



**KARPOWERSHIP SOUTH AFRICA:
TOURISM IMPACT RESEARCH
*RICHARDS BAY***

Prepared by:



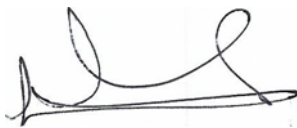
3T Business Fusion
45 Dolce Vita Complex,
Jean Avenue
Die Hoewes Centurion,
Pretoria,
South Africa

Email: kagiso@3tfusion.co.za

Cell: +27 82 908 2657

Declaration of Independence

I, Kagiso Tlhobolo, declare that I and my co-authors are independent consultants and have no business, financial, personal, or other interest in the proposed Karpowership SA Project in the Port of Richards Bay, of which I was appointed other than fair remuneration for work performed in connection with the activity, application, or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Kagiso Tlhobolo (Mr)

Principal Consultant

3t Business Fusion

Table of contents

DECLARATION OF INDEPENDENCE	2
TABLE OF CONTENTS.....	3
LIST OF FIGURES	4
LIST OF TABLES.....	4
1. INTRODUCTION	5
2. EXECUTIVE SUMMARY.....	5
3. RESEARCH SCOPE	6
4. TOURISM TRENDS ANALYSIS	6
4.1 GLOBAL TOURISM TRENDS: TOP REASONS FOR TRAVEL.....	7
4.1.1 International Arrivals into SA	7
4.1.2 International Total Foreign Direct Spend (TFDS).....	8
4.1.3 International bed-nights spent in SA.....	9
4.1.4 International Tourists' Length of stay	10
4.2 KWA-ZULU NATAL PROVINCE TOURISM ANALYSIS	11
4.2.1 Richards Bay Tourism	11
4.2.2 Tourism spending as a share of GDP.....	12
4.2.3 Provincial Comparison of Tourism activities	13
4.3 IMPACT OF POWER OUTAGES (LOAD-SHEDDING) ON TOURISM IN SA.....	13
5. METHODOLOGY AND ASSESSMENT APPROACH	15
5.1 POLYCENTRIC INTEGRATED SPECIALIST REPORTS CONSIDERED IN THE ASSESSMENT	15
5.1.1 Significance Ranking Matrix.....	16
5.1.2. Limitations	18
6. TOURISM IMPACT ASSESSMENT RESULTS	18
6.1 NOISE IMPACTS ON MARINE WILDLIFE AND TOURISM ACTIVITIES	19
6.2 VISUAL AND NOISE IMPACT ON HOSPITALITY AND TOURISM INDUSTRY	20
6.3 ELECTRICITY PROVISION ON HOSPITALITY AND RESTAURANT ESTABLISHMENTS.....	22
6.3.1 Mitigation measures	24
6.4 ENERGY AND INDUSTRIAL TOURISM.....	24
6.4.1 Mitigation Measures.....	25
7. SURVEY RESULTS (PRIMARY DATA COLLECTION)	26
7.1 PROFILE OF SURVEY RESPONDENTS.....	26
7.2 ANALYSIS OF RESULTS	27
7.3 LIMITATIONS.....	30
8. CONCLUSION	31
8.1 CONCLUSION ON SURVEY RESULTS.....	31
9. REFERENCES	32
APPENDIX A: SPECIALIST REPORT REQUIREMENTS AS PER EIA REGULATIONS 2014 (AS AMENDED).....	35
APPENDIX B: SPECIALIST CREDENTIALS	37

List of figures

FIGURE 1: INTERNATIONAL ARRIVALS INTO SA.	8
FIGURE 2: INTERNATIONAL TOTAL FOREIGN SPEND	9
FIGURE 3: INTERNATIONAL BED-NIGHTS SPENT IN SA	10
FIGURE 4: INTERNATIONAL TOURIST LENGTH OF STAY (2022)	10
FIGURE 5: REASONS FOR TRAVEL (KZN).....	11
FIGURE 6: CITY OF UMHLATHUZE LM_ TOURISM TRIPS BY PURPOSE	12
FIGURE 7: RICHARD'S BAY PORT LOCATION (RED POLYGON) IN PROXIMITY TO THE NATURE RESERVE AND HOTELS	22
FIGURE 8: SURVEY RESPONSE RATE	26
FIGURE 9: LOCATION OF SURVEY RESPONDENTS	26
FIGURE 10: TOURISM CATEGORIES OF SURVEY RESPONDENTS	27
FIGURE 11: NUMBERS OF BUSINESS OPERATIONS OF RESPONDENTS	27
FIGURE 12: RESPONDENTS' KNOWLEDGE OF KARPOWERSHIP SA	28
FIGURE 13: IMPACT OF KARPOWERSHIP INITIATIVE TO TOURISM.....	28
FIGURE 14: IMPACT OF LOAD SHEDDING ON TOURISM IN THE AREA.....	29
FIGURE 15: ENERGY TYPES USED BY PRODUCT OWNERS	30
FIGURE 16: TOURISM GROWTH RATE.....	30

List of tables

TABLE 1: GLOBAL TOURISM TRENDS OVER THREE YEARS (2019-2021)	7
TABLE 2: TOURISM CONTRIBUTION TO GDP FOR CITY OF UMHLATHUZE LM.....	12
TABLE 3: COMPARISON OF TOP ACTIVITIES IN THE 3 PROVINCES	13
TABLE 4: THE RANKING CRITERION APPLIED TO EACH POTENTIAL IMPACT IDENTIFIED	16
TABLE 5: THE SIGNIFICANCE RATING SCALE	17
TABLE 6: POTENTIAL NEGATIVE NOISE IMPACTS ON THE MARINE TOURISM ACTIVITIES IN THE PORT OF RICHARDS BAY	20
TABLE 7: POTENTIAL NEGATIVE VISUAL AND NOISE IMPACTS FROM THE PORT OF RICHARDS BAY ON THE HOSPITALITY AND TOURISM INDUSTRY	22
TABLE 8: POTENTIAL POSITIVE IMPACTS OF KARPOWERSHIPS ELECTRICITY PROVISION ON THE HOSPITALITY AND TOURISM INDUSTRY IN RICHARDS BAY	23
TABLE 9: POTENTIAL POSITIVE IMPACTS OF ENERGY AND INDUSTRIAL TOURISM ON HOSPITALITY AND TOURISM INDUSTRIES IN RICHARDS BAY	25

1. Introduction

3t Business Fusion has been appointed to undertake the Karpowership SA Tourism Impact assessment study. This study is submitted to provide a review of the potential impact that the Karpowership SA project will have on the Tourism industry in the ports of Ngqura, Saldanha Bay and Richards Bay.

2. Executive Summary

The proposal by Karpowership SA for the development of a gas-to-power Powership in the Port of Richards Bay is seeking to contribute to addressing the electricity shortages in the country. Planning for a reliable and uninterrupted supply of energy, therefore, becomes imperative and necessitates the need to undertake thorough assessments of ecological, cultural, economic and social impacts brought about by this development.

As part of the Environmental Impact Assessment (EIA) process, the tourism impact assessment study seeks to establish the potential impact that the Powership will have at the Port of Richards Bay. It is important to outline that Karpowership SA project entails the generation of electricity by the Powership moored in the port, fuelled with natural gas supplied from a Floating Storage & Regasification Unit (FSRU). The two ships will be moored in the port for the project's contracted 20-year lifespan (as per the RMIPPPP requirements). A Liquefied Natural Gas Carrier (LNGC) will deliver Liquefied Natural Gas (LNG) and offload it to the FSRU approximately once every 20 to 30 days, dependent on power demand which is determined by the buyer. The FSRU stores the LNG onboard and turns the liquid form into gaseous form (Natural Gas) upon demand from the Powership (Regasification). Natural gas will be transferred from the FSRU to the Powership via a subsea and onshore gas pipeline.

Firstly, the study outlines tourism trends globally and locally (South Africa) and also in the 3 provinces where the ports are located to provide an industry situational analysis.

Then, the actual impact assessment on tourism is presented against the elements listed below,

- a. Noise impacts on marine wildlife and tourism activities.
- b. Visual and noise impact on hospitality and tourism industry.
- c. Electricity provision on hospitality and restaurant establishments; and

- d. Energy and industrial tourism.

Lastly, the study provides an analysis of the views of tourism product owners at the 3 ports as solicited through a self-administered survey.

3. Research scope

This study is submitted to provide a review on the potential impact that the Karpowership SA project will have on the Tourism industry in the Port of Richards Bay.

The assessment is based on requirements that arose out of the Minister's Appeal decisions dated 1 August 2022 and comments received from Interested and Affected Parties during the initial EIA phase (2021), in order to address the impacts of the proposed installation of a gas to power project in the Port of Richards Bay on Tourism.

The research scope was agreed to as follows:

- a. An analysis of the tourism industry in South Africa.
- b. Impact on tourism industries within the local context such as fishing, whale watching/ penguins/ hotels/ casinos/ surfing/ game reserves/ nature areas.
- c. Climate Change, Visual Impact and Noise impacts on Tourism in RSA and locally.
- d. The impact of load shedding on tourism.
- e. Quantitative and qualitative assessment of tourism in port and local areas.
- f. Statement on whether the project will have a positive or negative impact on tourism.

4. Tourism trends analysis

Tourism in South Africa has been reeling from the decline in tourism capacity over the last few years. The outbreak of the Covid-19 pandemic had a tremendous and devastating impact on the South African economy. A nationwide lockdown came into effect on 26 March 2020 causing a halt in tourism activity. However, limited tourism activity was introduced as of 1 June 2020.

The loss in volume does not only mean a decrease in tourism business revenue but also impacts job creation as a result of these businesses losing income. This section of the document will review the tourism trends globally, in South Africa and in the KwaZulu Natal province where the Richards Bay port is located.

4.1 Global Tourism trends: Top reasons for travel

The tables below show the various drivers for tourists to travel to Africa over three years, 2019 – 2021. The statistics are split by continent and not by individual countries for easier analysis.

The top reasons why tourists visit Africa are for mainly leisure as well as business purposes. Leisure is represented by the data elements titled **Holidays** and **Visiting friends and relatives (VFR)** and business data elements are titled **MICE (Meetings, Incentives, Conferences and Events)** and other formal business purposes.

Table 1: Global Tourism Trends over three years (2019-2021)

2019									
	Holiday	Shopping Personal	Shopping Business	Business Traveller	MICE	Medical	VFR	Religion	Other
Africa	10,2%	17,7%	12,2%	1,1%	2,1%	0,9%	48,3%	1,8%	5,7%
Asia	33,4%	0,0%	0,1%	14,8%	19,7%	0,3%	21,9%	0,3%	9,5%
Australasia	47,5%	0,2%	0,0%	5,1%	4,9%	0,1%	37,0%	0,6%	4,6%
Central & South America	56,4%	0,0%	0,0%	9,1%	7,6%	0,0%	9,1%	0,0%	17,7%
Europe	60,2%	0,0%	0,1%	7,3%	7,5%	0,2%	18,3%	0,2%	6,1%
Middle-East	55,1%	0,4%	0,1%	5,9%	6,5%	0,1%	26,6%	0,6%	4,8%
North America	58,2%	0,0%	0,0%	6,7%	8,3%	0,2%	16,0%	1,4%	9,2%

2020									
	Holiday	Shopping Personal	Shopping Business	Business Traveller	MICE	Medical	VFR	Religion	Other
Africa	5,8%	15,8%	15,5%	2,9%	2,8%	1,3%	46,7%	0,8%	8,4%
Asia	33,5%	0,0%	0,1%	13,9%	17,8%	0,2%	26,6%	0,7%	7,3%
Australasia	37,1%	0,2%	0,0%	4,1%	4,0%	0,3%	45,5%	0,5%	8,2%
Central & South America	61,3%	0,0%	0,3%	4,8%	9,0%	0,0%	8,0%	0,2%	16,4%
Europe	57,8%	0,0%	0,1%	7,1%	7,2%	0,3%	19,9%	0,3%	7,2%
Middle -East	43,0%	0,0%	0,0%	8,4%	8,6%	0,0%	33,3%	0,0%	6,7%
North America	53,3%	0,0%	0,0%	7,1%	5,7%	0,1%	21,2%	1,7%	10,9%

2021									
	Holiday	Shopping Personal	Shopping Business	Business Traveller	MICE	Medical	VFR	Religion	Other
Africa	6,1%	4,7%	22,4%	19,9%	2,1%	2,1%	31,5%	0,5%	10,8%
Asia	28,7%	0,2%	0,1%	10,4%	11,3%	0,3%	25,6%	0,5%	23,0%
Australia	46,8%	0,2%	0,0%	3,3%	4,1%	0,2%	30,7%	0,2%	14,6%
Central & South America	52,1%	0,0%	0,2%	7,9%	6,6%	0,0%	17,7%	0,2%	15,2%
Europe	51,5%	0,1%	0,1%	6,3%	6,8%	0,2%	26,1%	0,2%	8,7%
M-East	32,7%	0,1%	0,0%	2,0%	4,6%	0,1%	47,9%	1,0%	11,6%
North America	57,2%	0,3%	0,1%	5,5%	4,5%	0,4%	22,5%	1,0%	8,5%

North America is leading as the continent with the most arrivals for leisure purposes over the 3 years under review, followed by Europe and Asia. Below is a highlight of the international arrivals into South Africa.

4.1.1 International Arrivals into SA

The figure above illustrates tourism trends for South Africa throughout all 9 provinces over 5 years (2017-2021). This research will focus its findings on the Kwa-Zulu Natal (KZN) where the Port of Richards Bay is located.

A positive and steady increase in tourism numbers was seen from 2017 – 2019 however as a result of the COVID-19 pandemic arrival numbers declined.

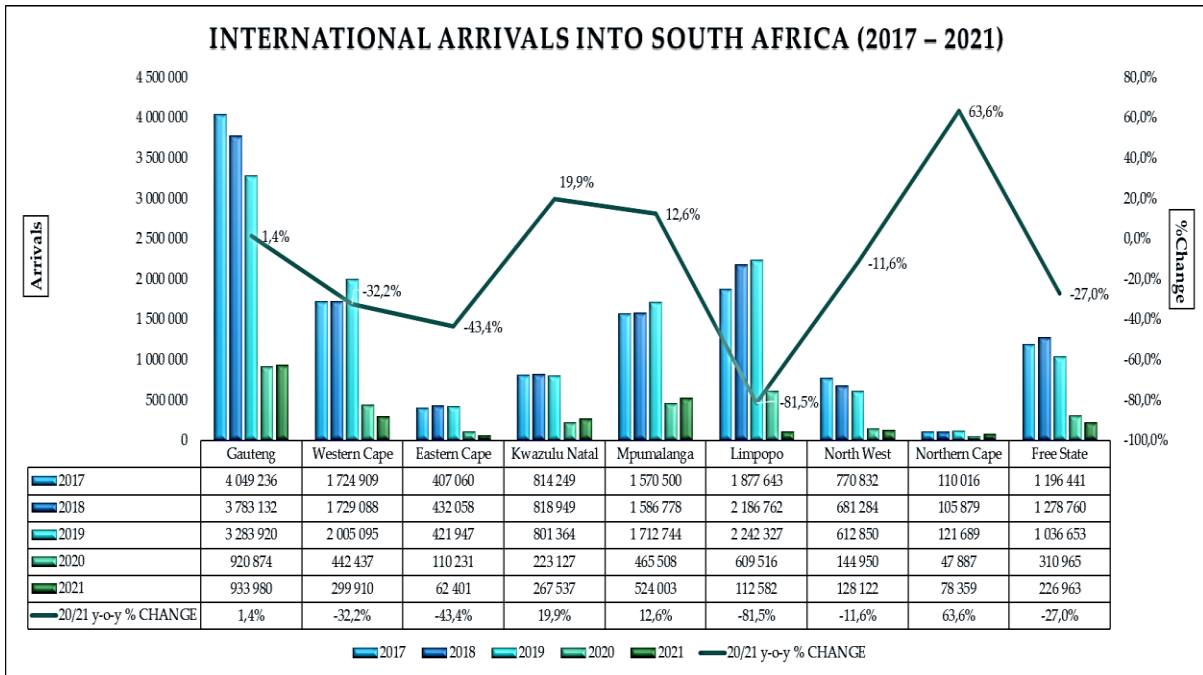


Figure 1: International Arrivals into SA.

Source: South African Tourism (2022)

Section 3.2 reflects the total foreign direct spending for all provinces in South Africa.

4.1.2 International Total Foreign Direct Spend (TFDS)

The Total Foreign Direct Spend value reached over R23 billion in the Western Cape in 2017. R5.8 billion in KZN and R3.3 billion in the Eastern Cape. The numbers have subsequently changed, seeing fluctuations throughout the period under review (2017 – 2021). The Province of Kwa-Zulu Natal (KZN) (35.9%) had the highest year-on-year % change in TFDS recorded in 2021 as compared to all the other 8 Provinces of South Africa.

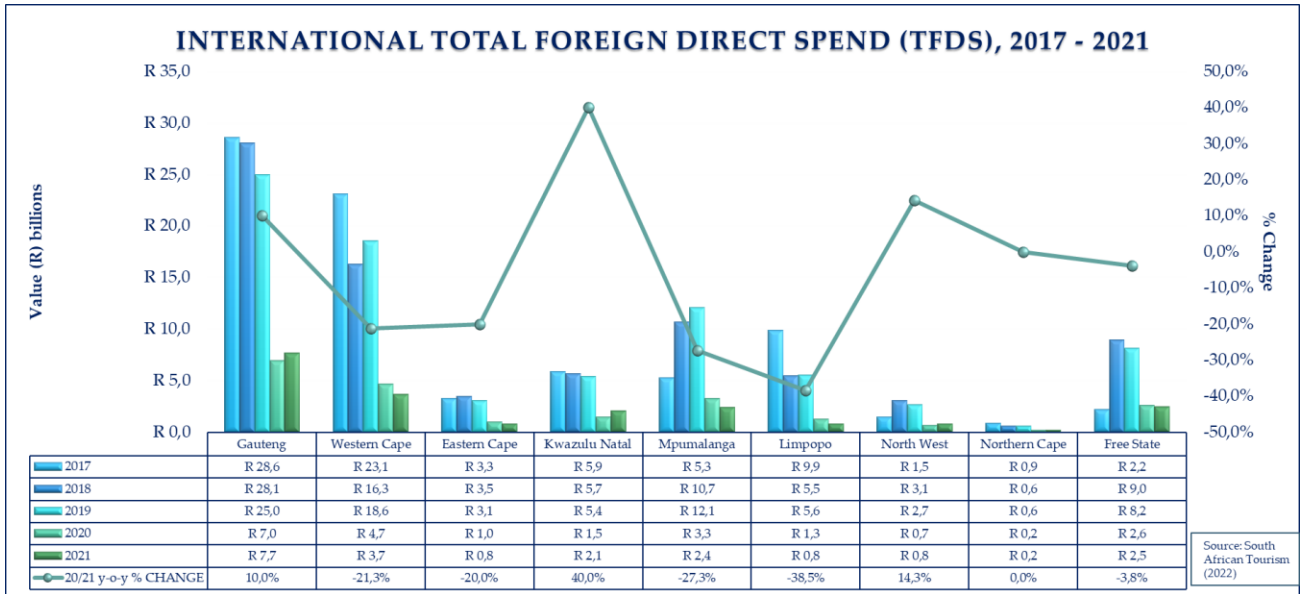


Figure 2: International Total Foreign Spend

Source: South African Tourism (2022)

To understand the trends in tourism in South Africa below is a reflection on the *bed nights spent* across provinces.

4.1.3 International bed-nights spent in SA

Kwa-Zulu Natal continues to show growth with a 34.5% increase in *bed-nights spent* in the province in 2021, moving from 2,034,157 in 2020 to 2,736,387 in 2021.

The Eastern Cape had the highest “*Length of Stay*” in 2021 with 17,7 nights recorded, this was followed by the Western Cape with 16,5 nights and lastly KwaZulu-Natal having 10,5 nights.

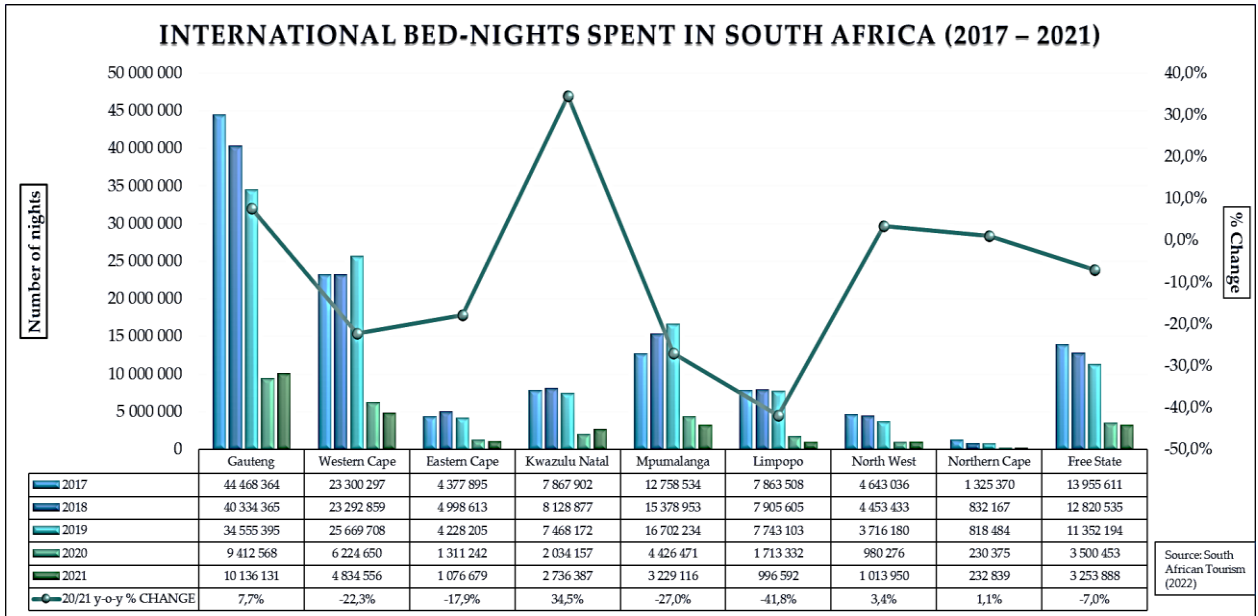


Figure 3: International Bed-nights spent in SA.

Source: South African Tourism (2022)

4.1.4 International Tourists' Length of stay

In 2021, the Western Cape and Eastern Cape had relatively the highest *length of stay* when compared to the rest of the provinces. It is important to acknowledge that all 3 provinces had improved *length of stay* statistics in 2021 in comparison to prior years.

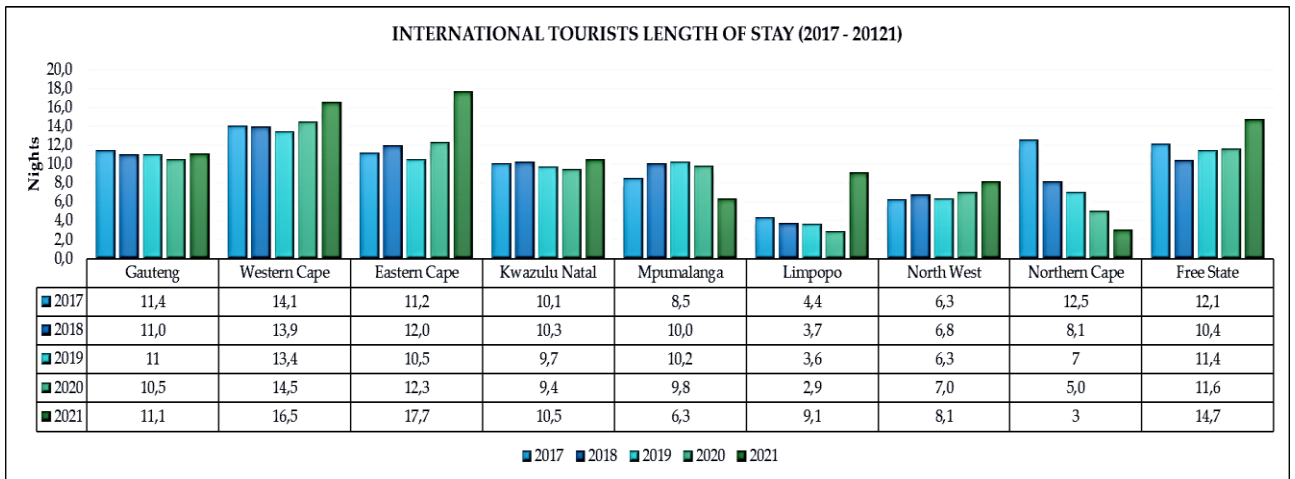


Figure 4: International Tourist Length of stay

Source: South African Tourism (2022)

While noting that highlighting South African and global tourism trends, it is important to review the actual tourism trends in the Kwa-Zulu Natal Provinces where the port is located.

4.2 Kwa-Zulu Natal Province Tourism Analysis

In comparison to the Eastern Cape (EC), the Kwa-Zulu Natal (KZN) province has a high share of tourist arrivals from the *Visiting friends & relatives (VFR)* and *Holiday* segments. However, the *medical tourism* segment had a high share of arrivals in 2021 with over 200,000 arrivals as compared to 20,000 in 2020. This increase can be attributed to the demand for medical assistance as a result of the Covid-19 pandemic.

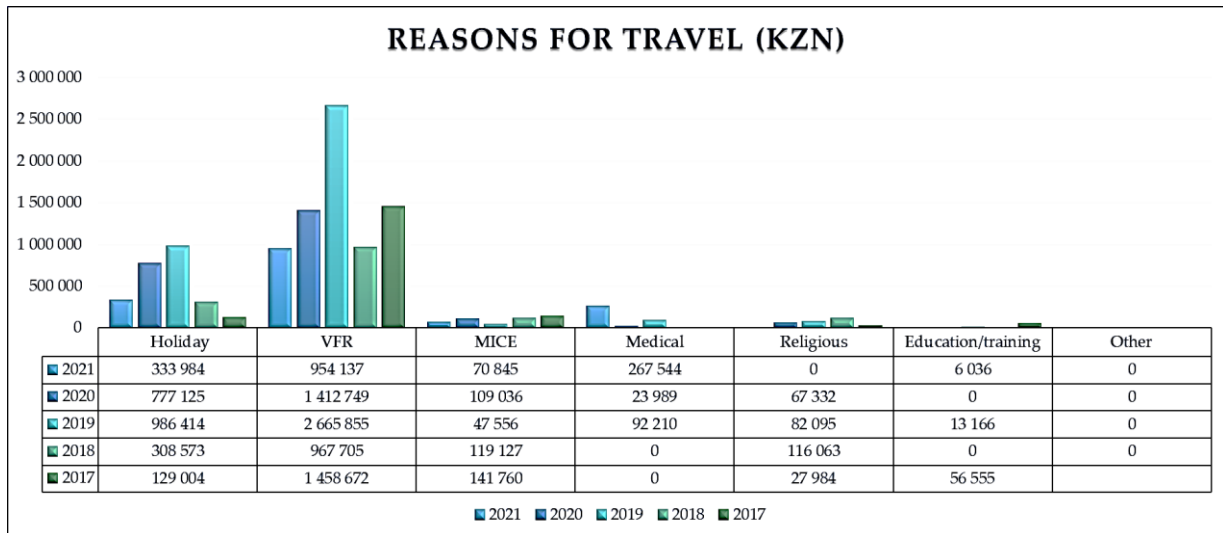


Figure 5: Reasons for Travel (KZN)

(Source: South African Tourism 2022)

4.2.1 Richards Bay Tourism

This section provides a summary of tourism in the Richards Bay area where the port is located. The Richards Bay port is located in the City of uMhlatuze Local Municipality. According to the IHS (2020) report, the number of trips by tourists visiting the City of uMhlatuze Local Municipality from other regions in South Africa has decreased at an average annual rate of - 5.75% from 2009 (259,000) to 2019 (143,000).

International tourists constitute 22.72% of the total number of trips, with domestic tourism representing the balance of 77.28% in 2019. On a positive note, KZN province continues to show growth in figures with a 34,5% increase in *Bed-Nights spent* in 2021, moving from 2,034,157 in 2020 to 2,736,387 in 2021.

**Tourism - trips by Purpose of trip
City of uMhlathuze Local Municipality, 2019**

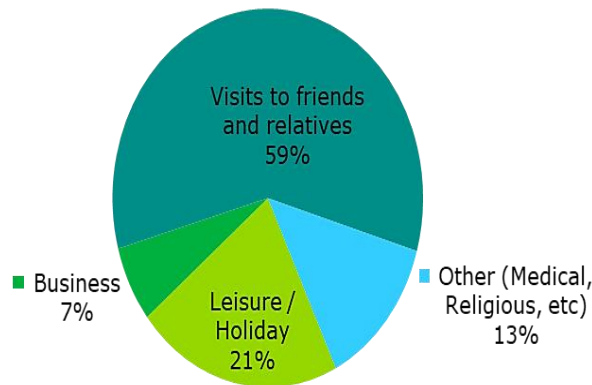


Figure 6: City of uMhlathuze LM_Tourism trips by purpose

4.2.2 Tourism spending as a share of GDP

- The tourism spending in the City of uMhlathuze Local Municipality, as a percentage of GDP in 2019 was 6.3%, as seen below.
- This assessment indicates how important tourism is to the local economy. An important note about this variable is that it does not reflect what is spent in the tourism industry of that region, but only what is spent by tourists visiting that region as their main destination.
- The City of uMhlathuze Local Municipality is part of the King Cetshwayo District Municipality. Tourism spending as a percentage of GDP for 2019 was 4.8% in King Cetshwayo District Municipality and it was 5.6% in the KwaZulu-Natal Province as a whole.
- Tourism spending in South Africa had a total percentage share of GDP of 5.6% in 2019.

Table 2: Tourism contribution to GDP for City of uMhlathuze LM.

Year	City of uMhlathuze	King Cetshwayo	Kwa-Zulu Natal	National Total
2009	8.4%	6.3%	6.6%	6.1%
2010	8.5%	6.3%	6.7%	6.1%
2011	8.2%	6.0%	6.3%	5.8%
2012	8.6%	6.3%	6.5%	6.1%
2013	8.8%	6.3%	6.4%	6.2%
2014	8.8%	6.3%	6.5%	6.3%
2015	6.5%	5.1%	5.7%	5.7%
2016	7.0%	5.4%	6.1%	6.1%
2017	6.7%	5.1%	5.9%	6.0%
2018	6.3%	4.8%	5.5%	5.6%
2019	6.3%	4.8%	5.6%	5.6%

Source: IHS Market: Statistical Overview (2020)

4.2.3 Provincial Comparison of Tourism activities

When comparing the 3 Provinces being reviewed the Eastern Cape had the highest “Length of Stay” in 2021 with 17,7 nights recorded, this was followed by the Western Cape with 16,5 nights and lastly KwaZulu-Natal with 10,5 nights.

The following section provides the top 10 activities enjoyed by travellers when visiting the various provinces under review in the report. Eating out and shopping were the leading activity amongst travellers, followed by outdoor and social activities as tabulated below

Table 3: Comparison of top activities in the 3 provinces

No	Activity	Eastern Cape	Kwa-Zulu Natal	Western Cape
1	Adventure	12 410	13 447	97 069
2	Beach	24 709	53 356	144 188
3	Business	4 056	10 809	-
4	Collecting Goods	-	34 219	-
5	Cultural, historical and heritage	9 746	14765	74445
6	Eating out	45 755	123 072	238 712
7	Entertainment	4 441	-	32 623
8	Nightlife	-	-	28 026
9	Shopping	31 674	128 904	177 524
10	Social	21 831	48 789	116 223
11	Visiting natural attraction	25 784	29 826	151 391
12	Wildlife	26 384	24 240	82 973

4.3 Impact of Power outages (load-shedding) on Tourism in SA

Businesses in South Africa are already feeling the impact of the power outages (load shedding), especially on an operational level. Load shedding directly affects operators, clients and agents in the tourism industry (Du Toit, 2019, Goldberg, 2016). The power outages affect mobile network coverage and access to online booking systems which further hampers the ability to handle incoming online requests and queries for businesses (Du Toit, 2019, Goldberg, 2016).

According to South African Tourism (2022) report, it had been estimated in 2016 that SA’s tourism industry contributed around 3% of GDP employing more than 720,000 people, representing at least 4,5% of the South African workforce.

When it comes to creating employment, the tourism sector has remained resilient despite tough economic conditions. Tourism generated almost 32,000 new net new jobs in 2017 (Stats SA, 2017). With the number of international tourists visiting South African shores increasing

from 12,5 million in 2017 to 12,6 million in 2019 (Figure 1), the tourism sector looked set to remain an important driver of job growth.

However, this positive trajectory was tainted by the Covid-19 pandemic. According to the statistics presented in Figure 1 above on international arrivals, foreign arrivals dropped from 12.3 million in 2019 to less than 3 million in 2021.

However, this positive trajectory was tainted by the Covid-19 pandemic. According to the statistics presented in section 4.1 above on international arrivals, foreign arrivals dropped from 12.3 million in 2019 to less than 3 million in 2021.

The size of the economy is now at pre-pandemic levels, with GDP slightly higher than what it was before the Covid-19 pandemic. South Africa's gross domestic product (GDP) expanded by 1.9% in the first quarter of 2022, representing a second consecutive quarter of upward growth (Stats SA, Tourism 2022). However, after two consecutive quarters of positive growth, real GDP decreased by 0.7% in the second quarter of 2022. The devastating floods in Kwazulu-Natal and load shedding contributed to the decline, weakening an already fragile national economy that had just recovered to pre-pandemic levels. Trade, catering & accommodation was negatively impacted by both the floods in KwaZulu-Natal and power cuts across the country (Stats SA, 2022). The industry recorded a contraction of 1.5% as floods damaged retail outlets and storage facilities. There was also a loss of trading hours due to load shedding (Stats SA, 2022).

The increase in population in recent years has put a lot of pressure on Eskom as the principal supplier to provide electricity to the majority of South Africans. (Makgopa & Mpetsheni, 2022). The drivers contributing to the energy deficit may be due to factors such as significant loss of vital skills, poorly maintained infrastructure, corruption, vandalism and theft of Eskom equipment and deficient labour, resulting in load shedding that has been going on for years (Du Toit 2019, Botha, 2019; Lenferna, 2021). The dynamics and complex impact of load shedding coupled with cumulative impacts from Covid-19 resulted in devastating impacts on South Africans in general and businesses across all industries including tourism and hospitality (Goldberg (2016).

The small businesses including the hospitality facilities were adversely affected due to the lack of financial support to provide backup power such as generators and solar power (Steenkamp *et al.* 2016, Duminy, 2019). The South African economy could be 10% larger if Eskom worked properly according to Dawie Roodt (businessstech.co.za).

The impacts of load shedding on business in South Africa can already be felt, with a lot of businesses closing down, resulting in job losses (Mthimkhulu (2021, Baigrie *et al.* 2020). The effects of power outages and the grid's total collapse would possibly result in greater economic mayhem than the pandemic did in 2020 and 2021 (Swilling 2022). As recently as 9 March 2022, the Mayor of Cape Town listed load shedding as one of the challenges hampering the recovery of the tourism industry from the debilitating impacts of the COVID-19 pandemic (Githahu, 2022).

5. Methodology and Assessment Approach

The study was undertaken to establish the impact of load shedding at both national and local scales. At a local scale, the receiving environment (Port of Richards Bay) was delineated using high-resolution images within the Google Earth Pro programme mainly from Maxar technologies responsible for WorldView 1-3, and GeoEye with less than 1m resolution from 2020 to 2022. Adjacent remote areas such as nature reserves, national parks, private game reserves, and hotels were identified and the possible impact such as visual and noise pollution, sense of place, and any other tourism activities that may be impacted by the development were identified based on literature and use of technologies such as the Google Earth Programme.

5.1 Polycentric integrated specialist reports considered in the assessment

A polycentric approach to the proposed project requires the holistic consideration of all relevant factors, inclusive of potential impacts that the proposed project could have on the local as well as the broader community. Section 2(4)(b) of the National Environmental Management Authority (NEMA) states that *Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.* Sustainable development as per the NEMA requires the integration of social, economic, and environmental factors in the planning, implementation, and evaluation of proposed projects, to ensure that development serves the needs of present and future generations.

This specialist assessment considered both the positive and negative impacts of actual and potential impacts on the geographical, physical, biological, social, economic, and cultural aspects of the environment in a polycentric and holistic approach:

- To ensure that all aspects are weighed up against each other.
- To identify the risks and consequences of alternatives and options for mitigation of activities, to minimise negative impacts, maximise benefits, and promote compliance with the principles of environmental management as set out in section 2 of NEMA.

A specialist integrative workshop and weekly meetings were held during the EIA process where specialists raised matters to be considered by the specialist team and also verified technical information to prevent any discrepancies and where relevant, to coordinate approaches. This approach ensured that

- there are no gaps created in the various specialist reports and provide a holistic picture of the project.
- allows for a polycentric assessment of environmental and socio-economic impacts to be conducted.
- for the identification of appropriate mitigations and recommendations for potential negative impacts; and
- the maximisation of positive impacts and the value of the project to society.

5.1.1 Significance Ranking Matrix

To determine the significance of each impact identified, the following ranking criterion was applied to each impact identified (Table 4):

Table 4: The ranking criterion applied to each potential impact identified

Ranking	Magnitude	Reversibility	Extent	Duration	Probability
5	Very high	Irreversible	International	Permanent	Certain/Inevitable
4	High		National	Long-term (impact ceases after an operational life of an asset)	Almost certain
3	Moderate	Reversible with human intervention	Provincial	Medium-term	Can occur
2	Low		Local	Short term	Unusual but possible
1	Minor	Completely reversible	Site bound	Immediate	Extremely remote
0	None		None		None

Significance = Consequence (Magnitude + Duration + Extent + Reversibility) X Probability wherein the following applies:

The Magnitude of the impact. This will be quantified as either:

- Low: will cause a low impact on the environment
- Moderate: will result in the process continuing but in a controllable manner
- High: will alter processes to the extent that they temporarily cease, and
- Very High: will result in complete destruction and permanent cessation of process

The Probability: which shall describe the likelihood of impact occurring and will be rated as follows:

- Extremely remote: which indicates that the impact will probably not happen
- Unusual but Possible: distinct possibility occurrence
- Can Occur: there is a possibility of occurrence
- Almost Certain: Most likely to occur, and
- Certain/ Inevitable: impact will occur despite any measures put in place

The duration (Exposure): wherein it will be indicated whether:

- The impact will be immediate
- The impact will be a short-term (between 0-5 years)
- The impact will be medium-term (between 5-15 years)
- The impact will be long-term (15 years and more years), and
- The impact will be permanent

Reversibility/ Replaceability: the degree to which the impact can be reversed, or the lost resource replaced.

To ensure consistent application of the rating scale in assessing the impact of the data elements at each port, the significance rating shown on Table 5 will be used.

Table 5: The significance rating scale

Significance Rate	Description	Score
Low	An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in either positive or negative medium to short term effects on the social and/or natural environment.	4-8
Moderate	An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in either a positive or negative medium to long-term effect on the social and/or natural environment.	9-12

Significance Rate	Description	Score
High	A serious impact, if not mitigated, may prevent the implementation of the project (if it is a negative impact). These impacts would be considered by society as constituting a major and usually a long-term change to the (natural &/or social) environment and result in severe effects or beneficial effects.	13-16
Very High	A very serious impact which, if negative, may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very severe effects, or very beneficial effects.	17 -20 and above

5.1.2. Limitations

- The scale of the project and length of time available as part of the legislated timeframes for the site visit was challenging. Though questionnaires were sent to different municipalities, hospitality and tourism sectors, fewer responses were received than would be ideal due to report submission timeframes (refer to section 7).
- However, the statistical data and literature search methodology used, provide enough data to undertake the significance matrix assessment.
- Other specialists' assessments undertaken in the three ports provided valuable findings to make informed tourism impact assessments, though research gaps are also acknowledged were applicable.

6. Tourism Impact Assessment Results

Over the last 20 years, it has become increasingly evident from focused research that noise from human activities in and around underwater environments can have an impact on the marine species in the area. The extent to which intense underwater sound might cause adverse impacts in species is dependent upon the incident sound level, source frequency, duration of exposure, and/or repetition rate of an impulsive sound (see, for example, Hastings and Popper, 2005). Marine mammals use sound as a primary means of underwater communication and sensing. They emit a sound to communicate regarding the presence of danger, food or other animals, and about their position, identity, and reproductive or territorial status. Whales communicate using low-frequency acoustic signals which allow interaction over large distances. Noise in the ocean including from large ships or offshore mining activities can overlap with these acoustic signals used by humpback whales has been reported to induce habitat displacement, behavioural changes and alterations in their acoustic signals. Relevant specialist reports must be referred to for a holistic assessment of the project as this report will focus only on the impacts on Tourism activities.

6.1 Noise Impacts on Marine Wildlife and Tourism Activities

Kwazulu-Natal's marine life is very rich and diverse making whale watching and sea-fishing an enormously popular activity along the entire KwaZulu-Natal coastline. Several charters are on offer in Richards Bay which enable one to see Humpback whales, Sperm whales, sharks, and various species of dolphins. There are no tourism activities of note inside the port itself by virtue of strict access control within a national key point area.

From the end of May till the beginning of December, the Humpback Whales migrate past the Kwa-Zulu Natal Coastline, and whale-watching cruises with a legal permit are allowed to go as close as 50m from the Humpback Whales. Richards Bay is also one of the few places on earth where the pink-backed pelican can be witnessed, together with cormorants and flocks of flamingos.

In relation to the expected impact on marine wildlife, the results of the underwater assessment of the proposed Gas to Power Powership Project in the Port of Richards Bay indicate that noise levels during the operational phase will be below the ambient noise levels (Manson & Midforth 2022).

The construction-related noise impacts will also be of very low significance and the effect on baseline noise will be negligible where the Powership is operating at low power, which was found to be typical during the survey of the operational Powership in Ghana. (Manson & Midforth 2022). Based on this assessment, no significant impacts on fish or marine mammals are predicted because of the operation of the Powership as it will not materially change existing underwater noise associated with the port.

As described in the underwater noise assessment by Manson & Midforth (2022), the proposed Karpowership has noise mitigation built into the design of the ship, reducing any potential noise emission from the machinery on board. Specifically for the control of underwater noise, this includes resilient anti-vibration mounts for machinery that minimise the transfer of structure-borne noise to the hull to escape to the surrounding water.

The High-frequency (HF) cetaceans (dolphins) are most likely to be present in the Port of Richards Bay, which are considerably less sensitive to the adverse effects of noise. However, for the noise to have a significant impact, the dolphins would need to remain extremely close

to any of the sources to obtain a noise exposure sufficient to lead to Temporary Threshold Shift (TTS). Therefore, the application of any noise mitigation is not deemed to be appropriate.

Table 6: Potential negative noise impacts on the marine tourism activities in the Port of Richards Bay

Ranking	Without Mitigation	No Mitigation Required
Magnitude	Minor (1)	
Reversibility	Completely reversible (1)	
Extent	Site bound (1)	
Duration	Immediate (1)	
Probability	Extremely remote (1)	
Consequence = Magnitude + Reversibility + Extent Duration	= 1+1+1+1 = 4	
Significance = Consequence (Magnitude + Reversibility + Extent Duration) x Probability	= (1+1+1+1) x 1 = 4	
Can impacts be mitigated	No	

The significance impact on marine tourism is low to insignificant (Table 6). The noise levels produced by the ships associated with the Karpowership project are not substantially different to the noise levels produced by ships typically using the harbour and will not negatively affect the wider bay or the species of marine mammals and fish in it (Manson & Midforth, 2022). No mitigation measures required.

6.2 Visual and Noise Impact on Hospitality and Tourism Industry

Richards Bay accommodation and all of the regular amenities and shopping malls make it a town that has much to offer to visitors. In addition, the town is within comfortable driving distance of the Zulu cultural attractions and Zululand game park attractions which make Zululand such a popular tourist destination. Accommodation in Richards Bay, which is only 20km east of Empangeni, attracts tourists from all over South Africa and around the world, due to the industrial and tourist opportunities that the Richards Bay area has to offer.

Richards Bay Hotels offers various types of accommodation, and most are rated to at satisfactory standards. The Richards Bay Bon Hotel Waterfront, Premier Hotel, the Richards, Imvubu lodge, and Indaba Lodge are some of the hotels closer to the Port of Richards Bay, approximately 6.3 km away.

Richards Bay Port is South Africa's largest port and is now home to several industries making Richards Bay a large, successful industrial town. Richards Bay is the largest commercial

centre in the region, and a springboard for tourists visiting the wildlife, wetlands, beach and cultural attractions surrounding the town.

The closest reserves to the Port of Richards Bay are Enseleni Nature Reserve and Richards Bay Game/Nature Reserve. Richards Bay Game/nature Reserve lies less than 1km to the southwest of the site, and the Enseleni Nature Reserve is located approximately 10km to the north of the site. These are two nature reserves within 20km to the City of Umhlatuze (Richards Bay and Empangeni) that allows easy access to the general public. A significant portion of the Nseleni River flows along the eastern and northern boundary of Enseleni Nature Reserve. Nseleni River plays an important ecological role in water storage and regulation to Lake Nsezi which not only provides an important refuge for global migrating water bird species but also supplies potable water to the City of uMhlatuzi (Richard's Bay and Empangeni).

The results of the noise impact assessment of the proposed Gas to Power Powership indicate that noise levels during the operational phase will be below the ambient noise levels (Manson & Midforth 2022). The construction-related noise impacts will also be of very low significance and the effect on baseline noise will be negligible where the Powership is operating at a low power, which was found to be typical during the survey of the operational Powership in Ghana.

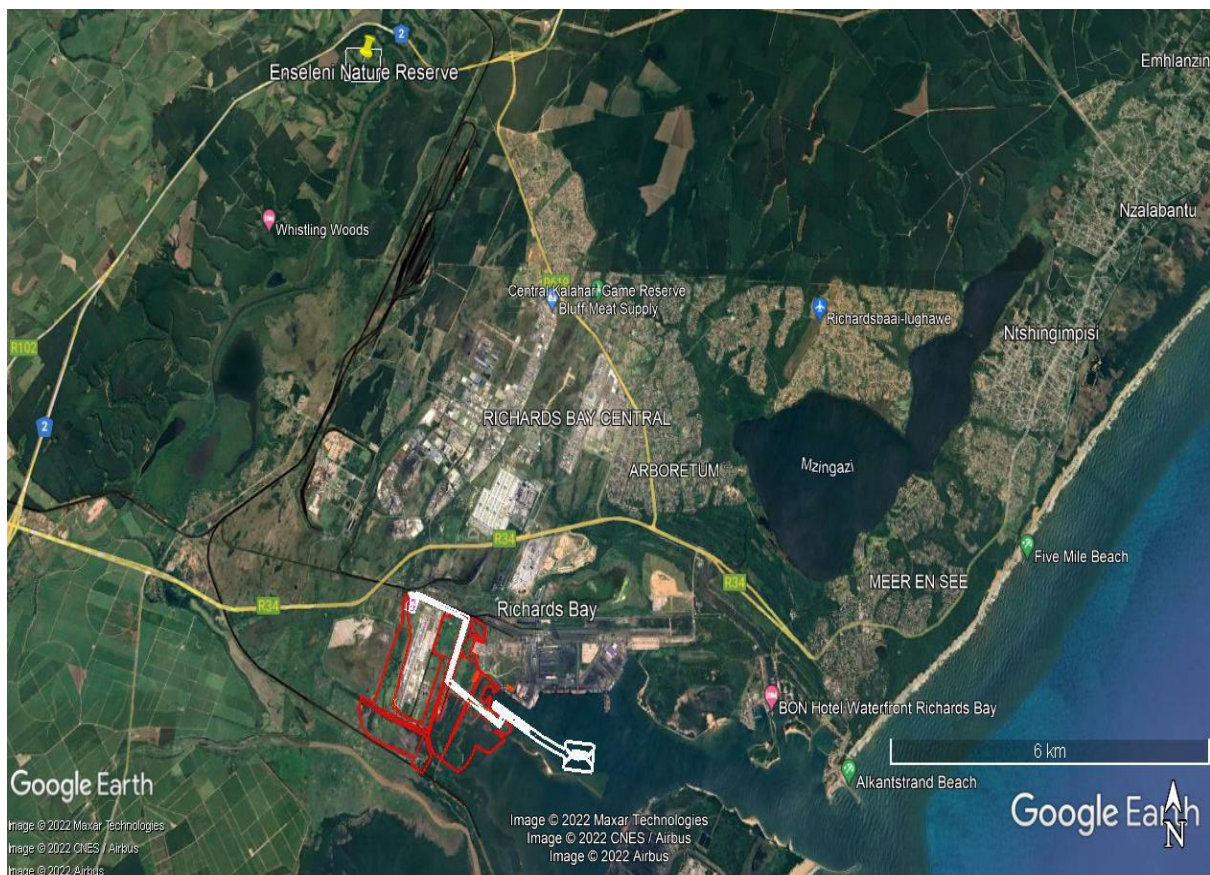


Figure 7: Richard's Bay Port location (red polygon) in proximity to the nature reserve and hotels

Table 7: Potential negative visual and noise impacts from the Port of Richards Bay on the Hospitality and Tourism Industry

Ranking	Without Mitigation	No mitigation Required
Magnitude	None (0)	
Reversibility	Completely reversible (1)	
Extent	Site bound (1)	
Duration	Immediate (1)	
Probability	Extremely remote (1)	
Consequence = = Magnitude + Reversibility + Extent Duration	= 0+1+1+1 = 3	
Significance = Consequence (Magnitude + Duration +Extent +Reversibility) x Probability	= (0+1+1+1) x 1 = 3	
Can impacts be mitigated	No	

The significant impact is low to insignificant (Table 7) as the Powerships are placed in an existing operational port and views of the harbour and ships are part of the port landscape. The tourists from the reserves and the hotels cannot see the vessels in the Port of Richards Bay and therefore the sense of place won't be negatively impacted. No mitigation measures are required.

6.3 Electricity Provision on Hospitality and Restaurant establishments

Several studies on the impact of load shedding on the tourism sector suggest that the health and viability of the tourism and hospitality industry is key for the stimulation of national economic growth (Steenkamp *et al.* 2016). Small businesses such as Bed and Breakfasts (B&B's) and Guesthouses are therefore most likely to be negatively affected by load shedding as their survival was regarded as hanging in the balance (Mokwena, 2021, Banda *et al.*, 2020 and van Niekerk, 2020).

The continuous power outages may also have a negative impact on the tourism and hospitality industry, resulting in a decline in both local and international visitors (Sefako-Musi 2019). The continuous power outages brought about by Eskom in the country are having adverse impacts on Small to Medium Enterprises (SMMEs), especially in the accommodation and restaurant sectors. The majority of these businesses do not have sufficient financial reserves to absorb the losses incurred through load shedding and more often have had to resort to extreme measures to remain viable and competitive (i.e., job cuts and business closure). The usage of

alternative power supplies such as generators and solar power are options for few businesses but in general, the cost implication for these businesses is unsustainable over the long term

The biggest concerns from the Small to Micro Medium Enterprises (SMMEs) are that small businesses in the hospitality sector already face the uncertainty of seasonal revenue fluctuations and the power outages are worsening the situation as they now need to contend with the added insecurity of load shedding. These factors paint an accurate picture of the stresses faced by the larger SMME community in South Africa.

This assessment focuses mainly on the impact of the Karpowership development of gas-to-power Powerships at the Port of Richards Bay on the hospitality and tourism sectors. However, impact assessments such as the socio-economic, noise on fauna, and underwater noise, are interlinked, and the cross-linkages will be highlighted where applicable. The table below summarises the consequence and significant impacts.

Table 8: Potential positive impacts of Karpowerships electricity provision on the hospitality and tourism industry in Richards Bay

Ranking	Without Mitigation	With Mitigation
Magnitude	Low (2)	Moderate (3)
Reversibility	Completely reversible (1)	Moderate (3) – Reversible with human intervention
Extent	Local (2)	Provincial (3)
Duration	Immediate (1)	High (4) – 15 years and more
Probability	Can occur (3)	Can occur (3)
Consequence = Magnitude + Duration + Extent + Reversibility	2+1+2+1 = 6	= 3+3+3+4 = 12
Significance = Consequence (Magnitude + Duration + Extent + Reversibility) x Probability	= (2+1+2+1) x 3 = 18	= (3+3+3+4) x 3 =39
Can impacts be mitigated	Yes	

The provision of energy will have a very high positive impact (Table 8) in the hospitality and tourism industry (i.e., savings on fuel for generators) and a general increase in GDP in the province as tourists will stay longer in the establishments and dine for longer periods as there will be no power cuts. During the construction phase, it is likely that construction workers coming from outside of the area may wish to be accommodated in the B&B's, hotels, or self-catering accommodation, resulting in a positive impact on tourism.

6.3.1 Mitigation measures

The provision of power supply from the Karpowership will positively benefit the hospitality and restaurant establishments in the area (i.e., savings on fuel for generators) and a general increase in GDP in the province as tourists will stay longer in the establishments and dine for longer periods as there will be no power cuts. During the construction phase, it is likely that construction workers coming from outside of the area may wish to be accommodated in the B&B's, hotels, or self-catering accommodation, resulting in a positive impact on tourism.

6.4 Energy and Industrial Tourism

In addition to marine tourism activities such as charters and conservation tourism products, the demand for tourism with special interest (such as energy tourism) is likely to increase across the globe (Alekseeva & Katarína Hercegová 2021). Energy tourism for example is one of the less-researched fields of tourism. The area proposed for the development as well as its surrounds is currently an industrial area with several, large buildings and surrounding powerlines. These structures have a similar visual footprint to the proposed Powerships and their related infrastructure. With the remarkable increase in tourism development products, the demand for tourism with special interest (such as energy tourism) is likely to increase across the globe (Alekseeva & Katarína Hercegová 2021). Energy tourism for example is one of the less-researched fields of tourism. This type of tourism includes visits to the energy facilities and locations such as factories, mines, renewable energy sites and power stations such as in the Richards Bay port.

The majority of South Africans across the cultural divide have never seen a Powership and do not know what it looks like. There is a strong possibility that some segments of tourists would want to view a Powership and its associated FSRU when they are in the harbour. This might be a promising and emerging type of tourism that will likely grow due to the ongoing industrialization and expenditure of energy-generating facilities envisaged for meeting the growing demand for energy all around the world (Alekseeva & Katarína Hercegová 2021).

The table below reflects the positive effects that can be brought about by marketing the highly developed industrial (i.e., Port of Richards Bay) as part of the marine tourism sites. For example, Volga River in Russia, is the only hydropower station in the world that has a highway built over its roof and is one of the local tourist attractions visited by thousands of people every year in Russia.

Table 9: Potential Positive Impacts of Energy and Industrial Tourism on Hospitality and Tourism Industries in Richards Bay

Ranking	Without Mitigation	With Mitigation
Magnitude	Minor (1)	Minor (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Extent	Site bound (1)	Local (2)
Duration	Immediate (1)	Medium term (3)
Probability	Extremely remote (1)	Extremely remote (1)
Consequence = Magnitude + Reversibility + Extent Duration	= 1+1+1+1 = 4	= 1+1+2+3 = 7
Significance = Consequence (Magnitude + Reversibility + Extent Duration) x Probability	= (1+1+1+1) x 1 = 4	= (1+1+2+3) x 1 = 7

The significant impact of Karpowerships on energy and industrial tourism is low to insignificant (Table 9) as visitors are not allowed into the port to view the Powerships because of the breakwater and vessel traffic entering and leaving the port. However, the limited view from the ocean side may still have positive spinoffs.

6.4 1 Mitigation Measures

Mitigation measures include changing people’s perception of traditional tourism (visiting national parks, reserves, and beaches) to embracing new tourism products such as energy tourism. Energy tourism can have a remarkable positive impact on the economy of the Kwa-Zulu Natal Province.

Different charters providing marine activities mostly from Richard’s Bay will most probably include the Powerships as part of their discovery and exploratory sites. However, it is acknowledged that Transnet National Ports Authority (TNPA) will not change its existing policy of strict access into the port by allowing visitors to view the Powerships because of the breakwater and vessel traffic entering and leaving the port, although the limited view from the ocean side may still have positive spinoffs.

7. Survey results (Primary data collection)

A self-administered survey was conducted to determine the potential impact of the Karpowership SA initiative on Tourism Product Owners located at the 3 ports.

A total of 94 emails were distributed. The response rate is shown below in Figure 9, indicating that 19 of the 54 opened emails translated into actual responses.

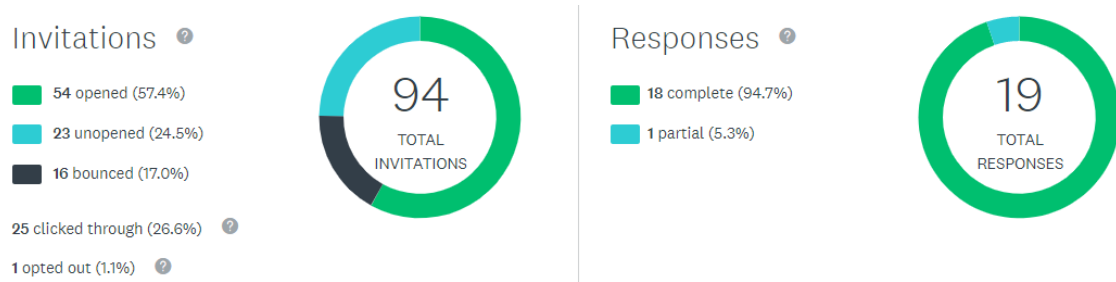


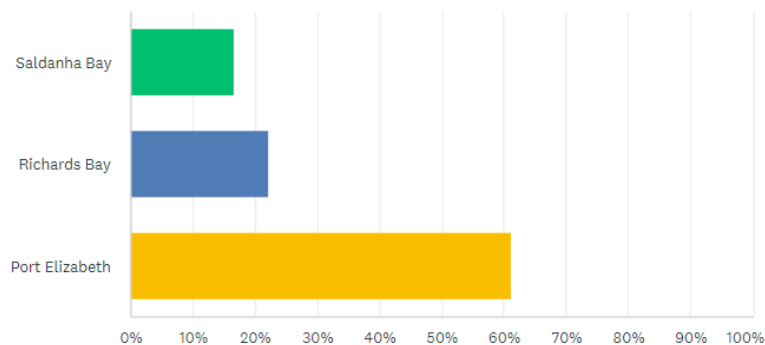
Figure 8: Survey response rate

7.1 Profile of Survey respondents

Figure 10 indicates that 61% of the responses collected are from Tourism Product owners located in Port Elizabeth while the least responses were from Product owners located in Saldanha Bay representing 16.7%.

Which town is your business located in?

Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES
Saldanha Bay	16.67% 3
Richards Bay	22.22% 4
Port Elizabeth	61.11% 11
TOTAL	18

Figure 9: Location of survey respondents

The tourism product categories of the survey respondents are represented in Figure 11. The majority of respondents are in the Accommodation category representing 42% of all respondents. The least responses were collected from the Restaurant and Nature Reserves/ Parks product categories, each representing 5% of the responses.

ANSWER CHOICES	RESPONSES	
Accommodation/ Conferencing/ Camping	42.11%	8
Tour operators	15.79%	3
Marine services	10.53%	2
Boat services	0.00%	0
Restaurant/ Eatery	5.26%	1
Nature reserves/ Game parks	5.26%	1
Adventure tourism	21.05%	4
TOTAL		19

Figure 10: Tourism categories of survey respondents

Figure 12 below highlights that the majority of product owners have been in business for 15 years or longer. It can therefore be assumed the responses collected are from product owners who have a relatively good understanding of the tourism industry and an appreciation of the issues that impact that industry.

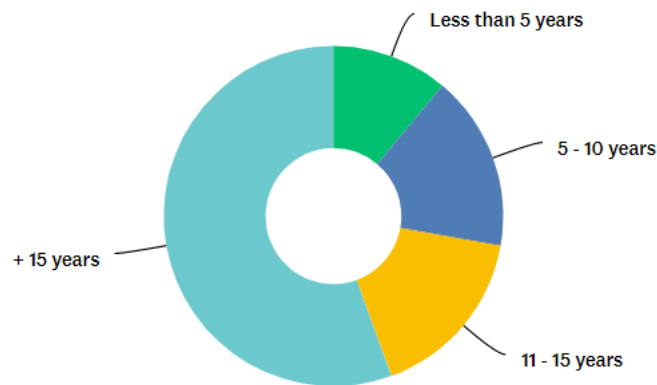


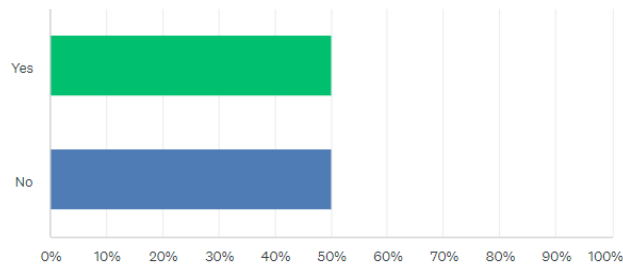
Figure 11: Numbers of business operations of respondents

7.2 Analysis of results

50% of the respondents indicated that they had heard of the Karpowership SA initiative and its objective as shown in Figure 13.

Have you heard of the Karpowership SA project - the initiative to create alternative energy from floating ships in the port?

Answered: 18 Skipped: 1



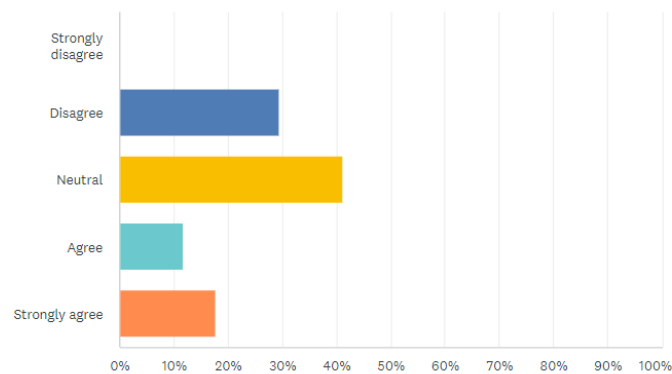
ANSWER CHOICES	RESPONSES	
▼ Yes	50.00%	9
▼ No	50.00%	9
TOTAL		18

Figure 12: Respondents' knowledge of Karpowership SA

While 50% of the respondents acknowledged knowing about the Karpowership SA initiative, 41% of the respondents indicated a neutral view when asked if they thought the initiative would have negative consequences on tourism as indicated in Figure 14. This could be indicative of the lack of understanding of the objectives of the initiative.

Do you think that having such an addition to the port will have NEGATIVE CONSEQUENCES on tourism?

Answered: 17 Skipped: 2



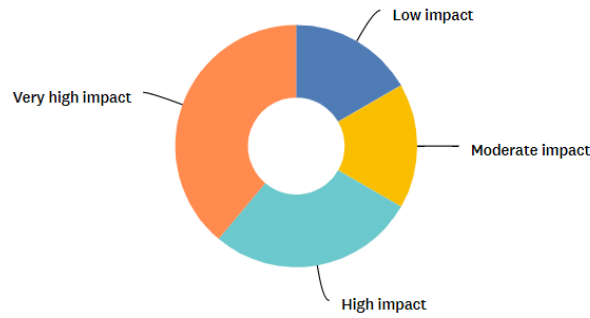
ANSWER CHOICES	RESPONSES	
▼ Strongly disagree	0.00%	0
▼ Disagree	29.41%	5
▼ Neutral	41.18%	7
▼ Agree	11.76%	2
▼ Strongly agree	17.65%	3
TOTAL		17

Figure 13: Impact of Karpowership initiative to Tourism

When asked about the impact of load shedding on tourism, 38.9% of respondents indicated that there was a very huge impact of load shedding on tourism as presented in Figure 15.

Has load shedding affected tourism in your area?

Answered: 18 Skipped: 1



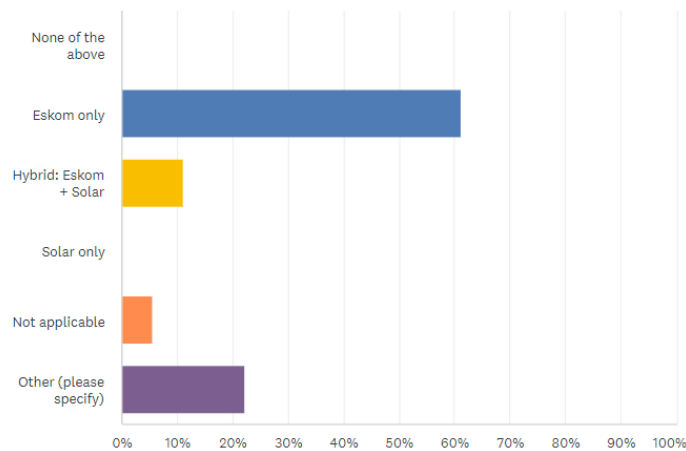
ANSWER CHOICES	RESPONSES	
▼ No impact	0.00%	0
▼ Low Impact	16.67%	3
▼ Moderate impact	16.67%	3
▼ High impact	27.78%	5
▼ Very high impact	38.89%	7
TOTAL		18

Figure 14: Impact of load shedding on tourism in the area

It is important to acknowledge that 61% of the respondents indicated that they solely depend on Eskom power provision while the rest indicated the use of hybrid power supply which includes the use of solar-generated power, gas and generators as shown in Figure 16.

What is the main electricity/ energy source for your business?

Answered: 18 Skipped: 1



ANSWER CHOICES	RESPONSES
None of the above	0.00% 0
Eskom only	61.11% 11
Hybrid: Eskom + Solar	11.11% 2
Solar only	0.00% 0
Not applicable	5.56% 1
Other (please specify) Responses	22.22% 4

Figure 15: Energy types used by Product owners

It can be assumed that the negative impact of load shedding is offsetting the growth of the tourism sector as noted below. More than 60% of the respondents indicated that growth was on a positive trajectory as shown in Figure 17.

How would you rate tourism growth in your area?

Answered: 18 Skipped: 1

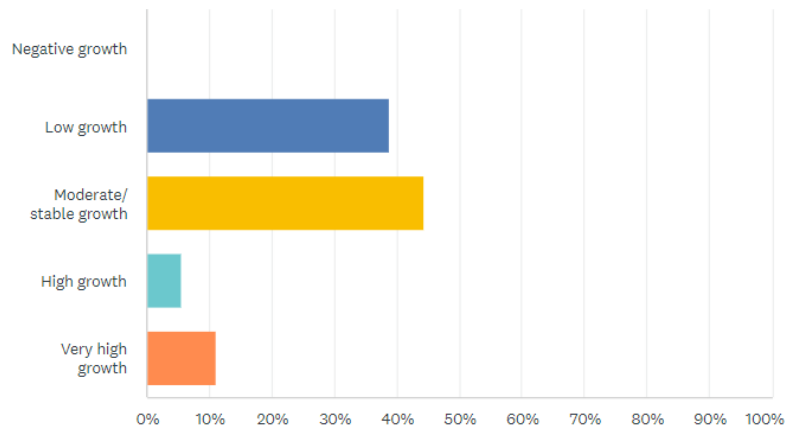


Figure 16: Tourism growth rate

7.3 Limitations

The following limitations are acknowledged:

- due to time limitations which may have contributed to fewer than expected responses, the analysis of results will not be presented per port, as the responses in Saldanha Bay and Richards Bay are very few to deduce a geo-specific view.

8. Conclusion

For the Port of Richards Bay, the assessment results indicate the following conclusions against the elements that were assessed.

No	Assessed element	Conclusion
1	Noise impacts on marine wildlife and tourism activities	No significant impact found
2	Visual and noise impact on the hospitality and tourism industry	No significant impact found
3	Electricity provision in hospitality and restaurant establishments	No significant impact found
4	Energy and industrial tourism	Potential product development (long-term)

8.1 Conclusion on survey results

While acknowledging the time limitations in conducting this survey, it can be concluded that there are no negative impacts on the tourism industry should the Karpowership SA initiative be implemented. Instead, it can be assumed that the generation of an alternative power supply will be an added advantage to the product owners as the majority are dependent on Eskom for power provision.

The survey did not establish how 50% of the respondents who are aware of the Karpowership SA initiative came to that knowledge. However, it can be deduced that this response rate is an indication of the effectiveness of the public participation programmes already implemented to create awareness of the initiative. It can also be assumed that the source of information for these respondents could be through media outlets coverage of the initiative.

41% of the respondents could neither disagree nor agree when asked if the Karpowership initiative has a negative impact on the tourism industry, illustrating that these product owners may not fully appreciate the objectives of the initiative. This may be indicative of the need for more public participation workshops in the 3 ports.

9. References

1. Alekseeva, N. and Hercegová, K. (2021). Links between tourism and energy. SSRN Electronic Journal. DOI: 10.2139/ssrn.3963449.
2. Baigrie, B., Brown, D., Cannard, J., Oelofsen, J. & van Niekerk, S. (2020). Why Eskom is in a Mess and What to do about it. Eskom Research Reference Group. Cape Town: Alternative Information & Development Centre
3. BirdLife International. Important Bird Areas factsheet: West Coast National Park and Saldanha Bay islands. Retrieved 26 October 2022.
4. Banda, G., Simukoko, G. & Tailoka, F.P. (2020). Effect of Load Shedding on Small Scale Entrepreneurs: A Case of Kitwe District of Zambia. *Economy*, 7(2): 104-109
5. Bie, Z., Lin, Y., Li, G. & Li, F. (2017). Battling the Extreme: A Study on the Power System Resilience. *Proceedings of the IEEE*, 105(7), 1253-1265.
6. Blimpo, M, P. & Cosgrove-Davies, M. (2019). Electricity Access in Sub-Saharan Africa: Uptake, Reliability, and Complementary Factors for Economic Impact. Africa Development Forum. Washington DC: World Bank
7. Botha, T. (2019). The impact of 'load-shedding within the Nelson Mandela Bay Restaurant Industry. Research report submitted for the IIE Honours in Business Management degree: The Independent Institute of Education.
8. Du Toit, P. (2019). Analysis: Load shedding-worse than we thought and here to stay. Published by Fin24 News. Available at <https://www.news24.com/fin24/economy/analysis-load-shedding-worse-than-wethought-and-here-to-stay-20190319-2>.
9. Duminy, E. (2019). Sheds light on the impact of load shedding on the city's tourism. Available at <https://www.iol.co.za/travel/travel-news/is-eskoms-load-sheddingaffecting-cape-towns-tourism-39071713>.
10. Githahu, M. (2022). Load Shedding Hampers the Recovery of Tourism in Cape Town, Says Mayor. Independent Online, 9 March 2022. Available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwj_youm1rj2AhVailwKHZqJD5UQFnoECA0QAQ&url=https%3A%2F%2Fwww.iol.co.za%2Fcapeargus%2Fnews%2Fload-shedding-hampers-therecovery-of-tourism-in-cape-town-says-mayor-f093c1e5-4394-4a74-9e65-fa1abd60b172&usq=AOvVaw2zZRqGOkeuLmSyORqiRJse
11. Goldberg, A. (2016). The Economic Impact of Load Shedding: The Case of South African Retailers. Unpublished Doctoral Thesis, University of Pretoria
12. Lenferna, A. (2021) Time to Resist Manufactured Load Shedding Crisis and Mantashe's Gas Road to Nowhere. Daily Maverick 23 May, 2021,

<http://www.dailymaverick.co.za/opinionista/2021-05-23-time-to-resist-manufacturedload-shedding-crisis-and-mantashes-gas-road-to-nowhere/>

13. Makgopa, S. & Mpetsheni, Z. (2022). Exploring the Impact of Load-shedding on SMME's in Nelson Mandela Bay Municipality. *Academy of Entrepreneurship Journal*, 28(S3), 1- 7.
14. Manson, T. & Midforth, F. 2022. Underwater Noise Assessment - Saldanha Bay Port, Coega. Subacoustech Environmental Report No. P292R0901. Subacoustech Environmental Ltd.
15. Mthimkhulu, M. (2021). Press Release: The Impact of Load Shedding. *Business Leadership South Africa*, 15 November 2021. Available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwj_youm1rj2AhVailwKHZqJD5UQFnoECDUQAQ&url=https%3A%2F%2Fhub.blsa.org.za%2Fenergy%2Fpress-release-the-impact-of-loadshedding%2F&usq=AOvVaw0BWgT3uCPqGjwxt_lwSlv.
16. Mokwena, A. (2021). A Framework for the Sustainability of Advertising Agencies in an Emerging Economy: The Case of South Africa. *Journal of Marketing Communications*: 1-21
17. Saldanha Development Zone Pre- Feasibility Analysis. Final Report, October 2009.
18. Safetech. 2020. Environmental Impact Assessment of the Proposed Gas to Power – Project at the Port of Richard's Bay. Ballito: Triplo4 Sustainable Solutions.
19. Sefako-Musi, G. (2019). Load Shedding Likely to Push Economy into Recession. *SABC News*, 10 December 2019. Available at <http://www.sabcnews.com/load-sheddingf1|likely-to-push-economy-into-recession>
20. Social Risk Research, 2022. Karpowerships Richard bay socio-economic impact assessment.
21. Swilling, M. (2022). The Long and Short of Load Shedding Solutions – Time to Call Disaster and Harness the Power of Wind and Solar Energy. *Daily Maverick*, 29 May, 2022. Available at www.dailymaverick.co.za
22. Steenkamp, H., February, A., September, J., Taylor, A., Hollis-Turner, S. & Bruwer, J. P. (2016). The Influence of Load Shedding on the Productivity of Hotel Staff in Cape Town, South Africa. *Expert Journal of Business and Management*, 4(2), 69-77.
23. Urban-Econ Development Economists. 2021. Socio-economic impact assessment for the proposed powership project at the Saldanha Bay Port within the Coega sez in the Nelson Mandela bnay Metropolitan Municipality, Eastern Cape.
24. Tourism SA (2002). <https://www.statssa.gov.za/?p=15728>. Published by Statistics South Africa.

25. Van Niekerk, Y. (2020). Load Shedding is now the Number 1 Enemy of South African Businesses, but here's why you can't let it win the War. *Ibiliti*, 27 January, 2020. Available at <http://ibiliti.co.za/author/yolandeibiliti-co-za/page/2/>

Appendix A: Specialist Report Requirements as per EIA Regulations 2014 (as amended)

Table 9 outlines the requirements of the Specialist Reports as per the NEMA EIA Regulations, 2014 (as amended).

Table 9 Prescribed contents of the Specialist Reports (Appendix 6 of the EIA Regulations, 2014)

Relevant section in GNR. 982	Requirement description	Relevant section in this report
(a) details of—	(i) the specialist who prepared the report; and	Appendix B
	(ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;	Appendix B
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Page 2
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Section 3
(cA)	an indication of the quality and age of base data used for the specialist report;	Section 4
(cB)	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 6
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 6
(e)	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 5
(f)	details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 6
(g)	an identification of any areas to be avoided, including buffers;	Section 6 (please include maps if you have better updated ones)
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 6 (please include maps if you have better updated ones) – Figure 7
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge; Note: Uncertainties should be qualified within the report – there will always be uncertainties due to ?? and gaps in knowledge should also be qualified – a gap is to record that not all knowledge can be obtained for a study.	Section 6
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Section 6
(k)	any mitigation measures for inclusion in the EMPr; Note: We need to include whether these mitigation measures (excluding ongoing monitoring) can be practically implemented prior to commencement or not.	Section 6

Relevant section in GNR. 982	Requirement description	Relevant section in this report
(l)	any conditions for inclusion in the environmental authorisation;	n/a
(m)	any monitoring requirements for inclusion in the EMPr or environmental authorisation;	n/a
(n) a reasoned opinion—	(i) whether the proposed activity, activities or portions thereof should be authorised;	n/a
	(iA) regarding the acceptability of the proposed activity or activities; and	Section 6
	(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan; Note: We need to include whether these mitigation measures (excluding ongoing monitoring) can be practically implemented prior to commencement or not.	Section 6
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 5
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Section 7
(q)	any other information requested by the competent authority.	n/a
(2)	Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	n/a

Appendix B: Specialist Credentials



Kagiso is passionate about sustainable tourism development. He is the founder of 3t Business Fusion, a tourism and hospitality consulting company. He has more than 20 years of tourism management experience, which includes amongst other things: tourism development, policy development, Facilitator, customer experience management, process development, product development, universal accessibility management, business development, strategy and project management.

Qualifications:

- B.Tech Degree in Tourism Management
- Sustainable Tourism Development Programme certificate from Wes Training in Belgium.
- He intends to enrol for a Master's degree in Tourism,
- As a pre-requisite for the Master's, he has been accepted to enrol for the High Certificate in General Management.

He started his career with Aventura Resorts before he joined South Africa National Parks where he played a management role at both Kruger National Park and Head Office as a Senior Manager responsible for Tourism Standards.

He serves as a member of the Tourism Standards Committee at the South African Bureau of Standards, which he has represented at ISO level.

He has been an Accredited Grading Assessor at the Tourism Grading Council of South Africa, with over 15 years of experience.

Co-Founder of Eta Le Rona, a social tourism non-profit organisation, with the main objective being to make tourism accessible to those who cannot afford to pay for travel.

He has recently been involved in the following Projects;

- iSimangaliso Wetlands Park - Eco-Tourism Pre-Feasibility Study
- Moses Kotane Local Municipality Feasibility Study
- National Department of Tourism – Augrabies Falls National Park Feasibility Study
- National Department of Tourism – Addo Elephant National Park Feasibility Study
- Venetia De Beers Mine - Tourism Linkages Feasibility Study
- National Department of Tourism – Tour Operator Framework
- National Department of Tourism – Social Tourism Scheme
- DEDECT – Tour Operator Operation Efficiency Management



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/14/12/16/3/3/2007
Date Received:	02 November 2020

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

The Proposed Gas to Power Powerhip Project at the Port of Richards Bay, Umhlathuze Local Municipality, King Cetshwayo District, Kwazulu-Natal.

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za


1. SPECIALIST INFORMATION

Specialist Company Name:	3t Business Fusion		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	1	Percentage Procurement recognition
			100%
Specialist name:	Kagiso Tlhobolo		
Specialist Qualifications:	Diploma Travel and Tourism, BTech Tourism Management, Certificate Sustainable Tourism Development		
Professional affiliation/registration:	SABS Tourism Standards Committee Member, Tourism Grading Council South Africa Accredited Assessor		
Physical address:	45 Dolce Vita Complex, 255 Jean Avenue, Centurion, 0157		
Postal address:	Same as Above		
Postal code:	0157	Cell:	0829082657
Telephone:	082 552 3794	Fax:	
E-mail:	Kagiso@3tfusion.co.za		

2. DECLARATION BY THE SPECIALIST

I, Kagiso Tlhobolo, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

3t Buisness Fusion

Name of Company:

Date 1 November 2022

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Kagiso Tlhobolo, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

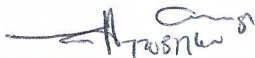


Signature of the Specialist

3t Business Fusion

Name of Company

Date 1 November 2022



Signature of the Commissioner of Oaths

2022-11-01

Date

