picture as a whole, it's pretty clear that consumption of hydrocarbons continues to rise throughout the world and I think a lot of you will know for example on coal, that Europe continues or in fact has bought out more coal than they have ever done before from South Africa. There's gas pipelines being set up from places like Senegal going to Europe simply because they need the energy, and my view is that we need to do what the rest of the world is doing which is to provide energy for our people.
5. You will see in the picture in front of you there's a graph on the right hand side that looks at CO2 emissions and this is levels of unemployment, and my argument is quite simple, is that South Africa, if you see the orange line which is the highest peak there, that's a line of unemployment and that is South Africa and if you look at, relative to everybody else, everybody else has much higher CO2 emissions and yet they've got fairly low levels of unemployment and my argument is that South Africa has a much bigger problem than CO2 emissions. I'm not for once suggesting that we shouldn't pay attention to that, but the point is we need to be pragmatic in our approach. I think our problems are much bigger if we going to avoid social upheaval, we have to make sure we provide jobs, we have to make sure that we grow our economy and reduce inequality in this country.
6. And just as a very last point, on the bottom left of your screen you will see a map which is a suggested energy mix for South Africa and this is work done by the university of Stellenbosch and the one thing I want you to take away from that is this is a pragmatic approach to our energy future, it is a mix that includes coal, nuclear, but very importantly also includes gas and also

bear in mind that gas has been declared to be a green fuel by the European Union and I think South Africa really needs to take this seriously and start approaching it in a very similar manner. Thank you very much.

7. **RO:** Thank you so much Prof for your insight and your overview. We're going to now get a little bit of an understanding of who Karpowership is, we've been given a brief overview on the context, why there is this RMI4P and now to understand who Karpowership is.

RO: Before we do that Busi (Busi Makhina) is our sign language interpreter or sign language person so Busi, if you would like to pop your camera on so we can see you before we move to David. There have been no requests yet so we will keep Busi around just in case there is anybody that needs her.

4. KARPOWERSHIP SOUTH AFRICA (DAVID CLARK)

[below is an overview of the text / slides presented]

1. Global map showing Karpowership sites
2. Video of how the Karpowership Projects work

4.1. David Clark – Karpowership Presentation / Discussion

1. Certainly, thank you very much Rose, welcome everybody, the time you are spending her with us is greatly appreciated, we know it is a long time out of your day so thank you very much.
2. Who am I, I'm David Clarke, I'm from the Karpowership team, busy trying to implement these projects here in South Africa. I'm going to give you a quick history, a little bit of background on the company and what we are doing here and just give you a bit of understanding on how the technology works as briefly as possible, which hopefully you'll find helpful. Karpowership is a company that has been in business for 73 years so we not new, we've been around for quite some time. Since the 1990s, Karpowership as a company has been an integrated energy company so that means we've got renewable projects, we've got land based power plants then in 2009 the concept of the Powership was born so we built our first Powership in 2009. Since then, we've become quite comfortably the Global leader in floating power solutions, there are other companies that do it, but we have 36 Powerships currently operational with an installed capacity of around 6000 megawatts.
3. So why does the Powership make sense and why has it been such a successful business?
4. That very much lies with the business model which we employ to do this business so what we do and where we're different from pretty much all of our competitors is we actually build the power generation assets, the Powerships ahead of time. Now what that means is that we construct them, they are fully ready to generate electricity and then we go find them a home, we find them a contract to be used for. What that does is it means that we can deliver extremely fast. It also means that we have to build these Powerships with an extremely robust design using cutting edge components and technologies so that they can operate anywhere in the world because don't forget we don't know where we are going to put them when we build them so they are built to with stand extreme weather events, for example they can operate continuously in Category 3 hurricanes. Category 3 Typhoons, Tsunami situations, even in sand storms, without losing efficiency and without going down and taking power off the grid.
5. It also means quite crucially, in terms of risk to a project that there is no construction risk and no financing risk to completing the projects once they are promised to a client or a company or a country. This is very important, many projects, once they start the construction, once they start being built, they often experience delays because of problems with the construction or problems with the banks and funders pulling funds halfway through the project and it inevitably causes delays so once again we don't have that risk. The Powerships are ready to be deployed as soon as the correctly needed licences and permits are in place for us to deploy them.
6. Just to give you an example of that, the Khan class Powership, which is due to come to Richards Bay, approximately two years ago I actually walked around that fully completed Khan class Powership in our shipyard in Istanbul. This is the largest shipyard in Europe, and it was fully ready, ready to deliver power at that time two years ago. So that also gives you an idea of just how

- committed we are to the country because we've earmarked that asset and the other Pow-erships and FSRUs for South Africa and they're sitting idle at the moment waiting for the project to come online. So, they will be delivered as soon as humanly possible to the projects here in South Africa once these licences and permits are all finalised and the contract is signed.
7. Karpowership South Africa, we've established the company a few years ago here in South Africa, it's called Karpowership South Africa. It is a 49% black owned, women empowered company and we will be looking to increase our BBE score over time. That's a very important component of doing business here in South Africa.
 8. Why are we here? Well as touched upon, we are actually responding to the RMI4P tender process from the DMRE. What that was, was to provide 2000 megawatts of risk mitigation capacity dispatchable power into the grid to try and alleviate the bane of loadshedding that we have here.
 9. To try and reduce things like the overuse of diesel peakers and other issues, such as grid stability that Eskom is currently facing and trying to tackle, now as part of that bid, it was a highly competitive bid and in the expression of interest days there were hundreds of companies that responded, showing interest in the bid. In the end 28 bidders on the 22 December 2020 submitted their bids to the programme and that was eventually taken down to 11 preferred bidders on the 18 March 2021. Now of those 11 preferred bidders the Karpowership projects represent 3 of the 11.
 10. Could I have the next slide please Rose?
 11. So Karpowership is a Global company acting locally, so we currently employ around 2600 people directly as Karpowership and across our projects we've created more than 10 000 jobs over the time. The more important statistic in that I think though is we are currently employing 27 different nationalities. Now why do I say that? I say that because obviously here in South Africa there are many commitments we make, you will hear about those later, to employ local people.
 12. The reason I say this is because this is not something we are doing in South Africa simply because we are told we have to do it here; it is part of our Global business model, and it just makes sense to us. So, every project we do around the world you will find that many, many people who are working on that project are local people because it just makes sense to us to have people who understand the local people, the local culture, it makes everything run much smoother and efficient, like I say, it just makes sense to us as a business. So that's the reason I say that we have made commitments. We will employ local people here and we will do that to go above and beyond the commitments that we make.
 13. So floating power is not something new, actually, for example in Manhattan, New York they've been using floating power for a couple of decades now. Europe currently is looking for floating assets both on the gas side and on the power side as they struggle with their own energy security as we come out of, the quite unique circumstance we have at the moment, the Post Covid recovery and now of course the Russia/ Ukraine War putting a lot of pressure on their own energy security.
 14. What would say to that, Europe is looking, we are talking about the top economies in Europe are seeking to obtain floating gas to power solutions, currently right now as winter is starting to bite. Now South Africa actually is in quite an enviable position in that in the RMI4P South Africa has actually secured 8 of these floating assets including three FSRU's at pre-Covid prices as part of the tender. There are many European countries that would absolutely love to be in that situation. Just to give you some context, especially with the FSRUs, there are less than fifty FSRUs available globally and the vast majority of those are committed to projects at the moment so there is very, very few available on the market.
 15. So just, as you can see from the map on the screen, I would like to highlight three projects for you.
 16. Since we submitted our bid and became preferred bidder here in South Africa, we've been involved in three other competitive tender processes and projects, the first one I will mention is Brazil, so it's for 560 megawatts of power, gas to power. That one the tender was issued in August last year 2021, we became a preferred bidder in November last year, signed the PPA and

all the agreements in December of last year and the ships are now they're ready to deliver power.

17. New Caledonia, just on the right side down there beyond Australia, a long way away. That's quite an interesting one because it is not a project that is providing power to the local utility company, it's actually a private company the local, large nickel smelter there, it also needs very reliable energy and obviously at a competitive price, they're a private business. They never going to accept a solution which is very expensive. So, the other interesting thing about New Caledonia is that it is a French territory so to be able to do a project in New Caledonia you have to follow all the European Standard, the environmental regulations and all other regulations that are relevant to a power project.
18. So, it's not an easy market to do business in but we're in there. As I said end of last year, we were awarded that contract, the ships are there now, ready to deliver power.
19. Dominican Republic, the last example I'll quickly touch upon. I was in the Dominican Republic in February this year to submit our tender bid to the competitive tender there, we won that tender and the ships again, within the following month will be there ready to deliver power.
20. I'm using these examples to show you that the vessels are ready and we can deliver fast so when we say we have fast delivery we have fast delivery.
21. **(INAUDIBLE BACKGROUND NOISE)** Apologies for that everyone. I just want to play you a short video now just to give you an idea of what the project actually looks like.

(VIDEO PLAYING)

22. So, this is a typical layout for a Karpowership project.
23. On the left side you see the FSRU, that's a Floating Storage and Regasification Unit, so what that does, it stores the fuel and then sends the fuel to the Powership that you now see on your screen, on demand for the engines on the Powership to deliver power to the grid. Now on board the Khan Class vessel that you see here or any of our Powerships, they all use standard technology, we use reciprocating engines and the heat from that is captured in steam turbines to create greater efficiency for the power generation. So, what happens is, the FSRU, you can think about that a little like the fuel tank in your car, so as you need power in your engine which is the Powership you deliver the fuel from the FSRU to the Powership. Now when the LNG in the tanks of the FSRU run down and need to be replenished, a third vessel, a tanker, an LNG carrier will come into Port approximately every twenty to thirty days to refill those tanks. Now at any given time we always keep a contingency on the FSRU so if there are weather conditions or any other reason why the carrier cannot come in on schedule, we will have at least seven to ten days of fuel remaining on the FSRU to be used for power generation so even a storm event that prevents the tanker from coming in will not interrupt the power supply
24. So how it works is you take the liquid gas, the LNG stored in the tanks and that's stored at -163 degrees C° (what that does, in making a liquid of the gas it reduces the volume of the gas by around 600 times, so it's much more efficient to store it), you take the liquid and then you regasify it as and when the engines on the Khan require the gas which will be dependent on Eskom's dispatch instructions. When Eskom says "we need X megawatts of power" we send the right amount of gas to the Powership to be able to generate that power on the Powership. The regasification is not a concern. You take the liquid and essentially all you do is warm up the liquid back to ambient temperature until it becomes into its gaseous state again. So that's all that process is and obviously the electricity is transmitted from the Powership to the shore and into the Eskom grid and a substation and it powers life from there in the country.
25. So thank you very much everyone, I look forward to answering any questions you might have later on. Much appreciated.

RO: Great thank you so much David. Just a note, we are seeing questions as they come through and we are taking note and we will respond to them. We going to move onto the next specialist and to clarify we are recording this session and that recording will be available, and in addition if there are any people that need any translation at all please let us know so we can attend to that. There is Afrikaans and isiZulu and isiXhosa available.

Right, now that we've had a bit of an overview with regards to the context, what Powerships do and how they work, I'm going to hand over to Hantie who will take us through the project and how we are at this point now. Hantie the floor is yours

5. OVERVIEW OF THE PROJECT (HANTIE PLOMP (TRIPLO4))

[below is an overview of the text / slides presented]

1. Scoping Phase

- a. Approval of Final Scoping and PoS received from DFFE - 06 January 2021.

2. EIA Phase (2021)

- a. Final EIAR & EMPr submitted to DFFE – 26 April 2021;
- b. EA application refused as per Record of Refusal – 23 June 2021
- c. KSA appealed the refusal – 12 July 2021
- d. Minister dismissed the appeal – 01 August 2022
- e. exercised her powers in terms of Section 46(3) of NEMA
- f. remit the matter to CA – various gaps in information and procedural defects to PPP to be addressed for reconsideration, within EIA process timeframes

3. EIA Phase (2022)

- a. Pre-Application with DFFE– 24 August 2022;
 - b. dEIAR Public Participation comment period - 10 Nov – 13 Dec 2022 (33 days)
 - c. Final EIAR – due in January 2023
 - d. PPP – All I&AP to have an opportunity to comment on noise information
 - e. Noise from the Powership
 - f. Underwater noise & impacts
 - g. Terrestrial noise
 - h. Need & desirability
 - i. Socio-economic and ecological aspects
 - j. Socio-economic
 - k. Tourism
 - l. Small-Scale Fishers
 - m. Polycentric approach
 - n. Project started in 2021
4. Considering all matters integratively
 5. Discussed with DE and advised to follow through the process
 6. More info on the need and desirability
 7. Marine component- FSRU and Powership
 8. Power generated needs to be fed into the national grid through a 130 kV power line.
 9. Requested to study everything integrated not individually
 - a. A- Land and animals
 - b. B- the sea
 - c. C- air quality
 - d. D- Social conditions
 10. A table was shown which grouped all the specialists' studies undertaken for the project into one of four disciplines – it was colour coded.

5.1. Hantie Plomp (Triplo4) Presentation / Discussion

1. Good evening everyone, to give you a background of the project and where we are in terms of the project. We started with the scoping phase, and we received approval of the final scoping and Plan of study from the Department of Forestry and Fisheries Environmental on 06 January 2021.
2. We then went into the EIA phase; the EIA was submitted, and the EIA was refused. The applicant appealed the refusal, and the minister dismissed the appeal on the 1st August 2022 but exercised her powers in terms of Section 46(3) of NEMA and remitted the matter back to the Competent

Authority so that various gaps of information and defects in terms of the PPP could be addressed and the EIA could be reconsidered.

3. This had to be within the specific timeframes and as per the department.
4. The Pre-Application meeting was concluded with DFFE on 23rd August, and we are now in the draft Public Participation phase comment period from 10 November to 13 December, whereafter the Final EAR will be submitted in January 2023.
5. In terms of the main aspects from the appeal, we were required to address the Public Participation Process ensuring all I&APs have an opportunity to comment particularly with the noise aspects as that was a concern that not all the Public I&APs had access to all of the information. That's also one of the reasons that you will see as we go forward that there was quite a number of aspects in terms of the noise it had been addressed and includes the underwear noise and impacts as well as terrestrial noise and we have the specialist that will present it tonight.
6. Also, we required to address need and desirability to ensure and socio economic as well as ecological aspects have been addressed and in terms of the socio economic such as tourism and the small scale fishers were adequately addressed as well and one other aspects that has been required as well is to ensure that a polycentric approach be implemented ensuring that all matters between specialist are also integratively considered. And we will later on share with you a slide in terms of the polycentric approach.
7. In terms of the overview of the site, this is the project the Powerships are proposed within the Port of Richards Bay with the FSRU as David has described vessel that will regasify the Liquid Natural gas into gas form.
8. That will be situated adjacent to the sandspit, you then have your gas pipeline that will go towards your two Powerships. From the Powership you have your evacuation routes, and I will go into further detail and show you the two routes that we have assessed in terms of the EIA process.
9. Just from a closer perspective, a zoomed in perspective, as you can see with the Red Polygon, that is the FSRU vessel with opportunity for the LNG carrier to be adjacent when the LNG has to be delivered. The gas pipeline that will follow towards the Powerships and then from the Powership there is evacuation via 132KV Monopole line.
10. And the next image that you see then the evacuation route from the Powership there are two that has been indicated, the BLUE line is the preferred alternative, as the project goes along you will notice that the reason that particular alignment has been sought is because of the degraded nature of that area as well as opportunity to address wetland aspects to actually improve per hectare equivalent. Then on the other side is the RED Polygon that you can see, that was the alternative alignment. This is not preferred because this alignment will be situated within the more sensitive areas including your wetlands as well as your main roads.
11. To provide an overview of the transdisciplinary approach, as was requested, was that the project needs to be integrated. The process that has been followed was to then group the various studies into specific themes and as you can see on your screen, there is the Terrestrial Bio Diversity Eco Systems component, there's the Marine Coastal Estuarine Bio Diversity Eco Systems, then there is the Atmospheric conditions as well the social conditions at risk.
12. What we required from all of the specialists was within the themes to work together and talk to one another on a regular basis to understand from each one's perspective, what the impacts are and then how that can then impact on any of the other aspects being assessed by the various specialists.
13. We also require the specialists to make sure that they also have a transdisciplinary approach which means that for instance in terms of your social conditions, your environmental conditions, that they speak to one another and consider theses as they, as they also inter relate to one another and we have achieved that as well with the specialist that had weekly meetings, integrated meetings as well as smaller groups, that discussed with each other components that is important and needed to be integrated.
14. In the EIA report there is also a sustainability assessment that has been conducted with various aspects and methodologies that has been followed to ensure and demonstrate how this has been achieved.

15. There is a systems map that explains the stresses on the system as well as the output both from a local as well as from a macro perspective.
16. There also the strategic and the integrated nature that has also been demonstrated in two other matrixes.

RO: Thank you very much Hantie, so as we said at the beginning, please could you pop your questions into the question and answer box, you'll see there is an opportunity for you to pop in questions so that we can see and group them and respond to them accordingly. We have had a couple of questions; we are recording so that people are aware. So please do drop your questions into the Q&A because we are open now for some questions and answers.

17. There was a question here from **Percy Lange**: with regards to the key so I'm going to take us back just for clarity for those that have joined. David (Clark) he's asking for clarity with regards to this map, could you explain the small images that are alongside the names, what do they represent?
18. I'm going to just ask David if he could just respond? David, could you come off mute and respond to the question?

19. **David Clark (Karpowership)**: Yes, yes, I can now. Certainly, so those keys just explain where there is a Powership and underneath Turkey for example you can see Land based powerplant and solar power, so you have Powerships and FSRUs, those are what those symbols mean.

20. RO: Thank you.

21. I hope that that has answered that question. Then there was a question from **Marilyn Lilley (I&AP)**: What type of fuel is used to power the Powerships, is it diesel, how is fuel transferred to the Powership?

22. RO: Marilyn, that was explained in the video from David Clarke with regards to how it comes up alongside and it fills up the Liquid Natural Gas. David, would you like to just unpack it a little bit more for us.

23. **David Clark (Karpowership)**: Yeah sure, that's a very valid question because I know there is a concern that we may use other types of fuels, we can't, and we won't. So, all of the fuel we use in South Africa will be natural gas from LNG including the power that's needed on the FSRU or the Powership to run internal operations. So, you're lighting and all of these things, the gas will be used for that as well. So, use only natural gas.

24. In terms of how is fuel transferred to the Powership? There is a pipeline between the FSRU and the Powership which transports the Natural gas between the two after it's been regasified on the FSRU.

25. RO: Great, thanks so much David. I'm just checking through to see if there are any other questions with regards to this first section that we've just looked at. That first part is just the Context, the Powerships and then the Transdisciplinary approach. You will have seen from Hantie's discussion the specialist were grouped into where there was a lot of overlap and then they have engaged extensively around their overlap and taken into consideration each other's studies.

RO: We haven't had any others that have come through so I'm going to move now to the agenda to show you where we at.

So just to confirm there are set places for discussion on the agenda, we are going through the questions, you need to put them in the Q&A and then we can pull them up for the specialists and I can quickly make sure that the right specialists are available for you to answer them.

The next item on our agenda is Economic Development and that's going to be presented by Waldo Adams followed by Eugene de Beer and then we will have another opportunity to go through questions before we move to the next section.

I'm going to hand over to Waldo and then Eugene.

SPECIALIST PRESENTATIONS

6. ECONOMIC DEVELOPMENT (WALDO ADAMS (EDS))

[below is an overview of the text / slides presented]

1. ED Elements
 - Job Creation, SED, Enterprise Dev, Supplier Dev, Skills Dev
2. Reporting
 - Monthly reporting
 - Onsite Monitoring and confirming compliance on a day-to-day basis
 - Verifications of data
3. Compliance Management
 - Quarterly submissions to the IPPPO
 - Penalties for non-compliance
 - Annual Independent Audits
4. Disclaimer
 - The values which are communicated in the following slides as per the financial model determined in 2020, so these numbers may var

5. Employment Commitments
Phase of Construction:
 - 190 employees at the height of construction.
 - These figures may change depending on the stage of construction, i.e., mobilization, peak, and demobilization.
 - Additional job creation chances will be possible thanks to the downstream procurement.Phase of Operations & Maintenance:
 - 200 full-time workers.
 - Additionally, the prospects for downstream procurement will create more full-time job opportunities.
6. To be spent in the Richards Bay area:
 - R586 533 198 [Projected for the full 20-year PPA]
 - R29 326 659 [Projected per annum]
 - R2.44m [Projected per month]
7. **Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:**
 - R146 633 299 [Projected for the full 20-year PPA]
 - R7 331 664 [Projected per annum]
 - R611 000 [Projected per month]
8. SED Projects
 - Primary & Secondary School focus on building educator and learner capacity (STEM) - R3M annually.
 - Bursary/scholarship (20 students annually) – R3m
 - Solar water geysers and photovoltaic (PV) systems – R8m
 - Environmental Sustainability – R2.4m
 - Support to vulnerable communities – R3m
 - Sport and recreation – 2.5m
9. Enterprise Development
 - **To be spent in the Richards Bay area:**
 - a. R234 613 278 [Projected for the full 20-year PPA]
 - b. R11 730 663 [Projected per annum]
 - **Karpowership may allocate a maximum projected SED spend within the KwaZulu Natal Province of:**
 - a. R58 653 319 [Projected for the full 20-year PPA]
 - b. R2 932 665 [Projected per annum]

- Start-up Business Grants
 - Business Training
 - Business Loans.
10. ED Projects
- Maritime SMMEs – R2m annually.
 - Agriculture & Aquaculture – R3.5m
 - Youth Entrepreneurial SMMEs – R2m
 - Enterprise Development Fund – R2.4m
11. Supplier Development
- **To be spent in the Richards Bay area:**
 - Approximate Projected Budget for the Construction Phase is R650 000, to be split over 12 months
 - Approximate Projected Budget is R1.1 million, per annum, over the 20-year Power PPA period (Operations Phase)
12. Aim of SD is to assist beneficiaries to among others:
- Increase turnover
 - Improve internal business processes
 - Increase number of jobs / employees
 - Increase clientele
 - Ensure or improve compliance, i.e., SARS, CIPC, Labour or relevant industry specifications,
 - Increased independence and leadership capabilities
13. **Supplier Development**
- Clear objectives with respect to the development, these areas that may be targeted for development are not limited but could include:
 - a. Provision of business equipment or tools;
 - b. Planning, tendering and programming skills transfer;
 - c. Legal and Contractual compliance;
 - d. Tender or Proposal writing training;
 - e. Marketing and branding; and
 - f. Access to or implementation of business system.
14. Skills Development
15. **To be spent in the Richards Bay area:**
- Approximate Projected Budget is R32 585 178 over the 20-year PPA period (Operational Phase)
 - Approximate Projected Budget is R1 629 259 per annum
 - **Projected budget for Skills Development initiatives within the KZN Province shall be:**
 - Approximate Projected Budget is R8 146 294 over the 20-year PPA period (Operational Phase)
 - Approximate Projected Budget is R407 000 per annum

6.1. Waldo Adams (EDS) Presentation

(RO: Waldo I will be going on mute, but you will be audio.)

1. Thank you Rose, you heard from the previous speakers about the Karpowership responding to the RMI4P bid and part of that bid submission there were certain development obligations that were made: such as, job creation, socio economic development, enterprise development, supplier development, skills development, those commitments need to be adhered to throughout the twenty year operations phase as well as the twelve month construction period.
2. There will be reporting that needs to take place on each of those things, monthly reporting, we need to have on site staff to monitor the compliance on a day to day basis is taking place. That people are who they say they are on site in such a way we can verify all this data. And then we get to compliance management on a quarterly basis, the submissions need to be made to the office and if Karpowership does not fulfil their obligations, or don't achieve their commitments, that they had made during the bid stage they likely to be penalised.

And the penalties can be quite substantial, often times it can be more than what the commitments were in the first place. And then on top of all of that, annually there will be an independent audit by an independent auditor to confirm that everything that was committed and sent through to the IDP office on a quarterly basis is actually the truth in which again there could be penalties.

3. I'd just like to have a disclaimer because on the next few pages there are quite a number of Rand values that are going to be displayed. Those Rand values were determined two years ago when bid submissions based on revenue calculations and cost of construction estimates, so with the exchange rates between now and then and when we start implementing these projects there likely to be an upward trend or downward trend on those numbers so just a disclaimer for us to know that it's not exact figures. There might be some change, but we don't expect it to be too much either way.
4. Next page please Rose. I'm not sure if you can hear me Rose, can you move to the next line please? Thank you.
5. So, the job creation commitments that were made and these are specifically only for the Karpowership, not downstream jobs. There were 190 people that we employed during the construction phase, as mentioned it's a twelve month construction phase but as with all capital or construction projects, there is always downstream procurement which will allow for additional job creation opportunities.
6. Similarly, during the operations phase there will be 200 full time employees on the ships and of course the downstream procurement opportunities once again had more full time employment opportunities for people within the Richards Bay area.
7. Let me just say to expand on the types of jobs that will be created during the operations phase given that the Karpowership is both a ship and a Power Plant, we would likely be placing people with skills that can run a power plant as well as people who have Maritime skills, so those are the type of job opportunities that will be sought during the operations period.
8. Karpowership has made a commitment to spend about R586 million on socio-economic projects over the twenty years within the Richards Bay area which translates into about R2.4 million per month, which is quite a significant amount of money to be spent on projects, which we will discuss in a minute. Provision has also been made for about R146 million over the twenty years or R611 000 per month to be spent in the greater KZN province should the need arise.
9. All the money can be spent in Richards Bay but there is the option to spend money beyond the borders of the uMhlatuze municipality.
10. The SED plan for the first year, provisionally we've identified certain projects with the focus on education, so STEM, the maths and science teacher support we are looking at for Primary and Secondary school to build educator and learner capacity.
11. We are looking at spending about R3 million for the first year and annually if the project seems to be going well. There is also an intention to provide bursaries and scholarships to about twenty students annually, will receive bursaries for the entire duration of the twenty year operations period.
12. As we know with load shedding and all the electricity challenges providing and access to hot water, lights is difficult, and challenging and expensive, even at the best of times. So the idea is to look at indigent households and the poorer homes to provide them, with solar water geysers and PV systems for their roofs.
13. In Richards Bay, we know it's a very, with the estuaries and the parks around, there is a commitment made to assist with environmental sustainability in that regard to the tune of R2.2 million in the first year.
14. Obviously support to vulnerable communities such as in the past giving food parcels during Covid, people living with disabilities and a number of house projects where people are living with serious challenges, so we can provide support to them and then of course Sport and Recreation is always a huge requirement for funding and that helps a lot to positively motivate youth to get off the streets and to get into playing sports. So hopefully we can use

- some of the money to improve sporting facilities or maybe send some youth that have potential on camps or further develop their talent, to the tune of R2.5 million for the first year.
15. With Enterprise Development there is an allocation of R234 million for the twenty years which translates into about R11 or close to R12 million per annum to be spent in the uMhlatuze area and similarly with SED there is an option to spend an additional R60 million within the KZN area.
 16. With ED, the intention is to either provide start up business grants or provide business training or a combination of the two to qualifying SMEs and as well as business loans. The intention is to focus quite a bit on the business loans aspect given that enterprise is quite a cash sucking exercise and if we were to have business loans, we would also ensure that the kitty gets refilled in order for us to give more loans to others who so require.
 17. The type of projects we looking at in the first year, because this is a Maritime project our focus will be on Maritime SMMEs who will provide services to the Karpowership or other entities within Richards Bay.
 18. Also, the region is very rich in agriculture, and we would like to introduce aquaculture to the area as well so there is an allocation made for R3.5 million for these type of projects.
 19. Youth Entrepreneurial SMMEs is quite an important one, given that the youth are often times overlooked for funding to develop businesses so it's either going to be in the form of entrepreneurial training or small loans or grants, it depends on what comes from the studies closer to the time.
 20. And of course, the, the Enterprise Development Fund is the loan facility that is the fund that will be topped up as the people start repaying their loans, we can fund other small SMMEs that require loans.
 21. Supplier Development, as you may know is within Enterprise Development but for Suppliers within the supply chain of the Karpowership, so with all their suppliers there's a budget during the construction phase of about R650 000, to be spilt over twelve months.
 22. During the operational phase it's about R1.1 million per annum over the 20 year Power, as per PPA agreement
 23. The intention is to improve, develop the suppliers, increase their turnover, improve internal business processes, thereby increasing the number of jobs, increase their clientele, ensure or improve compliance, you know their SARS, CIPC and Department of Labour etc.
 24. Increased independence and leadership capabilities, in essence just to make them all round quality suppliers to the Karpowership and other industries in the area.
 25. The clear objectives with respect to the developments in this area are provision of business equipment or tools, because sometimes that's all they need - they don't have the refrigerated truck to be able to provide fresh fruit and vegetables to the ships or whatever other tools they might require. Some people don't know how to put tenders together, or planning, programme management skills is not very great, there is an opportunity to provide those types of training.
 26. Legal and contractual compliance is very important for many businesses and they often times fall short of that. As I mentioned, tender and proposal writing is something that is also critical to small businesses in order for them to win tenders elsewhere. Their marketing, branding is very important as well as access to or implementation of business systems. These are all the types of supplier development initiatives that will be looked at once we getting to producing electricity and selling to Eskom and start doing an understanding of what the community looks like, what the landscape looks like and invite suppliers to the programme.
 27. And the last thing is Skills Development with a budget of R32 million over the 20 year period, this translates roughly into R1.6 million per annum.
 28. The skills development budget is going to be spent predominately on the staff of Karpowership. As David mentioned, the Karpowership is a very complicated piece of machinery and its very high tech, a world class leading type of facility. There will be bursaries and scholarships to upskill the various people whether they become engineers, fitters and turners or

whatever upskilling requirements they might require to go to university to study, there will be bursaries for that.

29. Internships, learnerships and apprentices will be for your trades people that will be working on the ships. There will be informal training almost like toolbox training that will take place for the staff, workplace learning, ongoing workplace learning will be given throughout the twenty year period.
30. For people who are employed without the necessary qualifications but have worked for years within an industry will undertake their prior learning process via assessor and moderators to determine where they are and then of course through the bursary programme we will provide them with the additional training to be able to achieve their qualification.
31. And then lastly, we have the Karpowership academy which will be an ongoing training programme to upskill all the staff on the workings of the Karpowership throughout the stay within South Africa.
32. Thank you.

RO: Great, thank you so much Waldo. We going to move now to Eugene and then we going to come to the discussion period. Please remember we are running as a webinar as webinars have been run for a while now, questions please pop them into the Q&A so we can group them and then respond to them. I'm going to hand over to Eugene now and after Eugene is done, we will then address a number of questions that are coming through, so thank you very much, please keep putting your questions into the questions and answer box so that we can address them. We can also track them and keep them for the comments and issues trail. I'm going to hand over now to Eugene who's going to look at the socio-economic impact.

7. SOCIO-ECONOMIC (EUGENE DE BEER (SOCIAL RISK RESEARCH))

[below is an overview of the text / slides presented]

1. Harbour and harbour users
2. TNPA operations: corporate affairs and planning
3. uMhlatuze Local Municipality
4. Industrial areas; IDZ and Alton
5. Richards Bay CBD commercial
6. Richards Bay Residential communities. Arboretum, Meerensee, VeldenVlei, Birdwood
7. North: Mandlanzini, Ntshingimpisi
8. South: Greater Esikhaweni, Nkhubosa and Gubhethuka semi-urban and rural communities
9. Empangeni, Ngwelezane urban and semi urban areas
10. Tourism and recreational users. Hotels, Small craft harbour, Waterfront, angling and boat clubs, picnic sites, pier
11. Small scale fishers
12. Vulnerable and disadvantaged communities: women, youth, disabled and elderly.
13. Implement **Karpowership's Economic Development Programme**.
14. Provide support, **education, and training to the small-scale fishers** to find alternative employment
15. Together with the Municipality, NGOs and CBOs address the **poverty of the fishers**.
16. Together with the Municipality and tourism organisations, develop a **marine / industrial tourism attraction, routes, and tours**.
17. Contribute to the **tourism education and skills development – tourism guides**.
18. Implement **managed labour recruitment practices**.
19. **Local employment and procurement practices** as per the RMIPPP requirements.
20. **Implement a monitor system and complaint lodging system** to address problems that may arise
21. Do **knowledge and skills transfer**
22. **Operations limited to business hours**

23. No fatal socio-economic flaws have been identified. It is recommended that the Project continue from a socio-economic point of view.

7.1. Eugene de Beer (Social Risk Research) Presentation

1. Good evening, my name is Eugene De Beer, I'm from a company called Social Risk Research and our task is to look at the Socio Economic Impact that the Karpowership project could have on the communities and South African uMhlatuze area and so on.
2. So, the items that you will see here, we started the process by identifying the areas of impact and trying to identify within that the major stakeholder groupings that could be impacted on.
3. So, you see there the locations of where the Karpowership will be and then the concentric circles running out giving us distances running out up to 12km from them, it does not mean that any impact may stop there but there would be further on, but it gets extremely distant away.
4. So, within this area, you can see that within the Port area is about 1km radius itself where the active harbour area operating components are. If you go up to the 3km radius you start to get into the CBD area, between 3 and 5km is the Richards Bay CBD area. We have then surrounding the site itself is mainly industrial areas, the IDZ and so on within the 3km radius. Its only once we go further than that to the 4 and 5 km's that we get into some of the residential areas of Richards Bay and beyond that, 7km's and beyond we start to reach some of the rural communities living mainly to the South and there is the Greater Esikhaweni area to the South side.
5. Something like Empangeni is more than 12 kms away from where the ships will be and then you've got Ngwelezane, those associated townships and rural communities living out there.
6. So, distances are quite far from where the Powerships will be located. Now in the bullets here on the left hand side, we've identified them, more in terms of types of, the stakeholder impacts, the harbour itself and the harbour users, the other Port operators, the Transnet itself and its corporate affairs and the Transnet operations. uMhlatuze Local Municipality as a whole and then the Industrial areas, IDZ, Altron, Richards Bay CBD and the Residential areas of Richards Bay and as I said North, a little bit further away, 7km and more away, the Greater Esikhaweni area, Empangeni.
7. And then lastly at the bottom of the slide, not because they are not important, but to highlight them specifically as centres that are not necessarily geographically or spatially located.
8. Tourism being one, tourism is spread out throughout the municipality, it is an important sector in the municipality and an area that is very sensitive, the environmental issues, environmental in a broader sense not only the physical environment but any type of safety and security in the environment which it operates.
9. So, we wanted to highlight that specifically as also a sector, what we wanted to look at. We are aware of the fact that there are not really small scale fishers operating in the harbour itself, but there are [informal small scale fishers] towards the harbour mouth and there are some illegal fishing taking place which we have to take account of and give attention to that. There is also recreational fishing that we've taken account hereof, the angling and boating clubs, the picnic sites and the pier fishing that's taking place from the pier.
10. And lastly any vulnerable and disadvantaged communities, whether they are women, youth, disabled, elderly people, we need to be aware of that area and sensitive and make sure that the project of this nature has got no negative impact on any of these stakeholders and if there are, what are those negative impacts so that we can deal with them and address them and determine what is the significance of those impacts. But it's not only negative impacts, we also want to know about positive impacts, not only positive impacts but how can this project contribute to a positive development that can take place in the community.
11. What we have done here, please understand that this is a very high-level summary table slide, just touch on some of the more important ones. In the detailed report its in much greater detail. We've identified here areas of impact and in the columns that follow the nature or the extent of the impact, also in terms of impacts with mitigations.

12. So just at a very high level, impacts in terms of biodiversity are climate change, sorry I should also say that all these impacts that are here will be dealt in more detail by the specialist studies that are going to follow after my presentation. It's really taking the results of the specialist studies and turning them into what the socio-economic impacts could be.
13. So, biodiversity and climate change you will get a specialist report on that as part of this session today. But the impact in terms of socio economic aspects from the people and the broader economy is really a very low negative. And even on a cumulative basis there is still a low impact that it would have socially on the social economy.
14. In terms of the small scale fishers that I referred to and again we have to take account of that whether it's illegal or not. We want to know about that because there are certain activities that take place, and we want to know what the impact of this project could be on that. And in this case again there may be some low negative impacts and it may be due to an indirect impact that the ships would have an impact on the marine ecology and that indirect impact it would have on the small scale fishers, and so we take note of those.
15. Similar with tourism, there's no direct impact on tourism from the ships, the specialist reports will highlight that out for you and indicate there's no real visual noise or operational impacts that will have in terms of a negative impact, it does have a very positive impact in the sense if the power situation in the country does improve then our tourism products can operate on a more consistent basis. But in terms of a negative impact, a very low negative impact that this project will have on the tourism centre.
16. In terms of municipal services and facilities that may need to be provided as part of this project, here we think of, would new roads need to be built, would there be new facilities, hospitals, clinics, schools and housing that need to be provided as a direct result of this project.
17. No, the project is not of that nature that the municipality specifically needs to go out and provide those types of facilities because of this project, obviously it's the task of the municipality to continue providing those types of facility but that is what they want and that is what we want because that signs development for us. So, one should really say, no negative impact, on this one, in terms of the socio-economic impact.
18. In terms of sense of place, a very low impact on this one, sense of place refers to an area in which we live, and the area in which we understand and know and like, maybe even dislike, but it relates to what we can see, the visual environment in which you live, noise and even psychological aspects that defines the place or experience in which we live. And this is sometimes a very important one, if there is a major impact in an area it may not have any other impacts, but it could change people's experience of the environment in which they live but even in this case based on the specialist report we believe there is a low negative impact.
19. I've kept the last two specifically last because that's the 'good news' side, the project has been said it will create a skills and enterprise development during the construction and operational phases, so that is very positive, it's part of the whole development picture that we looking for, it's job creation, it is the transfer of skills that we are looking for , that is what we spell socio economic development.
20. Also, in terms of the major reason why this project is taking place is because of the electricity provision and the increase in the economic productivity, values and incomes that we will be spinning off from that in terms of the forwards and backwards linkages. So those are the positive impacts that this will have in terms of the socio economic environment.
21. If we then go and say what does this mean for us, because I've really been saying to you that there are very low socio economic negative impacts with this project will have and those statements are based on the scientific reports from the specialist consultant.
22. But in terms of taking this forward, the ships are going to be in the contract period at the moment if it's awarded will be for twenty years, we don't want to only benefit for twenty years from a project and then it disappears. We'd like to put in place the development mechanisms that can ensure we build up the total community during the time that the project is operational but also afterwards.

23. So, the first item that we have here is we need to make sure that the Karpowership Economic Development Programme does get implemented. That is the one that the person just before me, that Waldo gave.
24. He unpacked for you what the Karpowership Socio Economic Development Programme is, what their intentions are and what they would do if this project happens so if that happens many and most of the socio economic issues and benefits that we would like to see would happen, would like to see happen will take place.
25. But we highlighted too the issues about the small scale fishers, and we believe Karpowership can make a contribution in the education and training and to help those fishers to find alternative employment or to open them to opportunities and also then work with other organisations within the municipality, within uMhlatuze, and that already addressing the poverty issues and also of the fisheries. Now Karpowership interests are specifically on the fishers because they operate in the maritime field. Then there's the issue about tourism – Karpowership can make a contribution and help to establish a better tourism product there in terms of routes, attractions and tours. Not on their own, but working with the other existing organisations within the municipality, we would like to see them help and strengthen the existing tourism facilities but also in terms of tourism education.
26. So, these are all the recommendations that we are making.
27. Also implement a management labour recruitment practice, now this is actually given, it's part of legislation, your HR requirements are that you should do this but we want to highlight that and specifically also local employment and procurement, David spoke about that earlier on but we want to emphasize that this project should benefit the local, local people, local communities.
28. We suggest then that there should be a monitoring system and a complaint lodging system for any socio-economic or other problems that might crop up in the community within Richards Bay into the Empangeni area. Then those issues could be captured and could be addressed or referred to the appropriate institution that must do it. It might be referring to the municipality or even refer to the police for example if it's a criminal type of activity. Knowledge skills transfer we spoke about and then operations being limited to business hours.
29. So really from a socio economic point of view we believe there is a lot of positive things that could come from this project for the local community, there's very little negatives that cannot be mitigated and we believe that the project can continue. Thank you.

RO: Great, thank you so much Eugene for that very insightful presentation. We've had a number of questions come though so thank you very much to everyone.

RO: As you can see there is lots of questions coming through and we are going to do our best to get through as many of them as we can. Please note that if we can't get to your question to answer it right here and now, we will be looking at the..., we will respond outside of the meeting. So all questions that have been asked, have been noted and will be addressed.

RO: I'm going to ask the Karpowership team to just come on board to respond to Daniel Mohapi, he's asked quite a few questions like output voltage and at what stage would a grid impact study be done, we need to address the questions there and I saw one about fuel. If the Karpowership team could just jump on for us please? Curt and Eugene?

30. **Eugene Matthys (EM) (Karpowership):** Can you just load the two questions from?
31. **RO (Daniel Mohapi (City of uMhlatuze)):** The first one is - What is the output voltage of the plant and which network are you planning to connect to. Eskom or City of uMhlatuze? (From Daniel Mohapi)
32. **Eugene Matthys (EM) (Karpowership):** Good evening, my name is Eugene Matthys and I'm the technical Project Manager for Karpowership.
33. The output voltage is at 132 KV and we would be connecting to the Impala 275 KV transmission station. So, I hope that answers that question.

34. RO (**Daniel Mohapi (City of uMhlatuze)**): second question is: “At what stage would grid impact study be done?”
35. **Eugene Matthys (EM) (Karpowership)**: Ok, that was already done during the feasibility stage of the project so grid connection and grid impact studies were completed already.

RO: OK great. Thank you so much

There are some other questions that have been raised that may be relevant to some of the other presentations – there was a question that came through regarding the fuel, volume of fuel that would be required. Ok, we’ve just got to find that one again. We might have to come back to that one. There is some questions regarding highly specialised jobs and the tariff stream and the institutions question.

36. RO: There is a question from **Carrington Tlale (Black Business Council)**; “Does Karpowership have any plans on working with tertiary institutions towards training that can translate towards job creation and local community development?” (So I’m going to ask Eugene to answer that, to ask Kurt to answer that.)
37. **Kurtis Morais (Karpowership)**: Thank you, can you hear me?
(RO: Yes, we can hear you, thank you so much.)
38. Ok, thank you for the question, yes we intend working with all the universities, technical colleges, SAMSA, SAMTRA, in fact in the light of SAMTRA, they will be sending us their cadets that will be coming on board for training. So just on the issue of skills, I think that...
(RO: Kurtis, you muted yourself by accident, you muted yourself by accident, could you just please check what’s happened there, you were halfway through answering the question. KM: Am I back? RO: Yes, you are back, thank you)
39. Ok, where did you lose me, sorry, I was just saying that with the likes of our skills development, it’s not just development of skills only for our Powerships but skills more widely, that the wider community can benefit from because it’s also about ensuring that the skills development to make people more marketable, but yes, there’ll be a large focus on developing skills for our vessels as well. I hope that answers the question.

RO: Great, thank you so much Kurtis

40. RO: Hantie is also here now and she’s going to respond to a question from **Carrington Tlale (Black Business Council)**, asking that; “Can we take it that the inter disciplinary approach has addressed adequately all the gaps raised in the previous EIA?”
(RO: Ok, while Hantie is getting ready to answer that question I’m just going to pull up a slide that might also guide your understanding of how the interdisciplinary approach is being managed through this.)
41. **Hantie Plomp (Triplo4)**: So, in terms of asking a question about the gaps raised in the previous year EIA process, please also take into consideration it was not only the interdisciplinary approach that we had to address, there were also a number of other aspects that we had to address, for instance the PPP and the noise aspects as well as the need and desirability.
42. So, the interdisciplinary approach is one of the aspects that we had to address and an aspect that we do believe we have addressed. In terms of, I’m not going to talk through the map, the map is going to take me at least five minutes to explain the map but there is a report on that and if you need for us to further engage on this as Triplo4 and the sustainability specialist, Tasneem, who has worked on this, we would be happy to engage with you.
43. But this gives you an overview of how the various specialists has looked at the various aspects, what would the impact be from a local as well as a macro perspective and also the feedback systems that is associated with that – Thank you Rose

44. RO: Ok, we are seeing that there are a couple of other questions, there is a question here from **Dominic Wieners (EKZN Wildlife)**
45. So conservation, saying, "He doesn't see conservation authorities in the stakeholders as part of the SE impact assessment in spite of them being a direct neighbour, The tourism and Recreational users are a much broader group and they are still not listed there either? So Hantie if you'd like to just respond to that?"
46. **Hantie Plomp (Triplo4)**: I can respond to that and I'm sure that Eugene can add if there is anything, any need for that.
47. In terms of the slide that was put up from Eugene it was indicated that the tourism issue has been assessed and definitely includes the conservation in tourism aspect, let's just see on that slide, I think it's not that slide, yes it was, no...
48. On this one, we can see on this particular one, it was actually the third bullet from the bottom, that it has considered tourism and recreational users, in terms of the conservation aspect please also to keep in mind that the impact has been assessed polycentrically, not just from a socio-economic aspect. But in conducting the socio-economic impact assessment there has also been engagement with all of the other specialists that include the Marine Ecological specialist and the Avifauna specialist. Just also, just further as well for those that may not know in terms of the conservation aspects I know that the our client, Karpowership, has also engaged with EKZN Wildlife and the understanding is that in terms of addressing conservation we can also refer back to economic development plan that was addressed by Waldo that there is also funding available and there is a desire to engage with EKZN wildlife with that conservation area immediately adjacent to this to look at MOU's understanding on how to address conservation and further contribute, improve and enhance the conservation effort. Thank you

49. RO: Great, thank you so much Hantie.

RO: I'm going to just put the agenda up so people can see, we are watching all the questions and comments that are coming through, thank you so much, they are very useful to us, you'll see that some of the presentations that we are about to move to may address some of those concerns, so we hope that they will. I'm going to ask now for Robbie Louw to come to the "stage" to speak to Climate Change and I know that there has been some questions with regards to Greenhouse gases etc. So I'm hoping that this will address those questions for you. Right Robbie, the floor is yours.

8. CLIMATE CHANGE (ROBBIE LOUW (PROMETHIUM))

[below is an overview of the text / slides presented]

Opinion:

1. Lifetime emissions 31 MtCO₂e (runs at 100% contracted capacity)
2. RMIPPP RFP states that the power from the plant must be dispatchable at required of the grid operator and requires that the plant bid into this programme must be capable of stable operation at 25% of the contacted capacity. If the plant is run according at a 25% output, then the lifetime emissions will be 7.7 MtCO₂e
3. Noting all impacts related to the Project, it can be considered to have a low positive impact. Despite having a high intensity impact from operational emissions, the project enables significant reductions through avoided emissions and enabled renewables. Furthermore, it allows for economic development to occur by providing dispatchable power onto the grid which is critical for the economy
4. Methane emissions related to this project have been considered, and are included and referred to under the carbon dioxide equivalent (CO₂e)
5. In accordance with the findings of this assessment, we advise that the proposed Karpowership Project at the Richards Bay Port should not be refused environmental authorisation based on climate change related issues

8.1. Robbie Louw (Promethium) Presentation

1. Good evening everybody, I am from Promethium Carbon, we have been asked by Triplo4 to do the Climate Change Impact assessment. We've been active in doing climate change impact assessments for EIAs since the initial "Thabametsi" case, since about 2017.
2. We've also got a bit of a working knowledge about Richards Bay. We've done impact assessments for other land based gas to power plants in the past in Richards Bay and we're currently also doing the climate change impact assessment for developments in the Richards Bay harbour.
3. The first slide I've got here, is the purpose of the slide is to explain the relationship between emissions from the project and I can see the cursor moving there under the project, greenhouse gas emissions from the project and also the link through the local climate change impacts.
4. I think this is very important because a lot of people are concerned that the fact that the project will emit Greenhouse gases will lead to an increase in the local climate change impacts and therefore, be to the detriment of society.
5. So this slide explains the relationship. First of all, the project emits Greenhouse Gases, most of it, CO², Carbon Dioxide goes into the global atmosphere. There they are added to the cumulative anthropogenic greenhouse gas emissions, since the start of the industrial revolution over the last hundred years, so the amount of the greenhouse emissions coming out of this specific project is actually just like throwing a bucket of water into the ocean.
6. There is a massive stock of Greenhouse gases in the atmosphere, and this, relative to the current stock is very, very small. The enhanced Greenhouse Gas effect that causes climate change through a Global energy imbalance. That is the result of the Global stock of Greenhouse gases in the atmosphere.
7. That leads to global climate change impacts of which local climate change impacts is a subset and that is something that we would like to prevent at all costs. The arrow with the dotted line that you see with the red cross through it, the best way I can explain it is if you take a bucket of water and you throw it into the ocean you cannot claim that bucket of water, even though it adds to the amount of water in the ocean, claim that that causes the sea level to rise.
8. In the same way that the bucket of water thrown into the ocean doesn't cause sea level rise, the amount of Greenhouse Gases coming out of this project will not have a detectable impact on the local climate change impacts in the Richards Bay area, and that's important to understand, the project does have , if you look at the left hand side of the slide, does, have positive impacts where it contributes to grid stability and it's got improved socio economic condition impact that Eugene spoke about. If we can go to the next slide?
9. So, the next slide is a summary of the outputs of the analysis that we've done. Over the lifetime of the project, which is a period of twenty years, if the Powerships run at 100% of contracted capacity then the project will emit 31 million tonnes of Carbon Dioxide equivalent and contribute that to the Global atmosphere.
10. The specification that that is at 100% of contracted capacity is very important, if we look at the RFP, the request for proposal for which Karpowership submitted the tender where they were awarded preferred bidder status. The RFP requires that the plant must be able to run at 25% of contracted output in stable operation. Then the RFP further requires that there are very strict requirements with respect to which the plant can speed up, if the plant has been offline there are very strict requirements in which time the plant can actually synchronise to the grid. So, if we look at the bottom end of the range and we assume that the plant will run at 25% of the contracted output for the lifetime of the project then the Greenhouse Gas emissions will be equivalent to 7.7 million tonnes.
11. We think it's important to consider the potential impact this project has got on the South African grid and South Africa's emissions. First of all, the fact that the project runs on Natural Gas and Natural Gas has an emission intensity that is 40 % less than that of coal and our baseline is coal, already leads to an emission reduction below the baseline.

12. But more importantly the load following capability of the plant as is specified in the RFP and Karpowership responded to, that is specifically designed to increase the ability of the South African grid to accept more intermittent renewable energy sources onto the grid.
13. So what an intermittent renewable energy source is: it's basically wind and solar. Everybody knows that solar is fantastic because when the sun shines you can switch on the light, and you can see what you are doing but when a cloud moves in front of the sun then the power disappears. What is very important to have for grid stability is to have generating power available on the grid to make up the loss of solar energy at a rate that's fast enough to compensate for the rate at which the clouds, move in front of the sun.
14. So, the implementation of plant on the grid which such load following capabilities as is required by the RFP is very important to allow South Africa to put more Solar and Wind energy onto the grid. In the previous round there has been questions about methane emissions, the questions related specifically to the life cycle impact of natural gas production and methane emissions thereof. Methane has got a global warming potential, the factor that it is more damaging than Carbon Dioxide of about 25, so 1 tonne of Methane has got the same global warming impact as 25 tonnes of carbon dioxide.
15. So we just wanted to give the assurance that in the calculations of the emissions associated with the project we have actually considered the full life cycle impact from Methane and Natural Gas production as well, all the way from the well through transport and storage and up to the completion of the project.
16. And then finally our conclusion is that this project will actually make a positive contribution to the fight against climate change for two reasons, the first is the fact that the emission intensity of the electricity coming out of this project will be less than the coal based that we have currently got and that the project will also enable the South African grid to accept more renewable energy. We therefore recommend that climate change not be used as an excuse to refuse the environmental authorisation – Thank you.

RO: Thank you so much Robbie, as mentioned earlier, we are going to do groups of presentations and then we will come to questions. Thank you very much, we are noting the questions as they come through. Our next presentation is from Dr Brett Williams at Safetech and this is an audio file

9. TERRESTRIAL NOISE (DR BRETT WILLIAMS (SAFETECH))

[below is an overview of the text / slides presented]

[The audio was not very clear at first and the AV support had to reconnect to ensure the audio was audible. Rose restarted the slides to ensure all heard the audio file]

1. PhD in Environmental Management
2. Registered Occupational Hygienist with the identification of noise stress and management thereof as part of the qualification requirements.
3. SANAS Accredited Inspection Body including Noise
4. 30 years' experience.
5. Conducted many noise impacts assessments for clients that produce energy.
6. The field study results showed that the ambient noise levels in the area of the proposed development was 45dB (A).
7. The closest noise sensitive areas may not experience any noise impact as the noise from construction could be masked by the ambient noise from the other port operations.
8. The noise impact associated with the operational activities of the project is predicted to be of Low significance after mitigation.
9. The construction related noise impacts will be of Low significance.
10. From a human perspective there does not appear to be any significant noise impacts

9.1. Dr Brett Williams Presentation (via pre-recorded audio file played with slide presentation)

1. The field study shows that the ambient noise level around the development is about 45db (decibels) and that's mostly, the biggest noise source is the current operations within the Port.
2. The closest noise sensitive areas may not experience any noise impact from the construction, and this could be masked by other noise from the Port operations.
3. The operational activities will be of low significance and the construction noise impacts also of low significance.
4. So, from a human perspective there doesn't appear to be any significant noise impacts.
5. If you look at the slide: you can see the noise contours, and if you look at Noise Sensitive area 2, NSA2, that's within in the Port, its already disturbed by current activities, as well as NSA1 also an industrial area. The Residential areas of NSA 3, 4 and 5 are not expected to be significantly impacted.
6. So, from a human perspective we don't think there will be significant noise impact. Thank you.

RO: So that was the presentation from Dr Brett Williams. Our next presentation is Dr Mark Zunckel and he will be looking at the Air Quality so I'm going to hand over to Mark.

10. AIR QUALITY (MARK ZUNCKEL (UMOYA-NILU))

[below is an overview of the text / slides presented]

1. Baseline

- Data from RBCAA was assessed from 1997 to 2020
- There are a number of major SO₂ sources in Richards Bay. The long record indicates a slightly upward trend in ambient concentrations, but from 2013 to 2017 a significant downward trend is observed.
- Long term monitoring shows annual average for SO₂ are below the NAAQS, with occasional exceedances of the 24-hr and 1-hr limit value at some stations, e.g. Harbor West and Scorpio
- Annual average NO₂ concentrations complied with the NAAQS, but some exceedances of the 1-hr limit value at Brakenham.
- There are a number of major sources of particulates in Richards Bay but it is important to note that particulates are regional pollutants and background PM₁₀ concentration is relatively high.
- Annual average PM₁₀ concentrations complied with the NAAQS, but some exceedances of the 24-hr limit value at eSikhaleni.
- There has been a significant increase in the number of complaints concerning the deposition of coal dust in September 2022 from Arboretum, Alton, Birdswood, Veldenvlei, amongst others. The major source of the coal dust is the Richards Bay coal terminal.

2. Emissions

- Emissions result from electricity generation, FLNG, LG carriers
- LNG is a very clean fuel containing almost negligible sulphur and particulates
- Combustion of LNG therefore results in very low SO₂ and particulate emissions
- NO₂ emissions are controlled at source using selective catalytic reduction
- Emissions are very low and well below the Minimum Emission Standards for gas combustion

3. Predicted ambient concentrations & impact assessment

- Maximum predicted concentration of SO₂ and PM₁₀ are < 1% of the NAAQS
- Maximum predicted concentration of NO₂ is < 4% of the NAAQS
- Maximum concentrations predicted to occur within 2 km of the project, downwind on the prevailing wind NE wind, elsewhere predicted ambient concentrations are very low
- Contribution from the Karpowership project to ambient SO₂, NO₂ and PM₁₀ concentrations is very low and the cumulative effect is highly unlikely to result in exceedance of the NAAQS, even at the point of maximum predicted concentrations.
- The significance of the impact on ambient air quality is predicted to be very low

10.1. Mark Zunckel (uMoya-Nilu) Presentation

1. Thank you, Rose and Good Evening everybody. As introduced, I'm Mark Zunckel from a company called uMoya-Nilu Consulting, we are based in Durban. We have been doing impact assessments since we started and before that I have a career in air quality and air quality assessments with the CSIR.
2. Our point of departure with any air quality assessment is always going to stand, the receiving environment into which the project is being introduced.
3. Fortunately, in Richards Bay there's a long record of ambient air quality monitoring. Particularly Sulphur Dioxide and Particulate Matter PM₁₀ and that data was used to try and understand the state of the receiving environment. And essentially looking at those two pollutants our long term monitoring shows the sulphur Dioxide, the annual averages are below the National Ambient Quality standards. With occasional exceedances of the shorter term, the daily standard, and one hour standard particularly in Harbour West and Scorpio.
4. For those not familiar with the Ambient Standards, I think it's important to mention that the standards are health based, they, a concentration above the standard implies a risk to human health and concentrations below the standards imply that there should not be risk to human health.
5. Nitrogen Dioxide, a shorter term record than the other two pollutants, its mostly motor vehicle emissions and industrial combustion, generally low, generally compliant with some exceedances at Brackenham.
6. We know that there is a number of particulates in Richards Bay, industrial sources, sources where bulk storage is done and so on, but it is important to understand that particulates measured in Richards Bay are not, don't originate in Richards Bay, in fact there is a high background of PM₁₀ along the entire East Coast, for reasons that are, transportation from the interior, sea and marine inputs and so on. But regarding PM₁₀ there is general compliance with the annual average with some exceedances of the 24 hour value particularly at Esikhaweni and those are likely to be from local sources within that area.
7. We've also noticed recently, an increase in the complaints regarding the deposition of coal dust, that was in September in some of the residential areas. The coal terminal is certainly a source of coal dust. Today I was advised that with damage to the coal conveyor that storage of coal is happening elsewhere and that could be exacerbating the problem. So that's really the baseline for which the project is being introduced – Can I have the next slide please Rose.
8. I did see some questions coming up around emissions and what fuel is going to be used, I'll try and address those here. The fuel being used is Liquid Natural Gas (LNG), its being used to generate electricity in the generating engines and it's also used to keep the ship alive, all the processes that run on the ship are also using LNG. It's a very clean fuel compared with fuels like coal and wood and diesel and other liquid fuels. It has a very low sulphur concentration and combustion of LNG results in very low SO₂ emissions and low particulate emissions.
9. There was a question around, what was the total emissions from the project, I haven't worked them out over the life cycle of the project but the emissions for sulphur dioxide on an annual basis are just 47 tonnes, very low when you compare with any other industrial process using a conventional fossil fuel PM₁₀, only 235 tonnes in a year.
10. So, the emissions are very low. NOx is controlled on board at the engines using selective catalytic reduction and the annual emissions of NOx is less than 1200 tonnes per annum. So, with the very low emissions from combustion, it goes into a dispersion model to predict what the results for the ambient concentration might be in the ambient atmosphere.
11. And that's the next slide please Rose?
12. We first look at Sulphur Dioxide and PM₁₀, the concentrations are very low, on the point of maximum predicted concentrations, that's on the prevailing North Easterly wind to the Southwest of the project area and the maximum concentrations are less than a percent of the National Air Quality standards. NOx is a little higher but still less than 4 % of the National Ambient Air Quality Standards.

13. So, taking that it's highly unlikely that the added effect of the project is going to result in exceedance of the national air ambient quality standard and in fact with the capabilities of the monitoring equipment today we would hardly notice the difference in what is being currently monitored.
14. So even with the maximum concentration the added effect is very low and the significance on the ambient air quality is predicted to be very low and that I think is the end of it Rose and I think I've addressed some of the questions that came up on the panel on the side.
15. RO: Great, thanks so much Mark. Yes I'm just quickly tracking back through them to see if they have all been responded to, we are going to come to questions shortly, I'm going to move through to the next presentation and then we will come through to the questions and we will have them all worked for you then.

RO: So the next presentation the MHI Risk Assessment and it's an audio file from Claude

11. MAJOR HAZARD INSTALLATION (CLAUDE THACKWRAY (MHR CONSULTANTS))

[below is an overview of the text / slides presented]

1. MHR Consultants – operating for 16 years
 - SANAS Accredited for Assessment of Risks on Major Hazard Installations
 - Registered with Department of Employment and Labor to undertake Type A Major Hazard Risk Assessments
 - 37 years' experience in Oil & Gas Industry
 - Over 1000 Risk Assessments conducted internationally
 - Major clients include: Total, Afrox, BP, Engen.
2. Conducted MHI for Port of Richards Bay in 2017
3. Conducted MHI for Ship to Ship Transfer of LPG in the Port of Richards Bay in 2019 and again in 2020.
4. Consequence were calculated using the computer software "effects" by TNO in the Netherlands
5. The risk calculations were made using the computer software "Risk Curves" by TNO in the Netherlands.
6. Risk Assessment was conducted as per SANS 1461:2018 Codes of Practice
7. Report includes: Local By-laws & NPA No. 12 of 2005 Part C
8. From the modelling and assessment LNG operations pose a very low risk;
9. It is one of the safest fuels and the risk is much lower than the LPG risk assessment concluded for the Richards Bay Port Terminal;
10. To put the risk into perspective:
 - It is similar to that of an ordinary gas pipeline and connection at a domestic
 - There is a higher possibility to be struck by lightning and succumb to injuries

11.1. Claude Thackwray (MHR Consultants) Presentation (via pre-recorded audio file played with slide presentation)

1. I'm Claude Thackwray from MHR Consultants and we conducted this MHI assessments risk assessment.
2. MHR consultants have been operating for 16 years,
3. We are SANAS accredited for Assessment of Risks on Major Hazard Installations,
4. We are also registered with the Department of Employment and Labour to undertake Major Hazard Risk Assessments.
5. I have been in the Oil and Gas business for 37 years, MHR has conducted over 100 000 risk assessments internationally, our major clients include Total, Afrox, BP and Engen.
6. We conducted MHI risk assessments in the Port of Richards Bay previously, in 2017 we conducted the MHI for the Port itself.
7. And in 2019 we conducted the MHI for Ship to ship transfers for LPG and we did so again in 2020 for ship transfer of LPG.
8. MHI conducted according to the MHI recommendations.

9. And the process for the operation is that a delivery ship offloads LNG gas into the LNG storage ship. The storage ship degasifies the LNG, a natural gas is pumped to the Powership and generates power and supplies the Eskom grid.
10. The consequences were calculated using computer software by TNO in the Netherlands and the risk calculations were made using the computer software by TNO in the Netherlands.
11. This risk assessment and report was done as per SANS 1461 codes of practice. The report includes local by-laws and the NPA no12 of 2005 part C.
12. The result of the assessment identifies the scenario that contributes the most towards the risk, which is that of the transfer hose.
13. These risks were found acceptable for the port and normal operations can continue at the other berths while LNG is offloaded.
14. The findings from modelling the result are as follows:
15. The 1 in 10 000 RED Contour is confined to the cruise ship and stretches out for 160 metres around the hose connections.
16. The 1 in 100 000 ORANGE Contour stretches out for 230 metres from the hose connections. So, 1 in a million YELLOW contour, this is a contour that can be exposed to the normal working public stretches out for a maximum distance of 295 metres from the hoses. The 1 in 30 million GREEN Contour, there is a contour that can be exposed to the sensitive population, this contour stretches out to a maximum of 310 metres from the hose connections and it does not reach any sensitive populations.
17. The results in conclusion from the modelling and this assessment
18. The LNG operations for this project pose a very low risk
19. LNG is one of the safest fuels and the risk is much lower than that of LPG.
20. The LPG risk assessment for the Richards Bay project for LPG transfers, the risks are not higher.
21. To put the risk into perspective, LNG is very similar to that of ordinary gas pipelines that is connected in domestic houses and commercial and industrial properties.
22. There is a higher possibility to be struck by lightning and succumb to injuries, than being involved in an incident at such an installation.

RO: So that was our presentations on climate change, terrestrial noise, air quality and the MHI. We have received a number of questions, we are going to attempt as best as we can to get to as many of them as possible. Hantie is here right beside me so we will do that now.

23. Ok we've had a couple of questions on air quality so I'm going to ask Mark Zunckel if he could just come on to answer them
 24. **Sandy Camminga (Richards Bay Clean Air Association)** Has the AQIA modelled accumulative impacts i.e.: Karpowership plus Baseline plus future Gas to Power projects that have already received authorisation?
 25. **Mark Zunckel (uMoya-Nilu):** Good evening Sandy, we haven't modelled accumulative impacts per se, but we have addressed cumulative impacts. The specialist studies that have been performed for those projects that have been approved and some of those projects that have since not been approved have all been included in the specialist study. Their modelling results have been assessed together with the modelling results from Karpowership. In that way the cumulative impacts have been assessed and also you will appreciate that Ambient data is contributed to by existing industries plus all the other contributing sources such as cane burning transport from the interior etc.
 26. The added effect of Karpowership added to those emissions, to those concentrations provides us with a really good understanding of the possible future situation with the project in place.
- RO: Thank you Mark, there has been a similar question to that so I'm going to take that as having been answered, (INAUDIBLE BACKGROUND NOISE)
27. **Mark Zunckel (uMoya-Nilu):** Rose, while you looking, there was a question before my presentation that I don't think I got to in the presentation, it concerns the emissions from the engines and have they been tested or not?
 28. "Wartsilla" engines will be used on the 1:51:10 to produce power. "Wartsilla" produce specs on all their engines and indeed emission testing is done for different fuels on their engines. It is

also important to note that the emissions will be regulated in terms of the National Ambient Air Quality Act, and an emission licence is required to operate those engines.

29. RO: Thank you so much for that Mark, there were some questions we did note with regards to noise, the next section has got a presentation on noise., I'm just going to pull the agenda up so people can see. There are a couple of questions for Claude, on gas leaks and how the pipelines will be monitored for gas leaks and I'm going to ask Eugene from Karpowership to answer the question with regards to the pipeline and that's from Tanica Naidoo.
30. **Tanica Naidoo (South Durban Community Environmental Alliance):** How will the pipelines and equipment be monitored for possible gas leaks? What is the likelihood of a gas leak and what are the contingency plans?
31. **Eugene Matthys (EM) (Karpowership):** Ok, how will gas pipelines be monitored for possible gas leaks? It's highly intelligent equipment that we are installing so any leaks will be immediately detected by a drop in pressure on the system and the emergency shut off will immediately shut off either on the FSRU side or on the Powership side. Planned monitoring and maintenance will be done as per the specifications, but usually, once a year we will also send divers in just to monitor the pipeline, to see whether there is any leaks visible. That's the short version of the answer.
32. RO: Thank you so much Eugene, we have had a question from Dominique, Dr Brett Williams, would you mind coming on and answering that question from Dominic?
33. **Dominic Wieners (EKZN Wildlife):** "I noted that one study recommended business hours operations only. Is this why night time noise levels have not been considered?"
- Dr Brett Williams (SafeTech): Thank you Rose, can you hear me? RO: Yes, we can
34. **Dr Brett Williams (SafeTech):** Thank you for that question, yes, the night time noise was considered, in fact, when we modelled the noise we assumed that there is zero noise in the environment, such as wind noise and other noise such as vehicles etc, If you go to the results table, I think its Table 11 on page 28 of the report. You will see that we compare the results that we got from the modelling with the night time noise levels, so it was considered, yes. Rose, should I answer the other question from Mr Cyrus? RO: Please do
35. **Dr Brett Williams (SafeTech):** Mr Cyrus asked me a question about the attenuation through the vehicle structure.
36. ACTUAL QUESTION ("In previous reports noise levels above acceptance to Avifauna on the Sandspit. Now the levels have dropped significantly. This is indicated to being due to "2021" modelling did not take into account attenuation, due to vessel structure? Please explain")
37. **Dr Brett Williams (SafeTech):** If you look at the report in the Figure 3, after we did the initial study we did not have enough information on the actual vessel that was going to be used in South Africa so we just assumed that all the noise sources were centrally located along the mid-line of the vessel, however after Tim Mason's trip to Ghana, he sent us some pictures and he took some readings for us.
38. There is a separate report on his trip, I believe and all the noise producing sources are located on the Port side of the ship and we put that into our model, when we built a little model of the ship, and we recommended that the Port side face away from that sand bar and face towards the quay within the Port so the noise is going toward the industrial area and not towards the natural receptors to the south side, so it just a case of parking the ship in a position that the major noise sources radiate to an area that is less sensitive. I hope that answers your question.

RO: Awesome thank you very much Brett, I think also to note that there is the next question coming up with regards to the Underwater Noise and the report on the Avifauna and I know Catherine will address the fact that they did look at the information coming out of the other assessments such as the noise and the Thermal Plumes etc.

RO: So with that in mind I am going to move forward to the next set of presentations. We are getting a number of questions and I'd like to thank you for them, if we are not able to get to your question right now we will be coming back to you in writing, all questions will be noted regardless of when they come in, so please do keep posting questions. If we aren't able to respond to you immediately it will be responded to after the meeting.

Our next section is with regards to the Marine Traffic and the Thermal Plume and that is going to be Shaun Hayes from PRDW so I'm going to hand over to Shaun. I'm going to play his audio for you.

12. MARINE TRAFFIC AND THERMAL PLUME (SEAN HAYES (PRDW))

[below is an overview of the text / slides presented]

1. PRDW: is a company that specializes in auto-personal engineering. They have conducted two studies, a marine traffic study and thermal plume study. Going to start the presentations by going through the marine traffic study.
2. To quantify the present and future vessel traffic at the site and identify possible areas of congestion.
3. The methodology we used is the estimated current and future traffic volume based on an analysis of traffic and cargo demand projections
4. Analysis of port vessel arrival data to define vessel slot hours for vessels arriving and departing the port.
5. The outcome showed that LNG vessels only represent 1% of the 2051 vessel traffic slot durations and will not add significant congestion within the port
6. The port is forecasted to have approximately 41% and 12% spare slot capacity in 2021 and 2051 respectively.

Thermal Plume

7. Closed-loop FSRU will be utilized and there will be no discharge of hot or cold seawater from the FSRU. Therefore for the thermal plume study, only the Powership was considered
8. For modelling, we used A calibrated 3D hydrodynamic model was used to predict the extent of the thermal plume in the sea.
9. No constituents, such as chlorine or excess salinity, are added to the cooling water discharge.
10. Seawater used for cooling the power generators on the Powership results in seawater being returned to the sea at a maximum of 10 to 15C° warmer.
11. Model simulated the Powership operating at 100% load for 24 hours per day, while the Powership will only operate for 16.5 hours per day.

Outcomes:

12. The results show that a smaller footprint of temperature increases is achieved when discharging at a deeper depth below the water surface.
13. When the cooling water is discharged 8m below the water surface the maximum T at a reference point in the model is 1.3C° at a distance of 100m from the Powership, 0.3C° above the guideline value.
14. These results were used to inform the marine ecology assessment as described in a later presentation.

12.1. Sean Hayes (PRDW) Presentation (via pre-recorded audio file played with slide presentation)

1. Good day, my name is Shaun Hayes, I'm presenting on behalf of PRDW. PRDW is a company that specialises in Water and Coastal Engineering, We have provided a fairly technical role in this environmental impact assessment process. We've conducted two studies that have been taken through the EIA process. The studies completed, one was a marine traffic study and the second was a Thermal Plume study.

2. I am going to start this presentation by taking you through the Marine traffic study and just providing you with some background to that, and after that I will discuss the Thermal Plume study.
3. The objective of the study was to quantify the present and future vessel traffic at the site and identify possible areas of congestion. The way this was undertaken was to estimate the current and future traffic volume based on analysis of traffic and cargo demand projections, as part of the analysis of the Port, Port arrival data was used to define vessel slot hours for vessels that were arriving and departing.
4. Based on the assessment undertaken, the outcomes are that the LNG vessels only represent about 1 % of the 2051 vessel traffic slot durations and will not add to the congestion within the Port.
5. The Port is forecast to have 41% and 12% spare slot capacity in 2021 and 2051 respectively.
6. So, in conclusion, based on the Marine Traffic Study, the introduction of energy vessels will not have a significant impact on Marine Traffic.

THERMAL PLUME

7. As for the Thermal Plume study, as you will have heard in the previous studies, the vessels consist of an FSRU and two Powerships. It's important to note that the FSRU is a closed loop FSRU and there will be no discharge of hot or cold water therefore this was not considered in the study of the Powership.
8. Modelling was calibrated on a 3D hydrodynamic model was used to predict the extent of the Thermal Plume in the sea.
9. No constituents, such as chlorine or excess salinity are added to the cooling water discharge and therefore were not considered in the study
10. Seawater used for cooling the power generators on the Powership results in seawater being returned to the sea at a maximum of 12 to 14 degrees (Celsius) higher which was in the parameters.
11. Another important point to note that the model, simulating the Powership operating at 100% load for 24 hours per day, while the Powerships will only operate for 16.5 hours per day.
12. The outcome of the study, the results show that a smaller footprint of temperature increase is achieved when discharging at a deeper depth below the water surface.
13. Just to point out that in the last study we considered the different ranges
14. When the cooling water is discharged 8 metres below the surface the maximum Alpha T at a reference point in the model is 1.3 degrees Celsius at a distance, of 100m from the Powership, that reached a point where the data was extracted, 0.3 degrees Celsius above the guideline value.
15. As was then passed onto specialist and the information was used for the marine ecology assessment which is going to be described in a later presentation. That brings me to the end of my presentation, thank you for your time and thank you for mentioned earlier we conducted and provided a purely technical input, data was compiled, and the outcomes of the study are documented in a report which is available. This information was then passed on to the specialists and the information was used to inform the marine ecology assessment that is going to be described in a later presentation. Thank you for your time."

RO: Our next presentation is with regards the Underwater Noise by Tim Mason, I'm going to get that going now.

13. UNDERWATER NOISE (TIM MASON (SUBACOUSTECH))

[Various map images were shown and an audio file overlaid]

13.1. Tim Mason (Subacoustech) Presentation (via pre-recorded audio file played with slide presentation)

1. Good morning, my name is Tim Mason, I'm the principal consultant for Subacoustech specialising in all aspects underwater noise.

2. I'm going to talk to you for a few minutes about the underwater noise assessment that was undertaken for the Powership project in South Africa. This included baseline underwater noise measurements, measured on an operational Powership that predicts how Powership affects noise in Richards Bay.
3. After me there will be a talk on how this noise can affect marine life. In the assessment it was important for us to visit the sites in real operational vessels so that we can be confident of our results and conclusions. Late in 2021, we visited Richards Bay to sample noise levels around the operational port to serve as a baseline. Richards Bay is a busy port with regular visits from large bulk carrier vessels and so the area is already subject to noise from ships, both transiting and at dock, loading. It's worth mentioning that moving vessels are generally much louder than static ones because static vessels do not use propellers, which generate a lot of underwater noise
4. It's worth mentioning that moving vessels in general are much louder than standing ones.
5. Because of the actual propellers generating underwater noise.
6. To get a good idea of how Richards Bay was already affected by noise, we set up a monitor near the proposed location of the Powership by the Sandbar. You can see a yellow spot on the map on the left.
7. That was left to measure the noise levels over 48 hours, while that was measuring continuously, we sampled the underwater noise over sections, spot locations, which are the BLUE spots across the rest of the area to see how the sound varies, we also measured some of the other ships using the Port.
8. Once we had these background measurements the next task was to check the noise that an operational Powership actually produces, so for that we visited Sekondi Takoradi on the Ghanaian coast where a Khan Class Powership similar to that proposed in Richards Bay is located.
9. Here we can see how we sampled the underwater noise on the right, we took measurements from both with engines on, multiple positions at equal distances from the ship; 50; 200; 300; 400 metres and further to see how the noise becomes quieter as you move away. Once this is known, it will be added to the existing noise levels that was measured in Richards Bay to see what effect it has.
10. It is worth noting that the conditions at Sekondi Takoradi are not the same as Richards Bay, the main difference between them is water temperatures, the depths, the size and layout of the Ports are similar enough that any effect on the acoustics will be negligible or potentially linked to measurements in Ghana actually appearing louder than what we would expect in Richards Bay therefore this only precautionary.
11. We measured the noise levels at different Powerships. Power outputs time two with the greatest 420 megawatts being greater than the maximum of 320 megawatts and 425 megawatts that we are expecting in Richards Bay, so this represents worst case scenario.
12. The noise levels we measured in Ghana were at most 141db at 50 metres on the side of the ship and 125db at 400 metres away.
13. At the end of the ship, that's the position at 150 m away, the noise levels were much lower in comparison to the side. They were inaudible on the other side of the jetty. We found the noise of the ship fairly audible above the background noise that was less than 1km from the ship.
14. These noise levels, as I was saying, are much higher in comparison, were much higher than you would be hearing about the air or in a busy shop you might get noise levels of about 60db.
15. But in water the noise levels are much higher as they use a different scale.
16. Background underwater noise in the Port are commonly around 110db and over 120db, sometimes.
17. This slide shows the effect of transferring the noise that was from the ship in Ghana to the background noise levels in Richards Bay.
18. In the noise levels shown the current noise is in white, the increase in noise and its effect from the Powership is in Blue.
19. The most important thing to take from this is that most of Richards Bay will have less than 1db increase in the noise levels and this is worst case scenario based on the limited time the ship will be operating at maximum power.

20. Within a few hundred metre of the ship the noise levels certainly do increase but the noise levels we measured in Ghana were very similar, to what we found when we measured visiting ships currently using the Port of Richards Bay
21. We assume that the Sandbar will not provide any reduction in noise to continue with worst case but I actually expect the length of this area to the west of the sandbar to be much quieter.
22. I thought it would help if we actually listened to the noise in Richards Bay now
23. I can't seem to play the audio clips in this video recording, so my apologies.
24. The first clip which is about ten seconds long was taken from sounds near the proposed location of the Powership. All you can hear is noise from the ships docked at Port., I would not expect the Powerships to change the character of the noise in the area although it will of course be louder when you close to it. The second ten second clip is the same but at after five seconds I've boosted the noise by 2db to show you what this means to the surrounding area, you will hear that this increase is just perceptible and the effect on most of the area will be only 1db so should not make any significant difference. After these clips I'll pass over to the ecology specialist to talk about the effect this can have on the modelling.

RO: Thank you, just give me a second, I just need to go back to that slide to be able to play that audio for you. This is the first audio which is the current ambient noise (MUFFLED SOUND of FIRST AUDIO)

I'm going to play the second one and as Tim indicated after about five seconds, he will increase the noise by 2db so you can hear the slight change (PLAY AUDIO, MUFFLED SOUND)

I'm going to play it again and when we hit five seconds I will make a note of it (PLAY AUDIO AGAIN)

Ok, so that was the presentation from Tim. Now as we discussed at the start and as Hantie indicated there was an interdisciplinary approach and a polycentric approach so a lot of the reports that we've just heard about were all taken into account when we looked at the Coastal, Avifauna, Estuarine and Marine ecology, I'm going to hand over to Catherine Meyer who is going to present on behalf of the team because as you can see it was a team that worked together on this, and they engaged with each other on all aspects of their reporting and their findings.

14. COASTAL, ESTUARINE, MARINE ECOLOGY, AVIFUANA & FISHERIES (CATHERINE MEYER, DR BARRY CLARK, TANDI BREETZKE, ADAM REES, JANE TURPIE & LEIGH-ANN DE WET)

below is an overview of the text / slides presented]

- uMhlatuze/Richards Bay estuarine complex - historically one system
- Both estuaries are highly modified but are still important for conservation of estuarine biodiversity (UMhlatuze ranked 10th, Richards Bay = 26th)
- Large estuaries (lots of estuarine habitat), high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water)
- Ecosystem goods and services:
 - important nursery areas for marine species (fish + prawns)
 - Aquaculture Development Zone, successful experiments with finfish culture
 - Carbon sequestration
 - Nutrient cycling
 - Assimilation waste
 - Transportation
 - Ecotourism
- A baseline description (with site investigations) and subsequent impact assessment, focusing on receptors in the water column, in and on the seabed, and the local avifauna within the Port.
- Ecosystem services (fisheries, mariculture) and conservation areas (Richards Bay Nature Reserve) were also considered.
- Consideration (integration) of terrestrial ecology & vegetation including wetlands

- Within an established industrial port – long-term ecological monitoring undertaken biannually by CSIR
- Utilised thermal plume and noise modelling outputs.
- Richards Bay - uMhlatuze Estuary ranked 11th most important in terms of species richness, and 3rd overall in terms of conservation importance for estuarine waterbirds in South Africa (Turpie, 1995)
- high diversity of habitats (mangroves, swamp forest, sand and mud flats, reeds & sedges, salt marsh, seagrass, open water)
- In close proximity to (and closely linked with) other nearby wetlands (Lake Mzingazi, Lake Cubhu, Thulazihleka Pan)
- Karpower vessels will be moored very close to the sand spit and Kabeljous Flats = most important area for water birds
- Recent data suggest that numbers of birds using the estuary have declined dramatically in the last 30 years
- Listed as an globally important bird area (IBA) but has been down listed to a sub-regional IBA since bird numbers now “only occasionally surpass the threshold of 10 000 waterbirds”.
- Still many species of conservation concern that are present at the site

14.1. Catherine Meyer (CoastWise / Groundtruth) Presentation (on behalf of the Specialist Team)

1. Thank you very much Rose. Good evening everybody. I would just like to show you in this particular slide the actual full extent of the Richards Bay estuarine complex. The system used to be one unified system until roughly the 1970 when the shallow bay was separated into what we now know as the Port of Richard Bay and what is known as the uMhlatuze sanctuary or the Richards Bay Nature Reserve. Both systems or both estuaries are highly modified, notwithstanding this they are still very important for conservation, specifically estuarine bio diversity.
2. The uMhlatuze estuary is ranked as the 10th most important estuarine system in the country and Richards Bay as 26th most important in the country, both estuaries are large systems so we dealing with lots of estuarine habitats, there is a high diversity of habitats, mangroves, swamp forests, sand and mud flats, reeds and sedges, salt marsh, sea grass, open water and why am I telling you this, is because this bears testimony to the diversity of fauna, birds, fish fauna, invertebrates that are found within the system.
3. Thanks Rose, in this particular slide I would like to put into context those ecological sensitive areas within this industrial port. So you can see there the layout of the Marine Components of the project located next to the Sandspit and the Kabeljous Flats which is an intertidal and sub-tidal area which is very important for Avifauna or Birds and also for invertebrates and fishes. Also to the left of the screen is the Bhizolo canal and the Manzamnyama Canal, these two areas and important as prawn breeding grounds and nursery areas and then to the bottom left of the area is the Richards Bay Game reserve. This particular area as I mentioned earlier is the sanctuary part of the uMhlatuze estuary and the importance of these habitats is that they provide eco system goods and services although the natural environment in general provides eco system goods and services.
4. These are benefits to society , what we get out of the natural environment, critically important for Richards Bay system is that it serves as an important nursery area for Marine species both fish and prawns, what does that mean? It means that young fish and invertebrates enter the system at a young age, they use the sheltered environment of the estuary to increase in size, to maturity and then they will leave the system again and go out to sea to breed and to spawn.
5. So, this system is also a fantastic space where we can utilize this nursery function for aquaculture development, there has been some recent successful experiments, fin fish or fish farming if you will and the various vegetation habitats within the system provide a carbon storage or a carbon sequestration function. We also have nutrient cycling and it also helps us to assimilate waste, transportation is a fairly obvious one and then eco-tourism. Thanks Rose. (NEXT SLIDE)
6. So, if we had to look at our coastal and estuarine marine ecology report, the Avifauna I will get to in a moment, essentially we took a baseline description where we gathered as much recent and all over information of the system. We also undertook sight investigations followed by the

impact assessment focused on the sensitive receptors both in the water column, in and on the sea bed in the vicinity of the project as well as the local Avifauna of the port.

7. There is also consideration of eco system services, specifically fisheries and mariculture as well as conservation areas like the Richards Bay Nature reserve and Rose and Hantie have already mentioned we had to integrate all aspects, all realms of specialties within estuarine space, so including the terrestrial ecology as well as the vegetation and including wetlands and the key thing to bear in mind here is we are working within an established industrial port and fortunately for us there is long term ecological monitoring that is undertaken on a regular basis or bi annually, currently by the council for scientific and industrial research the CSIR. And that enables us to have the most recent biological and ecological information at our fingertips. Our assessment took into account the Thermal Plume modelling and which you have already heard, there's the image at the top of the screen there and then the noise modelling. Thanks Rose. (NEXT SLIDE)
8. So, here I'd like to present to you a summary of the main impacts that were assessed, there are lots of little sub impacts that are available to review within our reports.
9. But essentially, I'd just like to draw your attention to the bright pink / red colours, before mitigation and how those have been mitigated down to the low yellows and low orange colours.
10. So, from our assessment there was nothing that was rated as very high or high or a fatal flaw. Our highest if we can say that or worst case were medium ranked impacts and you will see there, impact number 7 relating to cooling water discharge, and then 8 was Underwater Noise and the cumulative impact of just having this ship in this already highly modified environment. Underneath the Underwater Noise and vibrations is also the consideration of the fisheries and maritime culture impacts so essentially, yes, the "biota" or the organism of this system will experience a level of impact but that is not expected to impact the system significantly overall ecology of the estuary or to a great degree affect the fisheries or the fish nursery function. Thanks Rose. (NEXT SLIDE)
11. Then if we look at the Avifauna component of the project, the Richards Bay uMhlatuze system is recognised as an important bird area, just a habitat that important for Avifauna, specifically the system is the 11th most important system in terms of species richness out of all estuaries in the country and 3rd overall in terms of conservation importance.
12. So, we are dealing with quite a sensitive system, here. Then the high diversity of habitats as I mentioned already, this lends itself to hosting a large variety of bird species. And providing a variety of habitats for them.
13. If you look at that lower picture there, what was also taken into consideration in this study was the linkages to the other water bodies and lake systems, that move between these systems.
14. The Karpowerships will be moored in very close proximity, adjacent to the Sandspit and Kabeljous flats which are known as the most important areas for waterbirds in the Richards Bay system. Thanks Rose. (NEXT SLIDE)
15. So there has been a lot of concern over the impacts on birds given the importance of the system but the recent data shows that there is a rapid decline in the number of birds utilising the system, so in the top graph we see the number for species for summer and the bottom graph is the number for species for winter. And in the 1995 going onto the 2005 area you will see that for summer, bird species ranged from about 40 to a maximum of about 70 bird species using this system but in the most recent bird count that were done for the Karpowership project and other projects, that over the 2021/2022 period and you will see that bird species in this time are between 10 and 20.
16. And in Winter over the 1995 period we can see the numbers are a little bit more erratic, coming up to sixty, sixty bird species, sorry Rose, the bottom graph, thank you, and then towards 2021 and 2022 you can see now that the species has declined quite a lot and we looking at between ten and fifteen species during these monitoring periods.
17. So, I mentioned previously that the uMhlatuze sanctuary or the Richards Bay game reserve was an internationally recognised bird area and has subsequently dropped to a sub-regional bird area because the bird numbers are no longer as high as they once used to be. But that doesn't take away from the fact that we are still dealing with species of conservational concern that

utilize both the Richards Bay and uMhlatuze estuary and that it still maintains a high conservation value. Thanks Rose. (NEXT SLIDE)

18. So, when we look at the avifauna impact, just looking at that component again, looking at prior to mitigation, we have some bright pink or red impacts that draws our attention but after mitigation the impact one is the noise, a 6. Impacts of noise and vibrations on the birds, the ships are equipped with noise attenuation technologies and the cumulative impacts remain high because of the current operations within the Port and adding the ship will add to that and those impacts are not going to go away. Thanks Rose.

RO: Right. Thank you very much Catherine, before we move into the questions, I'm just going to hand over to Hantie to do an overview of the reports, you were wanting to find out where they are because there are a number of reports that have been done on this project. So, I'm handing over to Hantie.

15. OVERVIEW OF NO / NEGLIGIBLE / VERY LOW / LOW & MED-LOW IMPACTS (HANTIE PLOMP (TRIPLO4))

[below is an overview of the text / slides presented]

1. No impacts

- Archaeology and Palaeontology
- Visual
- Traffic (Terrestrial & Marine)

2. Negligible / very low / low & med-low impacts

- Hydrology Impacts (Low)
- Aquatic Impacts (Low)
- Hydrogeology Impacts (Negligible)
- Geohydrology Impacts (Negligible)
- Wetland Impacts (Low to Very Low)
- Terrestrial Biodiversity Impacts (Low)
- Avifaunal (Medium, Med-Low, Low to Very Low)
- Underwater Archaeology (Negligible)
- Coastal, Estuarine and Marine Ecology (Medium, Med-Low to Low)
- Atmospheric Impacts and Risks (Low)
- Terrestrial Noise Impacts and Risks (Low)
- Underwater Noise (Low)
- Tourism (Negligible)

15.1. Hantie Plomp (Triplo4) Presentation

1. Thank you Rose, so there has been a number of presentations that has been shared with yourselves on the various studies that have been conducted, some of that, if you looked at the list and the studies that were conducted, say well we have not had any information on this studies.
2. What we had wanted to do with this is to focus on the areas of concern that had been previously raised and some of them also dealing with the areas where there had been a gap indicated and where and how that gap had been addressed.
3. So, what we want to do with this particular slide is also just to show you that the information is available, and we also do have specialists available to answer on these questions, but we just do a specific over view.
4. So, if you look at some of these, hydrology, aquatic impact, hydrogeology impact, dual; hydrological impact, these were with mitigation all indicated as low or negligible. The reasons for this being as a result of the existing environment as well as the type of development that has been proposed. In other words, there is no development proposed in the 1 and 100 year flood line and the development being a 132 KV line with monopoles. Those impacts is mostly associated with construction phase and with mitigation. These are the ratings that has been assigned post mitigation.

5. From a wetland impact assessment point of view, as well after mitigation, low to very low, primarily also because most of the powerline is situated within intensely degraded areas as well as the wetland rehabilitation plan that provides for 23, I think 0.3 hectares equivalent improvements that will result following the implementation of the rehabilitation plan that forms part of the mitigation measures being proposed.
6. You have heard about the Avifaunal the Coastal Estuarine and Marine ecology, atmospheric impact and risk, terrestrial noise impacts, the Underwater noise, these have all been dealt with the various specialists.
7. From a tourism point it has been addressed both in terms of a socio economic presentation that you've seen and I believe there was also a question that was answered with an overall positive impact being identified as a result of load shedding being addressed.
8. Underwater archaeology also negligible due to the fact that the Port is a dug out Port, there has been further palaeontology studies, ecological studies been done, visual impact assessment, and the proposed development is within the port, its similar activities that is associated with the Port and there has been no impacts associated with those.
9. Traffic assessment, you have heard about the marine traffic assessment, there was also consideration in terms of the terrestrial traffic impact, a traffic assessment evaluation that was done indicating there are no significant impacts and that had been considered in the socio economic report as well. Can we go onto the next slide?
10. This is an overview , I saw that there was a question as well on why are these studies not done separately, why was there one particular study that was done, as can be seen from the information and, we'll go to the reports, we'll see that different individuals that had looked at these matters separately but as per requirement from the minister and because there is such huge integration of these components being a marine estuarine port, these has then been considered holistically and integratively and that is why you will have a report that had been assessed individually as well as integratively to give you a complete overview of the impacts that has been considered holistically.
11. So, if we just look at the final map then sensitively taking into consideration the contributions from the various specialists, can you see on the bottom left, that is the Richards Bay game reserve that had been considered in the assessment , indicated the Kabeljous flats as we all know is very sensitive and as can be seen there is no development that is being proposed within the Kabeljous flats, the Sandspit has been indicated as well the positions of ships and when a person then looks at the evacuation route can be seen that the route is being proposed as well as the switching station being proposed in a more degraded area and the high sensitivity areas has not been impacted upon.
12. The stringing yards also being placed within the highly degraded area and rehabilitation has been proposed where the powerline is being proposed and so as was discussed you can also see the areas that has been identified as noise sensitivity areas that has been assessed from a terrestrial perspective. There is the other one, I've seen there was a few more questions and the specialists will all be here after this session to answer more questions on the noise and the differences between the initial studies and the existing situation that is based on baseline as well as specific modelling results. Thank you

RO: Thank you so much Hantie. We have come to the end of our formal presentations, and we hope that people will be a little bit patient with us, we've had a stream of questions

13. RO: So Digby (Cyrus) had a question regarding the bird counts and the tides, Digby had a number of questions, we're trying to make sure we get to them.
14. QUESTION from **Digby Cyrus (I&AP)** "No actual data of the results of bird counts on the Sandspit are provided in the specialist report, which is the 3rd most important site for migrant birds in KZN. All sampling was done in winter when migrants not present?"
15. **Barry Clarke (Anchor Environmental)**: So, a couple of questions there, no actual results of the bird count in the Sandspit are provided in the specialist report. We do provide summary data on bird count for the whole of the uMhlatuze estuary and summarised data for the Kabeljous Flats and the Sandspit in the report. I think Catherine even presented some of those data in the

- graph in her presentation, so yes, we do have that data and some of the data is in the report and I think Catherine acknowledged very firmly that Kabeljous flats and the Sandspit are arguably the most important habitat for birds and many other species in the Port of Richards Bay.
16. The final question or comment saying all the sampling was done in winter when migrants were not present. There were four counts that had been done as part of this project in the last two years, two were done during the winter months July and September, we considered September as being Winter because that's before the migrants have arrived back from their breeding grounds and then two were done during Summer; one in February and a second in April, April being marginal as being the end of the summer season but we included that as summer data.
 17. I think I've managed to answer all of those questions, oh, also the other question is relating to whether the counting was done in accordance with the CWAC methods.
 18. QUESTION from **Digby Cyrus (I&AP)**: Bird counts are stated as being done according to CWAC methods? CWAC states counts to be done on high tides, report states counts done on low tide?
 19. CWAC being an acronym for Collected Water Bird Counts, the CWAC methods specifically states that bird counts should be done on high tide, what we typically did for our counts was to count during high and low tide and take the maximum number of birds for those two counts. The reason we did this is because the Kabeljous Flats is a tidal area, its extensive mudflats that are exposed during low tide and flooded at high tide, so obviously there aren't any birds on the flats during high tide, when its flooded and most of the birds will move off to their roosting in the mangroves and are much more difficult to count.
 20. So, we actually opted to try and do both methods, high and low tide and take the maximum to make sure we were getting the absolute maximum birds in the estuary, and while it is a minor deviation from the CWAC methodology I think it is correct, given the habitat we are dealing with.
 21. RO: Thanks Barry, there was another question from **Dominic Weiners (EKZN Wildlife)** with regards to "the socio economic assessment, recommends that KPS assist small scale fishers to find alternative employment, does that mean that they believe that the fisheries may collapse in the Port as a result of the impact of the Powerships?" Are you able to talk to the fisheries in the port?
 22. **Barry Clarke (Anchor Environmental)**: We certainly don't think that the fisheries in the Port are going to collapse as a result of the Powership project, in fact we think that the impact, most of the impacts associated with the Powership are quite localised and the noise, both the Thermal Plume modelling and the noise modelling suggest that the impacts are very localised within 100 metres or a couple of hundred metres of the ships.
 23. So, I think the intent of that statement was rather the recognition that much of the small scale activities within the port at the moment are actually considered illegal and they are mostly illegal gillnet fishing and the idea was rather to try and offer those fishers an alternative, possible more legal way of making their livelihood rather than continue with their current practices?
 24. RO: Thank you so much Barry, we just quickly trying to group a number of other questions, just to check that we won't miss any, some have already been addressed in the presentations but that doesn't mean we will ignore them, we will come back to them after this set off meetings to ensure they have been followed up and if there are any clarifying questions that people want to ask.
 25. There was a question from **Ntuthulo Ndlela (YSI Systems)** asked "When can Karpowership START PRODUCE POWER, businesses are falling apart?"

RO: There have been a number of questions and I see people are battling a little bit with their Eskom and Telkom connectivity, please note that this is not the end of the PP process, this presentation will be made available, the commenting period is open until the 13th December, if you have any comments or queries between now and 13th of December, I'm going to pop up the slide with contact details of the team. They are available until the 13th December there after we go into the consolidation of all those comments and questions before we move to the next ground.

26. RO: So, there was one other question there for Tim from **Dominic Weiners** with regards to sound, Tim do you want to come back online and respond to it?
27. QUESTION from **Dominic Wieners (EKZN Wildlife)** "With all due respect to Tim, we are not concerned about human receptors underwater, but rather more sensitive underwater biodiversity receptors like dolphins and other fish which use underwater communications for all sorts of life dependencies."
28. **Tim Mason (Subacoustech)**: He is absolutely right of course, there is a difference in sensitivity between humans and fish and marine mammals, we all have different hearing sensitivities.
29. I assume the question is because I put the sound files which I apologise is very difficult to hear on this system over the internet. The point of that was just to give us an indication, because we are never going to be able to hear it like the fish or marine mammals so the only reason for that is just to give some indication of the increase in sound so an increase in sound for us will be the same as an increase in sound for anything else, it's only a relatively small amount, 2db or less, as we saw for the vast majority of the site is really a very small amount of an increase so I would not expect that to be significantly acceptable to any species irrespective of its species.
30. It's also worth noting that the noise from the Powerships that I found was very much like the noise from any other ship that we are hearing around the Port and it is a busy port, so the sound that I heard was very much the same, it should not change the character of that Port in any significant way.
31. It also would be audible particularly to marine mammals which tend to have a very high hearing sensitivity, we've all heard the clicks and whistles from marine mammals on various wildlife programmes, if you haven't, it's all very high frequency and that's where they are most sensitive whereas the sound that we are getting from the Powerships and ships in general is very low frequency. And so that's the level that they are really sensitive to. Hopefully that makes sense.
32. RO: Tim thank you so much for that, that was really useful. We have a question for Claude and it comes from **Tony Carnie (Daily Maverick)**, he asks "The risk profile overhead posted by Mr Thackwray in this presentation are significantly different to those published in the first EIA. Have you revised your assessments?"
Claude if you could jump on please and respond to Tony Carnie's question?
33. **Claude Thackwray (MHR Consultants)**: as per the MHI regulations you can't revise an assessment, you have to redo an assessment completely and with this assessment there has been quite a few changes and there has been quite a few inputs you know. I've studied the existing Karpowerships and I've got a lot more information than what I had with the previous assessment so this one I could be a lot more accurate.
34. The software that we use get upgraded by the software company more or less every three months so I get updated quite often. So when you do risk assessments, you have to redo it every five years and you will find that the risks do change even if there have been no changes on the site because things I calculated changed because more information became available. I've also had quite a lot of insight into other MHI's around the world, in fact the risk profile in some ways is actually higher than the previous one, for example the 1 in a million risk curve increased from being 200 m from the hose points, it increased to 295 metres, the 1 in 5 metres went from 75 metres to 235 metres. This is because of information that was produced by the software manufacturers on the behaviour of liquid LNG behaviour on water and the formation and degasification on water.
35. So, the results are different but the total risk profile of the whole project that not really changed, it wouldn't affect for example your emergency plans, and so forth and it wouldn't make much of a difference to people on the ships as well as people around the ships.
36. RO: Thanks Claude, thank you for responding to that question. We have also had a question from Dominic with regards to the offsets and Suhail is going to respond to that question.
37. **Dominic Wieners (EKZN Wildlife)**: Medium impacts after mitigation typical attract offsets. Have the residual impacts on these issues been investigated? Ezemvelo previously asked this in the previous EIA application, and no response was received. This is a critical gap1

38. RO: Thank you for that question, Suhail will respond to it. (SILENCE) It seems that Suhail is battling with loadshedding, we will come back to that question Dominic, it has been noted, it has not been disregarded but the specialist who needs to respond to you has unfortunately been battling with load shedding and he keeps trying to log back in.

16. CLOSURE

1. I'm going to say Thank you very much to everyone for your time. We have reached the end of our allocated time for the online webinar, we really appreciate your time this evening, your engagement and the multitude of questions, they have been very useful to our team.
2. We look forward to following up and we trust that you have had some response and where the response has prompted further queries for yourselves, please do send those through to the team.
3. The comments period is open until the 13th December and the email address is on the screen.
4. We would like to say, "Thank You" and we will be printing out the minutes. If you are aware of any I&AP's that haven't registered yet and who have been talking about the project please encourage them to register, they can still, with the process, this is not the end of the PP, this is just part way through a PP and we look forward to a lot more engagement on this project.
5. Thank you all for your time and I'm going to call the meeting to a closed at 8.00pm and wish you all a very good evening.

Commenting period:

10 November – 13 December 2022

email: richardsbayksa@triplo4.com

Read and confirmed this 05 day of December 2022



Facilitator

**Public Participation Webinar:
Richards Bay Draft Environmental Impact Assessment (EIA)
Report for the Proposed Gas to Power via Powership Project at the Port of Richards Bay**
Meeting held at 17.00 on Wednesday 23 November 2022
Via an online webinar – AirMeet

Question and Answers

During the Virtual Public Meeting, participants were able to post their questions publicly and in real time to the presenters. Answers to the questions which were answered during the Virtual Meeting have been captured in the minutes of the Public Meeting, and therefore do not need to be repeated here. To ensure all I&APs' questions are answered, questions that were not answered directly in the Public virtual Meeting (i.e. captured in the meeting transcript) are answered below:

No.	Questions / Comments	Responses
1.	Catherine presented that the mitigation for the cumulative impacts is to limit further development in port and estuary. Has the potential port expansion and the waterfront redevelopment considered?	The obvious mitigation for cumulative impacts is to limit further development, however, any further development would need to undertake a similar environmental assessment process in the project sphere of influence going forward. For cumulative impacts, similar other proposed energy projects along with the waterfront redevelopment were considered. All considerations were looked at polycentrically. The proposed project layout has taken into consideration, the future port development plans, through extensive consultation with the National Ports Authority (TNPA) with the inclusion of detailed marine and navigational studies. The project layout has been confirmed to be satisfactory by the Port Authorities
2.	How does Karpowership tariffs compare to current Eskom tariffs?	Karpowership responded to the RMIPPPP. It is within the remit of Eskom and NERSA to evaluate current Eskom tariffs. Our costing does however compare favourably upon evaluation against the other preferred bidders for the RMIPPPP, which are shown in the following table:

		Price Ranking				
		Name	Price	MW	Location	
					Technology Mix	
		ACWA Power Project DAO	1,462.00	150.00	Northern Cape	Diesel + Solar + Battery
		Karpowership SA Coega	1,468.87	450.00	Eastern Cape	Floating, Modular Reciprocating Gas Engines
		Karpowership SA Richards Bay	1,496.03	450.00	KZN	Floating, Modular Reciprocating Gas Engines
		Mulilo Total Hydra Storage	1,515.97	75.00	Northern Cape	Diesel + Solar + Battery
		Oya Energy Hybrid Facility	1,550.34	128.00	Western Cape	Diesel + Wind + Solar + Battery
		Karpowership SA Saldanha	1,686.48	320.00	Western Cape	Floating, Modular Reciprocating Gas Engines
		Umoyilanga Energy	1,721.64	75.00	Eastern and Northern Cape	LPG + Wind + Solar + Battery
		Mulilo Total Coega	1,885.37	197.76	Eastern Cape	Solar + Reciprocating Gas Engines
		Scatec Kenhardt 3	1,884.56	50.00	Northern Cape	Solar + Battery
		Scatec Kenhardt 2	1,884.61	50.00	Northern Cape	Solar + Battery
		Scatec Kenhardt 1	1,884.64	50.00	Northern Cape	Solar + Battery
3.	Sadly I have missed the entire estuarine presentation because Telkom have dropped the ball, rather than Eskom. I do hope that this doesn't conclude the entirety of the PPP, as it is otherwise problematic.	The PPP commenced on 10 November 2022 and concludes on 13 December 2022. The conclusion of this virtual public meeting is not the final event for the PPP and the EAP welcomes requests for specific engagements from stakeholders up and including 13 December 2022. The EAP has also reached out to engage with Ezemvelo prior to the PPP period, for specific stakeholder engagements, as well as following public meetings, and this meeting is now confirmed and scheduled.				
4.	Specialist report recommended monitoring of Avifauna monthly over a year prior to construction. DFFE for another project stated	The Avifaunal Report recommends ongoing monitoring monthly for one year prior to construction, which has already commenced in 2022 and for a further year after completion of construction for the purposes of adapting mitigation measures to be as effective as possible. The EAP and Karpowership SA cannot speak to recommendations or requirements issued by the DFFE for different projects, but are willing to				

	such monitoring should be done as part of the Impact Assessment process and RoD cannot be issued until they are done??	engage with the DFFE to ensure monitoring and the updating of mitigation measures are based on accurate and relevant information.
5.	By considering the Avifauna over the whole area (including Mhlathuze Estuary) the reports have lost sight of the impact on the Sandspit which is the third most important site for migrant water birds in KZN.	Your comment is noted, however the report has focused on the birds of the sandspit and intertidal flats within Richards Bay, and the importance of these habitats has not been downplayed due to the presence of important bird areas in the adjacent uMhlathuze estuary.
6.	There was no discussion on the brine discharge from the Karpowership desalination components to produce freshwater. Please advise if a Coastal Waters Discharge Permit from the DFFE has been obtained for the brine discharge?	<p>Please see the Coastal, Estuarine and Marine Impact Assessment Report, Port of Richards Bay</p> <p>The operation of the powerships involves the abstraction of seawater for cooling of the power generators Based on the modelled scenario detailed in PRDW (2022), in which the reciprocating engines, steam turbine generators and freshwater generators are in use with 100% loads (i.e. the worst-case scenario), the estimated total intake/outlet flow rate for both vessels (all generators combined) is 8.49 m³/s. The total flows will be discharged at depth (8 m) through multiple outlets on the vessel hulls. Brine from the Reverse Osmosis plant will actually be discharged with the cooling water but in very low volumes and will not measurably effect the salinity of the discharge water. The total brine discharge is less than 1% of total sea water outlet hence brine outlet is negligible and assumed zero.</p> <p>We can also confirm that we have been in contact with the DFFE's Director for Coastal Pollution and are advised that under Section 69(1) of the Integrated Coastal Waters Discharge Permit Act, a Coastal Water Discharge Permit is only required for the lawful discharging of effluent that originates from land.</p>

7.	Is the bird count method used in the Karpowership application the same as those used in historical counts i.e. are biases in count being eliminated to ensure proper comparison with historical data?	<p>Refer to the points below as captured in the minutes - 15.1 #15 - #20:</p> <p>15. Barry Clarke (Anchor Environmental): So, a couple of questions there, no actual results of the bird count in the Sandspit are provided in the specialist report. We do provide summary data on bird count for the whole of the uMhlatuze estuary and summarised data for the Kabeljous Flats and the Sandspit in the report. I think Catherine even presented some of those data in the graph in her presentation, so yes, we do have that data and some of the data is in the report and I think Catherine acknowledged very firmly that Kabeljous flats and the Sandspit are arguably the most important habitats for birds and many other species in the Port of Richards Bay.</p> <p>16. The final question or comment saying all the sampling was done in winter when migrants were not present. There were four counts that had been done as part of this project in the last two years, two were done during the winter months July and September, we considered September as being Winter because that's before the migrants have arrived back from their breeding grounds and then two were done during Summer; one in February and a second in April, April being marginal as being the end of the summer season but we included that as Summer data.</p> <p>19. CWAC being an acronym for Collected Water Bird Counts, the CWAC methods specifically states that bird counts should be done on high tide, what we typically did for our counts was to count during high and low tide and take the maximum number of birds for those two counts. The reason we did this is because the Kabeljous Flats is a tidal area, its extensive mudflats that are exposed during low tide and flooded at high tide, so obviously there aren't any birds on the flats during high tide, when its flooded and most of the birds will move off to their roosting in the mangroves and are much more difficult to count.</p> <p>20. So, we actually opted to try and do both methods, high and low tide and take the maximum to make sure we were getting the absolute maximum birds in the estuary, and while it is a minor deviation from the CWAC methodology I think it is correct, given the habitat we are dealing with.</p>
8.	So highly specialized jobs then?	The construction phase (12 months) will require semi-skilled and skilled labour , but has the capacity to absorb unskilled people who will be upskilled through our skills development programmes. During the operational phase (20 years) the requirement for permanent jobs will also be a mix leaning more toward skilled jobs with a significant focus on developing capacity (internships, on the job learning and training, learnerships and apprenticeships, and scholarships and bursaries) within the project sphere of influence.
9.	Claud Thackwary has not answered the question on	Refer to the points below as captured in the minutes - 15.1 #32 - #35:

	<p>whether the worst case scenarios have been revised from first EIA version</p>	<p>32. RO: Tim thank you so much for that, that was really useful. We have a question for Claude and it comes from Tony Carnie (Daily Maverick), he asks “The risk profile overhead posted by Mr Thackwray in this presentation are significantly different to those published in the first EIA. Have you revised your assessments?” Claude if you could jump on please and respond to Tony Carnie’s question?</p> <p>33. Claude Thackwray (MHR Consultants): as per the MHI regulations you can’t revise an assessment, you have to redo an assessment completely and with this assessment there has been quite a few changes and there has been quite a few inputs you know. I’ve studied the existing Karpowerships and I’ve got a lot more information than what I had with the previous assessment so this one I could be a lot more accurate.</p> <p>34. The software that we use get upgraded by the software company more or less every three months so I get updated quite often. So when you do risk assessments, you have to redo it every five years and you will find that the risks do change even if there have been no changes on the site because things I calculated changed because more information became available. I’ve also had quite a lot of insight into other MHI’s around the world, in fact the risk profile in some ways is actually higher than the previous one, for example the 1 in a million risk curve increased from being 200 m from the hose points, it increased to 295 metres, the 1 in 5 metres went from 75 metres to 235 metres. This is because of information that was produced by the software manufacturers on the behaviour of liquid LNG behaviour on water and the formation and degasification on water.</p> <p>35. So, the results are different but the total risk profile of the whole project that not really changed, it wouldn’t affect for example your emergency plans, and so forth and it wouldn’t make much of a difference to people on the ships as well as people around the ships.</p>
<p>10.</p>	<p>Is the configuration of the Port in Ghana similar enough to that of Richards Bay to make a meaningful comparison? Is the vessel there similarly positioned?</p>	<p>It was highlighted in the presentation by Tim Mason at 13.1 #6 - #10 and #20 - #21</p> <p>6. To get a good idea of how Richards Bay was already affected by noise, we set up a monitor near the proposed location of the Powership by the Sandbar. You can see a yellow spot on the map on the left.</p> <p>7. That was left to measure the noise levels over 48 hours, while that was measuring continuously, we sampled the underwater noise over sections, spot locations , which are the blue spots across the rest of the area to see how the sound varies, we also measured some of the other ships using the Port.</p> <p>8. Once we had these background measurements the next task was to check the noise that an operational Powership actually produces, so for that we visited Sekondi Takoradi on the Ghanaian coast where a Khan Class Powership similar to that proposed in Richards Bay is located.</p> <p>9. Here we can see how we sampled the underwater noise on the right, we took measurements from</p>

		<p>both with engines on, multiple positions at equal distances from the ship; 50; 200; 300; 400 metres and further to see how the noise becomes quieter as you move away. Once this is known, it will be added to the existing noise levels that was measured in Richards Bay to see what effect it has.</p> <p>10. It is worth noting that the conditions at Sekondi Takoradi are not the same as Richards Bay, the main difference between them is water temperatures, the depths, the size and layout of the Ports are similar enough that any effect on the acoustics will be negligible or potentially linked to measurements in Ghana actually appearing louder than what we would expect in Richards Bay therefore this only precautionary.</p> <p>20. Within a few hundred metre of the ship the noise levels certainly do increase but the noise levels we measured in Ghana were very similar, to what we found when we measured visiting ships currently using the Port of Richards Bay</p> <p>21. We assume that the Sandbar will not provide any reduction in noise to continue with worst case but I actually expect the length of this area to the west of the sandbar to be much quieter.</p>
11.	<p>Air Quality: Is the AQ Study assessing the existing impacts as a result of current industrial and other activities contributing to AQ of the R.Bay environment, ie predicting the cumulative impacts? And does the study look at existing AEL limits ?</p>	<p>Refer to the points below as captured in the minutes – 11.1 #24 to-#26:</p> <p>24. Sandy Camminga (Richards Bay Clean Air Association) Has the AQIA modelled accumulative impacts i.e.: Karpowership plus Baseline plus future Gas to Power projects that have already received authorisation?</p> <p>25. Mark Zunckel (uMoya-Nilu): Good evening Sandy, we haven't modelled accumulative impacts per se, but we have addressed cumulative impacts. The specialist studies that have been performed for those projects that have been approved and some of those projects that have since not been approved have all been included in the specialist study. Their modelling results have been assessed together with the modelling results from Karpowership. In that way the cumulative impacts have been assessed and also you will appreciate that Ambient data is contributed to by existing industries plus all the other contributing sources such as cane burning transport from the interior etc.</p> <p>26. The added effect of Karpowership added to those emissions, to those concentrations provides us with a really good understanding of the possible future situation with the project in place.</p>
12.	<p>Medium impacts after mitigation typically attract offsets. Have the residual impacts on these issues been investigated? Ezemvelo previously asked this in the previous EIA application, and no</p>	<p>Mitigation requires proactive planning that is enabled through a mitigation hierarchy. Its application is intended to strive to first avoid disturbance of ecosystems and loss of biodiversity, and where this cannot be avoided altogether, to minimise, rehabilitate, and then finally offset any remaining significant residual negative impacts on biodiversity. In the case of this proposed project in Richards Bay, residual impacts with regards to the Karpowership SA Project were considered to be 'Low', should the Wetland Rehabilitation Plan (T4-WRP-RB, Oct 2022) be strictly implemented and subsequently monitored onsite.</p>

	<p>response was received. This is a critical gap!</p>	<p>The wetland vegetation type (WetVeg) that the Karpowership SA Project falls under is the Indian Ocean Coastal Belt Group 1 which has a protection multiplier of 1:1. If the measures outlined in the rehabilitation are implemented, approximately 23.3 hectare equivalent can be gained. Thus, Karpowership SA will be improving wetlands in terms of hectare equivalents 23 times more. In terms of Wetland Offsetting, as per the best practice Offset Guideline (Macfarlane, 2013), it was calculated within the Wetland Impact Assessment (T4-WDFA-RB, Oct, 2022) that no further offsetting requirements in terms of Wetland Functional Targets and Ecosystem Functional Targets were required, when applying the mitigation hierarchy. It is further noted by the specialists' team that based on their experience, medium impacts after mitigation do not typically attract offsets, and the mitigation hierarchy must be applied, as explained above.</p>
<p>13.</p>	<p>Sound propagates in all directions. The Ghana modelling measurements are based on a scenario where the Powership is moored next to a large jetty. That is not the case in Richards Bay. Is this really an apples with apples comparison</p>	<p>It was highlighted in the presentation by Tim Mason at 13.1 #6 - #10 and #20 - #21</p> <p>6. To get a good idea of how Richards Bay was already affected by noise, we set up a monitor near the proposed location of the Powership by the Sandbar. You can see a yellow spot on the map on the left.</p> <p>7. That was left to measure the noise levels over 48 hours, while that was measuring continuously, we sampled the underwater noise over sections, spot locations, which are the blue spots across the rest of the area to see how the sound varies, we also measured some of the other ships using the Port.</p> <p>8. Once we had these background measurements the next task was to check the noise that an operational Powership actually produces, so for that we visited Sekondi Takoradi on the Ghanaian coast where a Khan Class Powership similar to that proposed in Richards Bay is located.</p> <p>9. Here we can see how we sampled the underwater noise on the right, we took measurements from both with engines on, multiple positions at equal distances from the ship; 50; 200; 300; 400 metres and further to see how the noise becomes quieter as you move away. Once this is known, it will be added to the existing noise levels that was measured in Richards Bay to see what effect it has.</p> <p>10. It is worth noting that the conditions at Sekondi Takoradi are not the same as Richards Bay, the main difference between them is water temperatures, the depths, the size and layout of the Ports are similar enough that any effect on the acoustics will be negligible or potentially linked to measurements in Ghana actually appearing louder than what we would expect in Richards Bay therefore this only precautionary.</p> <p>20. Within a few hundred metre of the ship the noise levels certainly do increase but the noise levels we measured in Ghana were very similar, to what we found when we measured visiting ships currently using the Port of Richards Bay</p>



		<p>21. We assume that the Sandbar will not provide any reduction in noise to continue with worst case but I actually expect the length of this area to the west of the sandbar to be much quieter.</p> <p>Please also refer to figures 3.1 and 6.1 of the report, highlighting that modelling was done 360 degrees, in all direction within the Port of Richards Bay geometry.</p>
14.	<p>Did the Thermal plume study consider that the location of the proposed powerships are possibly in the most sensitive part of the port, and therefore 300m away is not significant to the considerations of the impact where the ships are proposed to be?</p>	<p>The proposed Powerships' location (the preferred alternative) is in an active dredged disturbed shipping area, where impacts are already prevalent. In respect to thermal plume, the 1 degree change will affect only 0.3% of the kabejous flats, under the <u>worse-case</u> scenario. In addition, please note that an alternative position of the Powerships that was closer to the sensitive habitats was considered less suitable from engineering and environmental perspectives and therefore was screened out.</p>
15.	<p>How do we indicate that we wish to speak,? I don't see options for raising hand or a microphone to speak</p>	<p>This was answered at the meeting - at multiple points throughout the meeting. Facilitator indicated process for asking Q&A at the following points throughout the meeting:</p> <p>1. Welcome, Introduction #10 #11 10. So, looking at that there is a Question and Answer box, please do put your queries, questions, comments and answers into the Q&A box. 11. We are looking through them throughout to also try and group them, so if we get about six or seven that are the same, we might only publish one. If you are in agreement or you would also like to get a response to that question, please use the "UPVOTE" button, it's a little "UPVOTE" that allows you to say I also want a response to that or please could somebody address that question. That then allows us to see how many people are looking at an answer as well. When you are putting your question and answer in, depending on how you've registered it would be really useful for us to understand who is asking the question so we can also follow up and come back to you. There will no doubt be a number of questions asked this evening and we might not get to all of them, but they are all being recorded, and we will follow up with them so please do put them there.</p> <p>5.1 Discussions between #16 and #17 RO: Thank you very much Hantie, so as we said at the beginning, please could you pop your questions into the question and answer box, you'll see there is an opportunity for you to pop in</p>

		<p>questions so that we can see and group them and respond to them accordingly. We have had a couple of questions; we are recording so that people are aware. So please do drop your questions into the Q&A because we are open now for some questions and answers.</p> <p>Between 5.1 and 6. Specialists presentations So just to confirm there are set places for discussion on the agenda, we are going through the questions, you need to put them in the Q&A and then we can pull them up for the specialists and I can quickly make sure that the right specialists are available for you to answer them</p> <p>6.1 Discussions after #32 Please remember we are running as a webinar as webinars have been run for a while now, questions please pop them into the Q&A so we can group them and then respond to them. I'm going to hand over to Eugene now and after Eugene is done, we will then address a number of questions that are coming through, so thank you very much, please keep putting your questions into the questions and answer box so that we can address them. We can also track them and keep them for the comments and issues trail.</p>
16.	How much LNG is required per month per powership for all the operations – as per the 24/7 operations for a 20 year contract?	The volume of LNG required for operations will be entirely dependent on dispatch instructions, which can be issued within a 16.5 hour time period per day, issued by the buyer, Eskom. We estimate that the LNG stored upon the FSRU will need to be resupplied approximately once every 20-30 days, when the level reaches the contingency allowance remaining (i.e. significantly before the storage becomes empty). The capacity of the FSRU is planned to be 175,000cbm. Natural Gas consumption in the operation of the FSRU is 298 TJ/year. Natural Gas consumption by the power generation equipment is 24 361 TJ/year, as per the Climate Change Report.
17.	Will the powership conduct a GHG monitoring plan over the operation period?	Greenhouse gas emissions shall be calculated as per the Methodological Guidelines for Quantification of Greenhouse Gas Emissions (Version No: MG-2022.1) for each of the relevant greenhouse gases and IPCC emission sources specified in Annexure 1 to the National Greenhouse Gas Emissions Reporting Regulations, 2016 in accordance with the data and format requirements specified in Annexure 3 to these Regulations for the preceding calendar year, to the competent authority by 31 March of each year.
18.	What is the tariff charge?	Karpowership responded to the RMIPPPP. It is within the remit of Eskom and NERSA to evaluate current Eskom tariffs. Our costing does however compare favourably upon evaluation against the other preferred bidders for the RMIPPPP, which are shown in the table inserted to the response to question 2 above.

19.	Can one only post a question or are we able to do it verbally??	<p>This was answered at the meeting - at multiple points throughout the meeting. Request for written Q&A noted by facilitator at the following points:</p> <p>1. Welcome, Introduction #10 #11</p> <p>10. So, looking at that there is a Question and Answer box, please do put your queries, questions, comments and answers into the Q&A box.</p> <p>11. We are looking through them throughout to also try and group them, so if we get about six or seven that are the same, we might only publish one. If you are in agreement or you would also like to get a response to that question, please use the "UPVOTE" button, it's a little "UPVOTE" that allows you to say I also want a response to that or please could somebody address that question. That then allows us to see how many people are looking at an answer as well. When you are putting your question and answer in, depending on how you've registered it would be really useful for us to understand who is asking the question so we can also follow up and come back to you. There will no doubt be a number of questions asked this evening and we might not get to all of them, but they are all being recorded, and we will follow up with them so please do put them there.</p> <p>5.1 Discussions between #16 and #17 RO: Thank you very much Hantie, so as we said at the beginning, please could you pop your questions into the question and answer box, you'll see there is an opportunity for you to pop in questions so that we can see and group them and respond to them accordingly. We have had a couple of questions; we are recording so that people are aware. So please do drop your questions into the Q&A because we are open now for some questions and answers</p> <p>Between 5.1 and 6. Specialists presentations So just to confirm there are set places for discussion on the agenda, we are going through the questions, you need to put them in the Q&A and then we can pull them up for the specialists and I can quickly make sure that the right specialists are available for you to answer them</p> <p>6.1 Discussions after #32 Please remember we are running as a webinar as webinars have been run for a while now, questions please pop them into the Q&A so we can group them and then respond to them. I'm going to hand over to Eugene now and after Eugene is done, we will then address a number of questions that are coming through, so thank you very much, please keep putting your questions into the questions and</p>

		answer box so that we can address them. We can also track them and keep them for the comments and issues trail.
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Step-by-Step Guide For Attendees - Webinar Format

 Applicable Plans	✓ FREE	✓ APPSUMO	✓ STARTER	✓ PROFESSIONAL	✓ ENTERPRISE
 Available on	✓ WEBINAR FORMAT	X VIRTUAL CONFERENCE FORMAT	X HYBRID CONFERENCE FORMAT		

(<https://www.airmeet.com/hub/pricing/>)

TABLE OF CONTENTS

- [1. Registration for the Airmeet event](#)
- [2. Enter Airmeet](#)
- [3. View the Schedule](#)
- [4. Interactions in the Social Lounge](#)
- [5. Interactions during the Session](#)
- [6. Help icon](#)
- [7. Quick Tips](#)

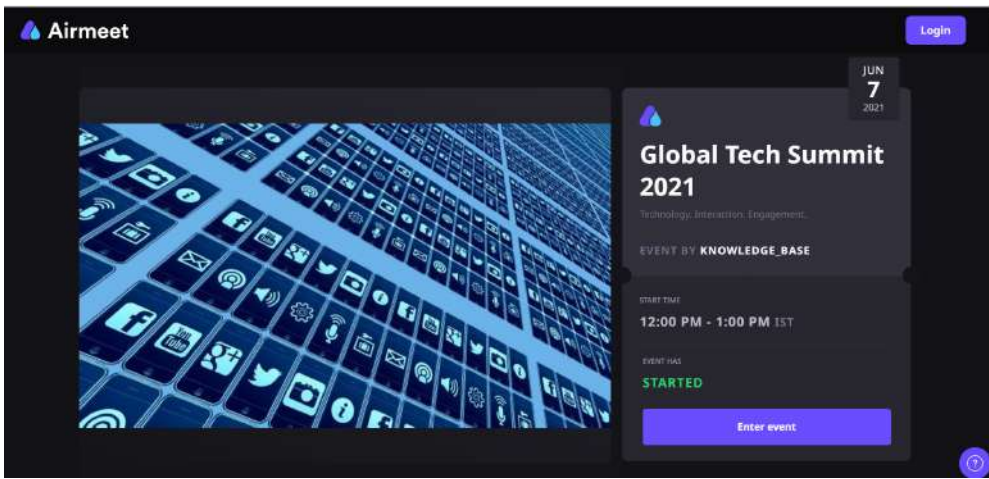
Below are instructions for Attendees to join and enjoy the Airmeet event. You can also watch the video given below: (<https://bluejeans-1.wistia.com/medias/iz0e7bukmb>)



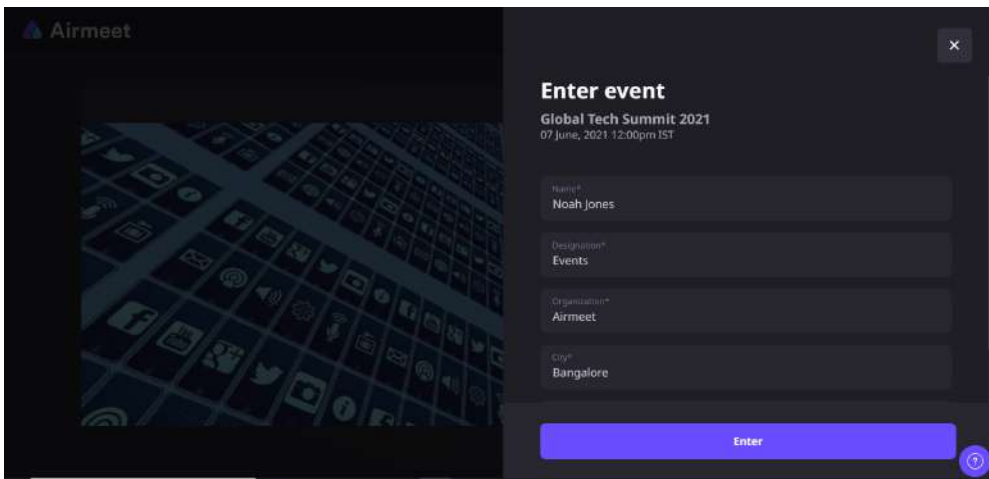
(<https://help.airmeet.com/support/solutions/folders/82000693516>)

1. Registration for the Airmeet event

- Use the event link provided by the organizers to reach the event landing page. This page will display the event details like title, date, time description, etc.
- Click on the "**Register for this event**" button. You'll be requested to log in using your email or via LinkedIn/Google/Facebook/Twitter/Apple ID. Fill in your attendee card with your name and other required information.



Once all the details are filled in, select "Enter," and you will be able to join the event.



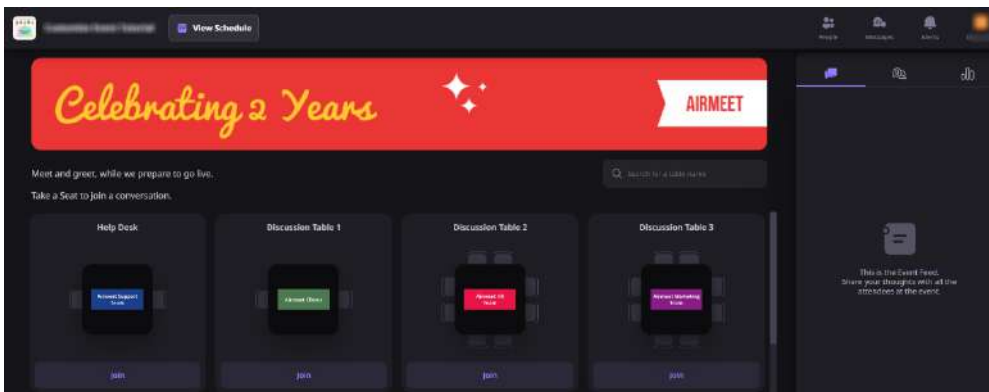
Note: If your Airmeet event is unlisted, the link provided will act as an authentication itself. You will only be required to fill in your Name, Desi

An attendee can enter the event in different ways depending upon the event entry rules set by the organizer.

Reference Article - [How to Enter Airmeet Events?](https://help.airmeet.com/en/support/solutions/articles/82000505338) (<https://help.airmeet.com/en/support/solutions/articles/82000505338>)

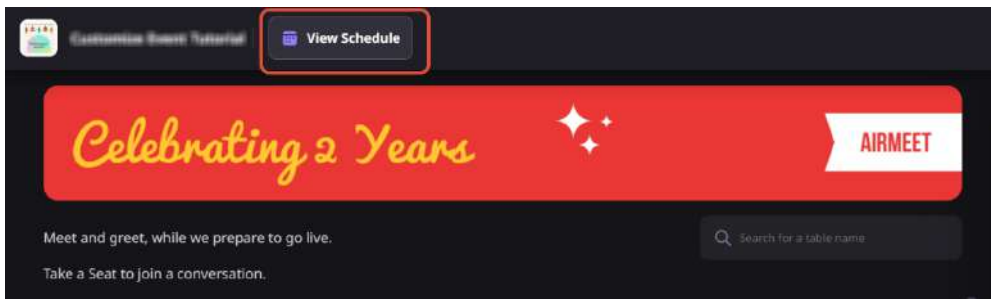
2. Enter Airmeet

As soon as the registration is done, you'll be landing on the Airmeet Social Lounge



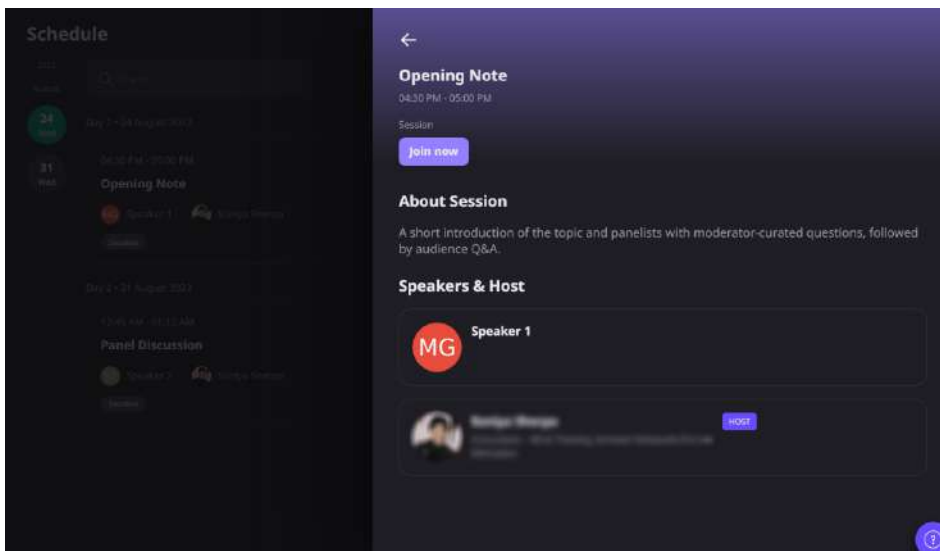
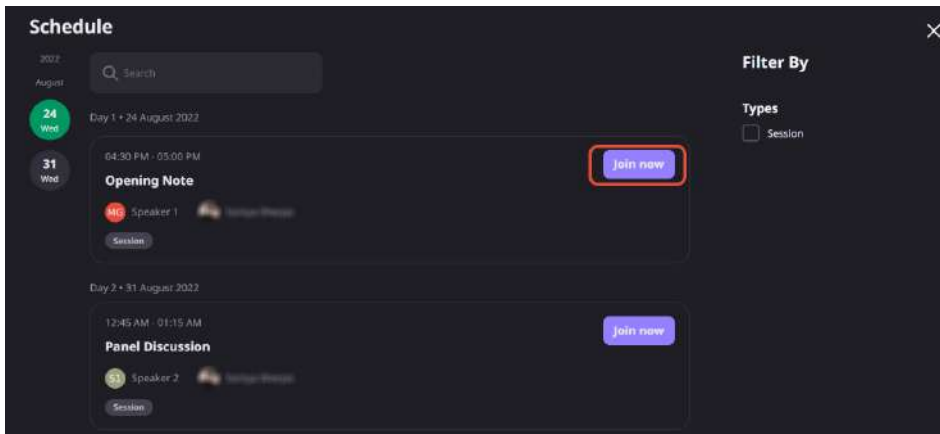
3. View Schedule

Check out the event schedule and speaker details by clicking on the "View Schedule" button.



On the Schedule, you will see the following information:

- Agenda of the event and session date & start timings
- Sessions details and their brief descriptions
- Speaker information & their bio's



4. Interactions in the Social Lounge

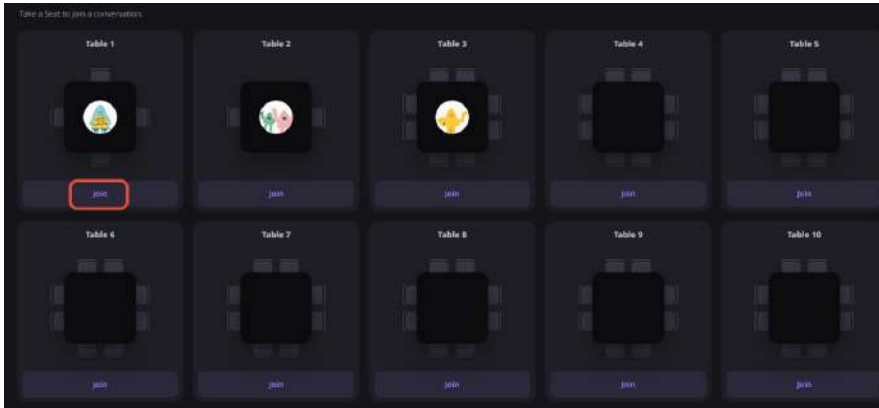
Now that you've entered the Airmeet, you can explore the following interactions

1. If the session is live, you will directly view the stage/session
2. If you land in the social lounge, it means that the session is yet to start. The area allows you to interact with other event participants and join different tables to meet people and have conversations.

Note: The Social Lounge is active before a live session, during session breaks, and after the session ends.

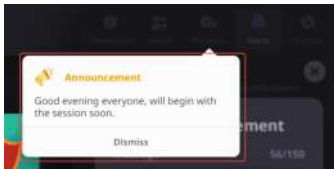
The event organizer also has the **capability of disabling the social lounge**

Below are the interactions that can be experienced in the social lounge

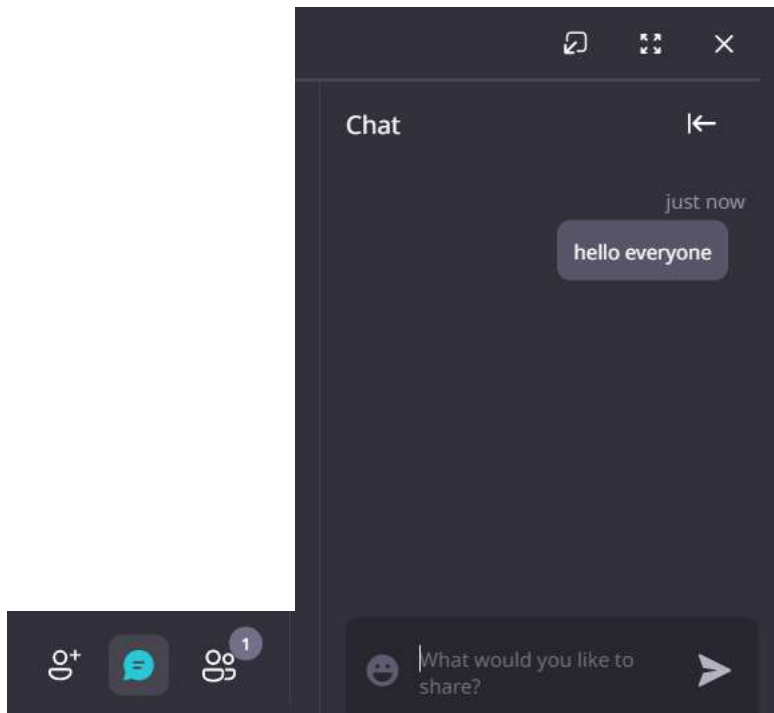


1. Join tables: Tables may have labels and logos on top to inform participants about the conversations at specific tables. You can join any table by clicking on the **"Join"** button below the table. If you want to leave the table click on the **"Cross (X)"** sign in the top right corner of the table.

2. Notifications: During an event, the event organizer may have to deliver various information or direct people you will be getting an announcement as a notification.



3. Table chat: You can interact with the other attendees seated at the table via chat as well. Click on the bottom right chat icon. Anyone that joins the table will be able to view this chat as it is an open chat.



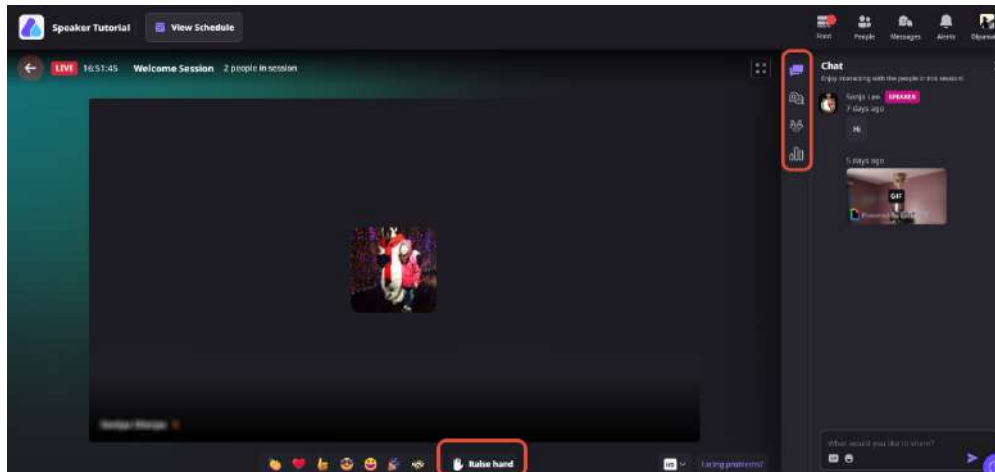
4. Table size: The table seats will be minimum of 1 and a maximum of 8. **In paid plans**, the table seats can be increased for up to 30 people (depending upon the plan opted by the event organizer).

5. View profiles: Click on the display picture of any participant to view their participant profile under the **"People"** tab.

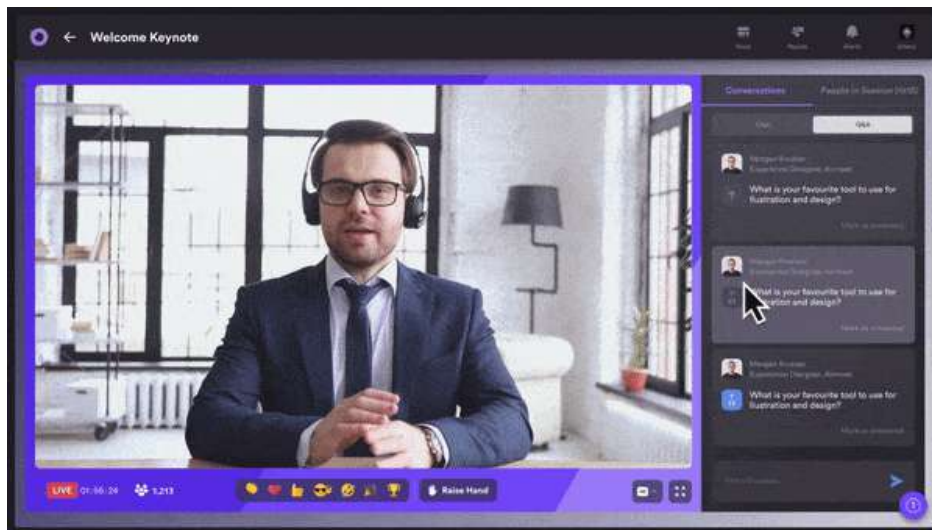
5. Interactions during the Session

A countdown will be displayed when there are 10 seconds left for the session to start.

Once the session begins, you will no longer be able to access the Social Lounge. But you can initiate the following actions while the session is on:



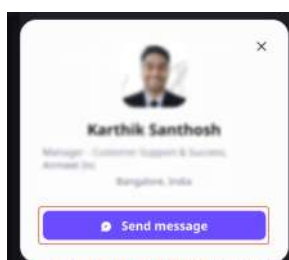
- 1. Raise Hand:** If you want to interact with the speaker and the host, you can do so by selecting the **"Raise hand"** button in the stage's bottom control bar. If the host accepts your request, you'll share the stage with the speaker and be visible to all participants.
- 2. Invite to the stage:** The host can invite an attendee to the stage as a speaker. In this case, you will receive a request to become a speaker, and you can choose to **"Accept"** or **"Reject"** such requests.
- 3. Ask a question:** You can use the Q&A section on the RHS to ask questions. We recommend you use this section to ask questions instead of using the general chat. You can also **"Upvote"** a question already asked to help hosts pick up questions based on popularity.
- 4. React with Emojis:** You can react and offer motivation or applause to the speaker by using emojis.



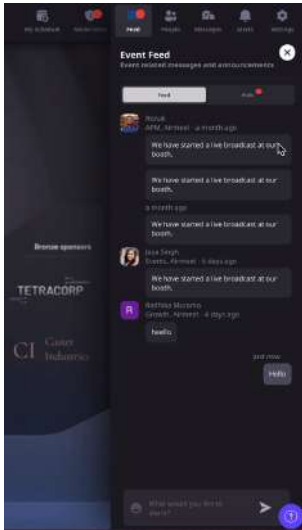
5. Chat: This can be a public event chat or direct/private chat. All the participants can view the general chat.

To have a private chat with a particular attendee.

5.1. Hover over the participant profile and click on the **"Send Message"** button and write a message.



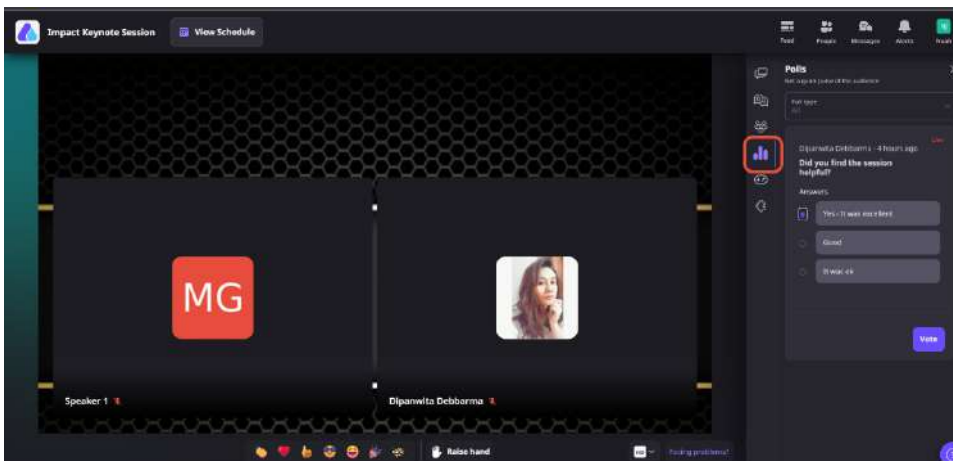
5.2. Hover over the chat of other attendees click on the 3-dot button and send a "Direct message."



Any attendee can choose to "Accept" or "Decline" the request for a private chat.

5.3 Report a message: If you come across a message with objectionable content, you can report it.

6. Polls: Participate in "Polls" conducted by the host & speakers during the event & sessions, respectively.



6. Help icon

Click on the "Help" icon (Question mark icon) on the bottom if assistance is needed (even during the live event). One can choose to visit our [24*7 Support Lounge](https://www.airmeet.com/e/b6645470-f81d-11ea-bdd0-e9fe5fe214a9?utm_source=knowledge_base&utm_medium=articles) (https://www.airmeet.com/e/b6645470-f81d-11ea-bdd0-e9fe5fe214a9?utm_source=knowledge_base&utm_medium=articles) for instant one-on-one support or opt for chat support or choose to use the self-serve articles.

7. Quick Tips

For a flawless visualizing experiment on Airmeet, do keep the following in mind:

- Use a Laptop and Google Chrome to join.
- Have a stable and good internet connection. Disable VPN/Firewall if installed.
- If you have difficulty seeing the speaker's feed, refresh the page/restart browser, and ensure that you close any other video conferencing tools you may have used recently.

Need more help? Contact support@airmeet.com or visit our [24*7 Support Lounge](https://www.airmeet.com/e/b6645470-f81d-11ea-bdd0-e9fe5fe214a9?utm_source=knowledge_base&utm_medium=articles) (https://www.airmeet.com/e/b6645470-f81d-11ea-bdd0-e9fe5fe214a9?utm_source=knowledge_base&utm_medium=articles).

Want to brainstorm and connect with other Airmeet Users and Event Professionals from around the world? Fill in the form to [Join our community on Slack](https://airmeet.typeform.com/to/CUEcnPBI?typeform-source=www.airmeet.com?utm_team=Organic&utm_source=KB) (https://airmeet.typeform.com/to/CUEcnPBI?typeform-source=www.airmeet.com?utm_team=Organic&utm_source=KB).

 Preview

Registrant Name	Email	Attendance	Joined Session	Used Virtual Table in Lounge (Y/N)	Raised Hand (Y/N)	Asked question (Y/N)	Participated in live chat (Y/N)
	samkelisiwe.mshengu@kznedtea.gov.za	N	N	N	N	N	N
ASLI SUREK	asli.surek@karadenizholding.com	N	N	N	N	N	N
Adam Gunn	adam.gunn@pinsentmasons.com	Y	Y	N	N	N	N
Adrienne Brown	adrienne@wahmworkspace.com	Y	N	N	N	N	N
Avena Jacklin	avena@groundwork.org.za	Y	N	N	N	N	N
Ayanda Ngcobo	ayandangcobo252@gmail.com	Y	Y	N	N	N	N
Barry Clark	barry@anchorenvironmental.co.za	Y	Y	N	N	N	N
Bianca Johnson	bianca.sprong@gmail.com	N	N	N	N	N	N
Bianca Johnson	bianca@wahmworkspace.com	Y	N	N	N	N	N
Bongani Mdletshe	bonganibmsg@gmail.com	Y	Y	N	N	Y	N
Bongani Thembinkosi Mbokazi	bonganimagembe@gmail.com	Y	Y	N	N	N	N
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