



**MINISTER
FORESTRY, FISHERIES AND THE ENVIRONMENT
REPUBLIC OF SOUTH AFRICA**

**Project Ref: 14/12/16/3/3/2/2007
Appeal Ref: LSA 207022**

APPEAL DECISION

**APPEALS AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO REFUSE
THE APPLICATION FOR ENVIRONMENTAL AUTHORISATION SUBMITTED BY
KARPOWERSHIP SA (PTY) LTD IN RESPECT OF THE PROPOSED GAS TO POWER
VIA POWERSHIP PROJECT AT THE PORT OF RICHARDS BAY, SITUATED WITHIN
THE UMHLATHUZE LOCAL MUNICIPALITY IN KWAZULU-NATAL PROVINCE**

Karpowership SA (Pty) Ltd	1 st Appellant
Eastern Cape Maritime Business Chamber (ECMBC)	2 nd Appellant
Mjoli Connect	3 rd Appellant
Integrated Coastal Energy Alliance	4 th Appellant
Nondumiso Mfenyana	5 th Appellant
Servilinx Projects	6 th Appellant
BEST Forum (Black Entrepreneurs Stand Together)	7 th Appellant

Al Ansaar NPO	8 th Appellant
Karpowership SA (Pty) Ltd	Applicant
	Competent
Department of Forestry Fisheries and the Environment	Authority
GroundWork	1 st Commenting I&AP
Green Connection	2 nd Commenting I&AP

Appeals: These eight (8) appeals were lodged by the 1st to 8th appellants against the decision of the Chief Director: Integrated Environmental Authorisations (the CD: IEA / Competent Authority), of the Department of Forestry, Fisheries and the Environment (the Department), taken on 23 June 2021, to refuse Karpowership SA (Pty) Ltd's (the 1st appellant/ Karpowership's) application for environmental authorisation (EA) for their proposed Gas-to-Power via Powership Project at the Port of Richards Bay, situated within the Umhlathuze Local Municipality in KwaZulu-Natal Province.

1. BACKGROUND AND APPEAL

- 1.1 On 05 October 2020, Karpowership submitted their application for EA, to the Competent Authority (CA), in terms of the Environmental Impact Assessment Regulations, 2014, as amended (2014 EIA Regulations), published under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), for their proposed Gas-to-Power via Powership Project at the Port of Richards Bay, situated within the Umhlathuze Local Municipality in KwaZulu-Natal Province (the proposed Richards Bay Project).
- 1.2 Karpowership commissioned Triplo4 Sustainable Solutions (Pty) Ltd (Triplo4) as an independent Environmental Assessment Practitioner (EAP), to undertake a full Scoping and Environmental Impact Reporting (S&EIR) process in respect of the EA application.
- 1.3 The proposed project is in response to the Request for Proposals (RFP) for New Generation

Capacity under the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP/ RMI4P) that was issued by the Department of Mineral Resources and Energy (DMRE) on 23 August 2020, to alleviate the immediate and future power generation capacity deficit of South Africa. The *"Emergency/Risk Mitigation Power Purchase Procurement Programme (2000MW): National"* was designated the status of a Strategic Integrated Project (SIP) under the National Infrastructure Development Act, 2014 (Act 23 of 2014) (the Infrastructure Development Act) by the Presidential Infrastructure Coordinating Commission. The proposed Project was awarded preferred bidder status in the RMIPPPP as announced by the DMRE on 18 March 2021.

- 1.4 The proposed project entails, among others, the following activities:
 - 1.4.1 The generation of electricity from two (2) floating mobile powerships, berthed and moored in the protected waters within the Port of Richards Bay, both of which will be operational for 24 hours per day for the duration of the proposed project's 20-year lifespan (as per the RMIPPPP requirements), of which the combined design capacity for the powerships is 540MW, each comprising of 27 gas reciprocating engines and 3 steam turbines;
 - 1.4.2 A Floating Storage Regasification Unit (FSRU), berthed and moored in the protected waters in the Port of Richards Bay, to act as the storage and regasification facility;
 - 1.4.3 Approximately every 20 to 30 days, a Liquefied Natural Gas (LNG) Carrier will dock along the Port of Saldanha Bay, over a one-to-two-day period, to supply LNG to the FSRU;
 - 1.4.4 The power that is generated is converted by the on-board High Voltage substation and the electricity evacuated via a 132kV transmission line over a distance of approximately 3 km to the tie in point to the Eskom line, at a connection point (necessitating a new switching station) in proximity to the existing Impala- Bayside Substation, which feeds into the national grid;
 - 1.4.5 A subsea gas pipeline over a distance of approximately 1700 meters along the toe of the existing dredged slopes between the FSRU and powerships to ensure gas supply for power generation; and
 - 1.4.6 The two (2) powerships use seawater and potable water for cooling the reciprocating engines, condensers, and other auxiliaries. The powerships will for 24 hours per day for the duration of the proposed project's 20-year lifespan, abstract seawater directly for cooling and

then discharge it into the sea. The total intake/outlet flow rates range from 2.4 m³/s to 11.4 m³/s per powership and the increase in temperature (ΔT) range from 4°C to 15°C;

1.4.7 Handling and storage of hazardous goods; and

1.4.8 Waste management.

1.5 Chapter 2 of the Final Environmental Impact Assessment Report (FEIAR) dated 26 April 2021, at pages 11 to 48 thereof, provides a detailed description of the proposed activities.

1.6 Various issues and potential environmental impacts of the proposed activities, which had to be assessed as part of the EIA process were included in pages iii – iv of the FEIAR as follows:

1.6.1 In respect of the LNG Carrier, Powership and FSRU:

1.6.1.1 Disturbance to marine habitat;

1.6.1.2 Disturbance to the sediment from mooring infrastructure;

1.6.1.3 Reduction in ambient air quality from increased atmospheric emissions;

1.6.1.4 Safety risk from potential leakage of LNG;

1.6.1.5 Safety risk of storage of NG within the Port;

1.6.1.6 Increase in noise pollution;

1.6.1.7 Increase in sea water temperature;

1.6.1.8 Contributions to GHG emissions and climate change;

1.6.1.9 Socio-economic impacts (positive and negative); and

1.6.1.10 Marine traffic congestion and accidents.

1.6.2 In respect of the Gas Pipeline:

1.6.2.1 Disturbance to marine and estuarine habitat;

1.6.2.2 Disturbance to coastal environment; and

1.6.2.3 Potential leakage of LNG.

1.6.3 In respect of the Transmission Line, Switching Station and Temporary laydown area for the gas pipeline installation:

1.6.3.1 Disturbance to indigenous vegetation and species of conservation concern;

- 1.6.3.2 Disturbance to the terrestrial ecosystem;
 - 1.6.3.3 Disturbance to fauna and avifauna;
 - 1.6.3.4 Altered hydrology and geohydrology;
 - 1.6.3.5 Disturbance to aquatic system;
 - 1.6.3.6 Increase in noise pollution;
 - 1.6.3.7 Change in hydrogeological processes;
 - 1.6.3.8 Destruction of wetlands, watercourses, estuarine areas;
 - 1.6.3.9 Destruction of cultural heritage and palaeontological resources;
 - 1.6.3.10 Disturbance to properties and existing services; and
 - 1.6.3.11 Provision of additional electricity.
- 1.7 The 1st appellant's powership projects are proposed at two other locations, namely (i) the Port of Saldanha in Western Cape Province (Saldanha), and (ii) the Port of Ngqura in Eastern Cape Province (Ngqura). This led to the simultaneous submission of three separate applications for EA, inclusive of this proposed Project in the Ports of Richards Bay.
- 1.8 On 26 April 2021, the EAP submitted the FEIAr and an Environmental Management Programme (EMPr), prepared in support of the EA application, to the CA for their consideration and decision-making purposes.
- 1.9 On 30 May 2021, Green Connection, the 2nd Commenting Interested and Affected Party (I&AP) lodged a complaint to the CA, as contemplated in regulation 14(2) of the 2014 EIA Regulations, against the Saldanha Bay EIA process (one of Karpowership's other proposed powership projects). The 2nd Commenting I&AP's complaint pertained to allegations that the EAP was suspected of non-compliance with regulation 13 of the 2014 EIA Regulations. The 2nd Commenting I&AP alleged that there was, among other, insufficient information and public participation on the noise levels associated with the proposed Project, and on the impact thereof on small-scale fishing communities. On 08 June 2021, the CA suspended Karpowership's application for EA in respect of the proposed Saldanha Bay project (Saldanha Bay suspension).
- 1.10 On 17 June 2021, the CA received a further complaint from the Centre for Environmental Rights (CER), representing Groundwork (the 1st Commenting I&AP herein) calling for the

suspension of the EA application processes for Karpowership's other two powership projects at Ngqura and Richards Bay (this proposed Project).

- 1.11 The CA did not officially suspend the EIA processes related to this proposed Project at the Ports of Richards Bay, and Karpowership's proposed project at Ngqura.
- 1.12 On 18 June 2021, Karpowership's legal representative at that time, Gunn Attorneys, submitted representations, in accordance with regulation 14(1)(b) of the 2014 EIA Regulations, in response to the 2nd Commenting I&AP's (in this matter) complaint alleging that the EAP was non-compliant with regulation 13 of these Regulations. As stated above, this complaint was brought in respect of the Saldanha Bay EIA process and led to the suspension of the EIA process for that project. Karpowership's representation took the form of a memorandum (the Memorandum), wherein the following submissions were made:
 - 1.12.1 The protocols for reporting on noise impacts, as contemplated in the Procedures for the Assessment and Minimum Criteria for Identified Environmental Themes in terms of sections 24(5)(a) and (h) and 44 of the NEMA, specific to noise levels, were followed, bearing in mind that there is no existing powership project in South Africa, and no such technology currently exists within the Republic. It is grossly unreasonable to expect Karpowership and the appointed EAP to provide assessments of a situation that currently does not even exist.
 - 1.12.2 The EAP went beyond the protocol's requirements and obtained a second report (a technical verification report) from a similar operational powership project in Ghana, specific to noise. On the information obtained, the noise levels of the Project are anticipated to be of Medium Low significance, after mitigation, during operations; and of Very Low significance during construction phase.
 - 1.12.3 The details that were provided of the public participation process (PPP) are inclusive of meetings held with small-scale fishers. It is worth noting that there is no direct displacement or impact on the small-scale fishers as, according to the information provided at the meeting, they are not allowed to fish in Big Bay area where the powership is proposed to be moored.
 - 1.12.4 Since the activity is predominantly a marine based activity, the South African Marine Safety Authority (SAMSA) is an important regulator in terms of the Marine Pollution Control Act 1981 (Act 6 of 1981) and a risk assessment is being developed for the purposes of SAMSA

risk mitigation and oversight. Residual risks are also addressed through the Major Hazard Installation legal requirements.

- 1.12.5 The nature, significance, consequences, extent, duration, and probability of the impacts, inclusive of specialist studies into all potential consequences and impacts on the environment and marine resources of Saldanha Bay, are set out in the EIAr and were discussed with I&APs through Scoping and EIA phases. Peer reviews of some of the specialist reports were undertaken to address the concerns raised by I&APs.
- 1.12.6 It is confirmed that a quantitative measurement of the underwater noise produced in the Port of Saldanha Bay will be conducted once the powership is moored and operational, and additional mitigation measures will be implemented should the need arise (although this is unlikely).
- 1.12.7 The Marine Ecological Assessment (Appendix I to the FEIAr) sets out on Page 5, Section 2 thereof, the "Environmental Baseline Description", which includes plankton, fish, megafauna, benthic communities, macroalgae, intertidal and shallow subtidal habitats, local sediment characteristics, port water quality, local oceanography, and hydrodynamics. Additionally, on page 34 of the Marine Ecological Assessment, the ratings of impact were outlined which includes entrainment as a potential impact due to the uptake of cooling water on marine organisms. This was rated as Low.
- 1.12.8 The complaint should be considered against the need and desirability of the Project. The Project will provide critical energy needed in a country currently grappling with a power crisis. The provision of power will have significant economic benefit to businesses and households hampered by ongoing load shedding.
- 1.13 In a separate letter, also on 18 June 2021, the EAP responded to the complaint from the 2nd Commenting I&AP, largely repeating the representations in the Memorandum in relation to the suspension of the Saldanha project, by setting out the PPP that was conducted, and pointing out the following:
 - 1.13.1 On a proper reading, the Marine Ecology Specialist Study found that Saldanha Bay is an important fish habitat, and that underwater noise can have adverse effects on individual aquatic organisms. The Ghana report that was commissioned, confirmed the predicted impacts. The report referenced a short-term study on underwater noise at a powership

operation within a port in Ghana. The nature of the operation was described, as were the measured underwater noise levels. Those levels were compared against known noise thresholds for various marine mammals and fish. The report found, on the basis of that study, that the effects of a similar operation on the surrounding marine ecology in Saldanha Bay would be unlikely. However, the report stated that there was a need for a better understanding of the “noise climate” of Saldanha Bay and therefore specifically recommended that firstly, in order to determine baseline noise measurements, a baseline study of the underwater noise climate be initiated prior to construction; and secondly, that post-construction noise levels then be monitored for a period of at least 12 months.

- 1.13.2 The Safetech Specialist Study, which concentrated mainly on above-water noise, also emphasised that there is a need for the underwater “soundscape” of Saldanha Bay to be determined. The study recommends that pre- and post-construction underwater noise measurements be measured by means of hydrophones, as had been the case in the Ghana study, and that these must be monitored on an ongoing basis.
- 1.13.3 The environmental impacts, mitigation and outcomes were addressed in section 8 of the FEIAR. These impacts, mitigation and outcomes were also addressed in the Final EMP. The closure outcomes were not assessed in detail as the proposed Project has a 20-year lifespan and will be assessed in line with the EMP commitments (section 8.10) and in the FEIAR (section 8.4.18) prior to closure. The CA endorsed this approach during the pre-application meeting that was held on 17 September 2020.
- 1.13.4 The EAP concluded by stating that: *“I consequently do not believe that it was a flaw in the process that actual noise monitoring would only take place after operations started. In my view, the fishers would not be excluded: they could be part of the monitoring process, and the determination of mitigation steps if they were was (sic) found necessary. As I have explained, there seemed no other way to do it, and the way recommended was not exclusionary of the fishers’ interests or their ongoing involvement”*.
- 1.14 On 23 June 2021, the EAP addressed a letter to the CA in response to the request from the CER, representing the 1st Commenting I&AP, to suspend the EA application processes for Karpowership’s other two powership projects (Richards Bay and Ngqura). In this letter, the CA was referred to the EAP’s response in their (the EAP’s) letter of 18 June 2021, which responded to the 2nd Commenting I&AP’s complaint regarding the Saldanha Bay EIA

process, as summarised herein above.

- 1.15 On the same date, 23 June 2021, the CA addressed correspondence to the EAP, the 2nd Commenting I&AP and Karpowership, advising each of them that the CA had withdrawn their decision to suspend the Saldanha Bay EIA process in terms of regulation 14 of the 2014 EIA Regulations. In this regard, the CA stated that *“as the EIAR had already been submitted on 26 April 2021 and the Competent Authority believes there is very little reason why the decision-making process should be suspended pending the outcome of an investigative process against the EAP, the Competent Authority reconsidered the matter and they concluded that there is no need for the suspension to remain in place”*.
- 1.16 Further correspondences were addressed to the 1st Commenting I&AP and to Karpowership/ the EAP, advising each of them that having considered that the allegations leading to the request to suspend the EA application processes in respect of Richards Bay and Ngqura are similar to those raised in respect of the Saldanha EA application, it was justifiable to expand the Saldanha investigative process to include Richards Bay and Ngqura. The CA, however, concluded that it was unnecessary for the suspension to remain in place pending the outcome of an investigative process against the EAP.
- 1.17 After evaluating the FEIAR and EMP_r dated 26 April 2021 and all relevant annexures, the CA on 23 June 2021 refused the EA application and provided Karpowership with the Record of Refusal (RoR).
- 1.18 The CA provides in pages 14 to 17 of the RoR the detailed reasons for the refusal as follows, among others:
- i. *“The minimum requirements, specifically with regard to public participation, were not met. The purpose of public participation is not only to promote informed decision making, but also to promote the legitimacy and acceptance of an outcome or decision and to promote participatory democracy.*
 - ii. *The actual and potential impacts on the environment as well as socio-economic conditions could not be properly evaluated (particularly insofar as small-scale fisheries are concerned),*

especially because of the lack of a proper underwater noise impact study and because of the contradictory information that was made available.

- iii. The effects of activities on the environment could not receive adequate consideration because one of the major impacts, underwater noise generation, was not fully investigated nor were discrepancies and contradictions between specialist studies clarified by the Environmental Assessment Practitioner.*
- iv. Under this circumstances, it is not possible to make a determination with regard to the significance of potential impacts or consequences for the environment, the effectiveness of potential mitigation measures or whether the project under consideration will constitute a sustainable development."*

1.19 In accordance with the provisions of regulation 4 of the National Appeal Regulations, 2014, as amended (2014 Appeal Regulations), the due date for Karpowership (as the applicant for the EA) to launch an appeal against the refusal decision was 13 July 2021.

1.20 On 29 June 2021, the registered I&APs were notified of the RoR, and they were informed of the provisions regarding the submission of appeals and that the due date to launch their appeals (if any) against the RoR was 19 July 2021.

1.21 Between the period of 13 July 2021 and 19 July 2021, Karpowership, who is also the 1st appellant in this matter, and the seven (7) additional appellants, submitted appeals to the Directorate: Appeals and Legal Review (Appeals Directorate) within the Department in response to the RoR. These appeals were timeously lodged in terms of section 43(1) of NEMA, read together with regulation 4(1) of the 2014 Appeal Regulations, which require the appellants to bring their appeal to the attention of any I&AP. For the sake of uniformity I will henceforth refer to the 1st appellant in this matter only as "Karpowership".

1.22 On 02 and 19 August 2021, the Appeals Directorate received comments in terms of regulation 5 of the 2014 Appeal Regulation, against the appeal lodged by Karpowership on 13 July 2021, from (i) GroundWork (1st Commenting I&AP); and (ii) Green Connection (2nd Commenting I&AP) (*collectively referred to as "the Commenting I&APs"*).

1.23 On 27 August 2021, the Appeals Directorate forwarded all the comments and submissions

that had been received in relation to this matter, in a consolidated Appeal Response Report (ARR), to Karpowership and the CA, for their responses and/or comments.

- 1.24 Approximately twelve (12) days outside of the prescribed timeframe, on 31 August 2021, the CA filed their responding statement on the appeals, followed by a condonation request for the late filing thereof. On 07 October 2021, the Director of the Appeals Directorate granted the CA condonation for the late filing of their responding statement.
- 1.25 Karpowership timeously filed their consolidated comments/responses to the appeals, and on 16 September 2021, they (Karpowership) through their legal representative at the time (Gunn Attorneys), submitted an answering statement on the comments filed by the Commenting I&APs, against the Karpowership appeal. In this regard, Karpowership provided an executive summary tabling the issues/comments/responses raised by I&APs and their responses thereto. On 27 October 2021, Karpowership submitted their answering statement to the responding statement submitted by the CA.
- 1.26 On 05 April 2022, subsequent to receiving the responding statement from the CA, the comments of the commenting I&APs to the appeals, and Karpowership's answering statements thereto, an independent expert, namely Environmental Impact Management Services (Pty) Ltd (EIMS), was appointed in terms of regulation 6 of the 2014 Appeal Regulations, to provide the Appeal Administrator, within 10 days of receipt of the instruction, with advice on the various appeals lodged against the RoR.
- 1.27 On 06 April 2022, EIMS submitted a request to the Appeal Administrator for an extension of the timeframe to submit their advice, recommendations, and report on the above appeals to the Appeal Administrator, as contemplated in regulation 6(3) of the 2014 Appeal Regulations, until the end of May 2022. On 19 April 2022, the Director of the Appeals Directorate, granted EIMS's request and extended the due date for EIMS's submission of their advice, recommendations, and report on the above appeals to the Appeal Administrator, to 31 May 2022.
- 1.28 In addition to the appeals and associated correspondences submitted in the appeal process, EIMS reviewed the relevant sections of the Draft EIAr, the FEIAr, the EMPr, the Comments

and Responses Report (CRR), and the relevant Specialist Studies. On 19 May 2022, EIMS undertook a site visit, accompanied by the Environmental and Project Managers of Karpowership. On 31 May 2022, EIMS submitted an independent expert report to the Appeals Directorate, which report was by 06 June 2022 vetted by an independent expert, Mr Francois Joubert of Fasken Bell Dewar Inc.

1.29 In summary, the following preliminary grounds of appeal are identified:

- 1.29.1 The strategic nature of the Project from a need and desirability perspective;
- 1.29.2 Holistic assessment of the EA application;
- 1.29.3 The *audi alterem partem* rule;
- 1.29.4 Failure to assess the Project in accordance with the provisions of section 2(4)(l) of NEMA;
- 1.29.5 Failure to consider that Karpowership has met the threshold for public participation;
- 1.29.6 Failure to consider that the additional information provided in the FEIAr is the same information provided in response to comments and complaints received from I&APs;
- 1.29.7 Failure to comprehensively consider the socio-economic benefits of the Project; and
- 1.29.8 Failure to appreciate the SIP status of the Project.

2. GROUNDS OF APPEAL, RESPONSES, COMMENTS AND EVALUATION

2.1 Karpowership SA (Pty) Ltd (the 1st appellant), with the seven (7) other appellants, raised 8 grounds of appeal. Karpowership seeks that their grounds of appeal be upheld and that (i) an EA be granted and the RoR be set aside; or (ii) that the RoR be set aside, the proposed project be authorised and that the concerns raised by I&APs are incorporated as part of the EA specific conditions.

2.2 The 2nd to 8th appellants made common cause with Karpowership by more or less repeating the issues raised in Karpowership's grounds of appeal. Considering the overlapping nature of the appeals, it is appropriate that I consider all 8 appeals in a consolidated decision, as I hereby do. The 8 appeals will therefore be grouped together by topic, summarised, and considered jointly under the relevant headings herein below.

2.3 In summation, the various grounds of appeal by the 8 appellants, which significantly overlap,

are identified, and summarised as follows:

- 2.3.1 The CA failed to consider the strategic nature of the proposed Project from a needs and desirability perspective, given that the Project was launched in response to the Request for Proposals (RFP) for New Generation Capacity under the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) issued by the DMRE, to alleviate the immediate and future power generation capacity deficit of South Africa, and that the proposed Project was designated as a Strategic Integrated Project (SIP) by the Presidential Infrastructure Coordinating Commission. The grounds of appeal on this topic are considered under the heading "***The strategic nature of the Project from a need and desirability perspective***" herein below.
- 2.3.2 The CA relied heavily on particular components of the EA application, and in doing so, did not holistically assess such EA application. More specifically, the CA failed to consider the Socio-Economic Assessment of the proposed Project, which recommended that the proposed Project should proceed. The grounds of appeal on this topic are considered under the heading "***Holistic assessment of the EA application***" herein below.
- 2.3.3 The CA considered comments and objections that had been submitted by environmental groups outside of the PPP timelines and Karpowership, through their EAP, were not afforded any right of response or reply thereto, in contravention of the *audi alterem partem* rule. The CA specifically ignored the comprehensive Memorandum submitted by the EAP on 18 June 2021, and Karpowership's further inputs that were sent on 23 June 2021 in response to the objections by the Commenting I&APs against the proposed Saldanha project. The grounds of appeal on this topic are considered under the heading "***The audi alterem partem rule***" herein below.
- 2.3.4 Considering (i) the SIP status of the Project; (ii) that the proposed Project was awarded preferred bidder status in the RMIPPPP; and (iii) that the proposed Project is important to supply electricity to the National grid, the CA failed to assess the proposed Project in accordance with the provisions of section 2(4)(l) of NEMA, in that there was no inter-governmental engagement with regard to the decision taken. The grounds of appeal on this topic are considered under the heading "***Section 2(4)(l) of NEMA***" herein below.

2.3.5 The 5th and 6th grounds of appeal raised by Karpowership are both concerned with the 'threshold' for public participation and are consolidated as follows: (i) the CA failed to consider that Karpowership has met the 'threshold' for public participation, as set out in the Memorandum of 18 June 2021; and (ii) that the additional information provided in the FEIAr is the information that was provided in response to the comments and complaints received from I&APs. These two grounds of appeal are considered under the heading "**Public Participation**" herein below.

2.3.6 The CA failed to comprehensively consider the socio-economic benefits of the proposed Project as contemplated in the principles and objectives alluded to in section 2 of NEMA, as opposed to the consideration of economic impacts to small-scale fishers alone. The grounds of appeal on this topic are considered under the heading "**Socio-economic benefits of the Project**" herein below.

2.3.7 The CA failed to appreciate that the proposed Project is, in terms of section 8(1)(a) read with section 7(1) of the Infrastructure Development Act, a declared and Gazetted Strategic Integrated Project (SIP) with ramifications for the Independent Power Producer (IPP) projects list on a national level. The grounds of appeal on this topic are considered under the heading "**The SIP status of the Project**" herein below.

2.3.8 I now deal with each ground of appeal in turn below.

First ground of appeal: The strategic nature of the Project from a need and desirability perspective

2.4 The grounds of appeal on this topic are concerned with the strategic nature of the proposed Project from a need and desirability perspective, especially considering that the Project was launched in response to an RFP for New Generation Capacity under the RMIPPPP issued by the DMRE, to alleviate the immediate and future power generation capacity deficit of South Africa, and that the Project was designated a SIP status by the Presidential Infrastructure Coordinating Commission.

Summary of comments from I&APs

- 2.5 The Commenting I&APs submit as follows:
- 2.5.1 Short-term energy procurement with an appropriate energy mix that (i) does not have significant greenhouse gas (GHG) emissions, (ii) have more local content, and (iii) does not harm the fragile marine environment, can be fulfilled by technologies other than powerships. It is therefore disputed that the proposed Project is strategic from a need and desirability perspective. Most of the additional impacts associated with powerships are described in detail under the “no go option” in the FEIAR.
- 2.5.2 Regarding Karpowership's contention that the project going ahead is justified because (i) they were a successful bidder through a procurement process; (ii) there may be positive implications for energy security; and (iii) there is a need for this project to address the country's energy crisis; these submission do not negate that the CA is legally bound by the provisions contained in section 24 of the Constitution, 1996 (the Constitution) and NEMA as the overarching legislation regulating environmental laws.
- 2.5.3 The energy procurement process in which the DMRE was the lead authority, cannot override the prescribed environmental law considerations, nor can this serve as a foregone conclusion or incontrovertible evidence of the need and desirability of the proposed Project. Ultimately, a weighing exercise is required of (i) the allegedly positive impacts of the proposed project including its ability to address energy shortages and allegedly positive socio-economic impacts through the energy supply, and (ii) the negative impacts on the environment, climate, ecology, and socio-economic impacts on communities.
- 2.5.4 Considerations around energy risk mitigation cannot be the only factor to consider in determining the need and desirability of the proposed Project, and this certainly cannot render the EIA outcome a foregone conclusion. The success of the EA application cannot solely rely on an energy risk mitigation process by the DMRE. It is still a relevant factor that there are alternative cheaper, cleaner, and less harmful ways to generate the electricity needed to develop and grow the country's economy.

- 2.5.5 Short-term energy procurement with an appropriate energy mix can be fulfilled by technologies other than powerships, that do not have significant greenhouse gas emissions, have more local content, and do not harm the fragile marine environment. The most recent studies indicate that gas is not required, and the experts quoted concluded that the Karpowership projects are neither timely nor economically optimal in the next decade. In other words, it cannot be said that the Project is necessary in circumstances where the electricity it would produce could be supplied by less harmful sources. Expert analyses demonstrate that the Project would have negative impacts for the economy as well, by locking South Africa into a power purchase agreement for expensive energy for the next 20 years.
- 2.5.6 A need and desirability assessment as required in regulation 18 of the 2014 EIA Regulations and the Guideline on Need and Desirability, 2017 (Need and Desirability Guideline), requires consideration of various factors, including the preferred location of the project, how members of the surrounding communities and people of South Africa will be affected by the project, the cost and binding implications that the proposed project will have on the country, and whether there are other alternatives that will be more beneficial, as well as the impacts/disturbance of the natural environment. Whilst the list is not exhaustive, the following must also be considered in making an assessment on need and desirability: whether the project will secure sustainable development and use of natural resources, the ecological integrity of threatened ecosystems, Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), conservation targets, ecological drivers of the ecosystem, and global international responsibilities relating to the environment, such as climate change obligations.
- 2.5.7 Socio-economic considerations, and procurement considerations under the RMIPPPP do not, and cannot override the considerations on need and desirability as prescribed under the 2014 EIA Regulations. Karpowership's reliance on any such strategic value, or the fact that a project has been identified as a SIP, as a basis for overlooking shortcomings in the EIA process, will result in the CA being presented with inadequate information to fully understand the proposed project's potential impacts.

- 2.5.8 The proposed Project will have significant impact on various ecologically sensitive areas, some of which are protected. The proposed Project will also have high GHG emissions, and will have negative climate change impacts, negatively interfering with mangroves, seagrass, and estuaries which play an important role in both climate change mitigation and adaptation.
- 2.5.9 The anticipated harms of the proposed Project, for climate, biodiversity, and socio-economic considerations, far outweigh any alleged benefits, particularly in light of the feasibility of less harmful alternatives to meet the country's electricity needs.

Summary of comments from Karpowership

- 2.6 In their comments, Karpowership submits as follows:
- 2.6.1 The powerships are a response to an emergency action put forward by the government to stem the tide of load shedding in the country which has caused many billions of rands of economic loss. The aims and principles espoused by the RMI4P, and the allocation of SIP status are vital to the orderly execution of the government's plans to obtain power and diversify its sources of power for the country (see the IRP 2019). The ascribed SIP status and the development and execution of the REI4P by another organ of state is therefore a heavily weighted consideration in this EA application.
- 2.6.2 It is accepted that the Need and Desirability Guidelines call for the balancing of considerations between ecological, social, economic, and intra- and intergenerational needs. However, the fundamental crux of the argument posed was that, due to the urgency of the need for additional sources of power to be fed into the national grid, this consideration has not been adequately considered by the CA. The crippling economic impact suffered as a direct result of power outages across the country, cannot be seen in isolation apart from considering the importance of Karpowership's ability to instantly feed energy into the grid when necessary.
- 2.6.3 The Project needs to be properly contextualised instead of concentrating on micro impacts in the brownfields ports, when the whole point of RMI4P is to alleviate load shedding which is one of South Africa's most pressing socio-economic ills. The RMI4P constitutes 2000MW

of dispatchable energy required as soon as possible by the grid to alleviate up to 2 phases of load shedding. The Karpowership Projects alone (constituting 1220MW) would alleviate more than one full phase of load shedding, of which the Saldanha project would contribute 320MW. Per MW produced, the Karpowership projects rank as the second, third and sixth cheapest contenders of the RMI4P Preferred Bidders and all its projects have passed the 'Value For Money' test/criteria upon detailed assessment. The Richards Bay Project offers the second cheapest power rate in the RMI4P. The ascribed SIP status and the development and execution of the REI4P by another organ of state, are therefore heavily weighted considerations in this application. Karpowership SA only requests that these considerations are ascribed their proper importance in the weighing of all factors for this EA application.

- 2.6.4 The environmental impacts of the proposed Project were studied in depth by qualified experts in the EIA field. The results of the undertaken studies show that there are no fatal environmental flaws and that Karpowership's ability to bring immediate relief to the grid is an ideal balance and consequently justifiable between economic and social needs and environmental concerns. There were thus no material gaps in the EIA reports. Due to the fact that the proposed Project is a new concept for South Africa (although they are proven in multiple jurisdictions elsewhere in the world), the South African specific information available is not as specific as with other more well-known South African technologies. In the absence of any fatal flaws, the CA must consider the importance of the proposed Project when deciding whether to authorise it.
- 2.6.5 It is not argued that the socio-economic needs and procurement considerations should be considered superior to environmental concerns, but it is requested that these considerations be given the weight they deserve in comparison to the environmental considerations. The crux of the argument is that this EA application should be seen in light of the purpose for which the EA was sought, namely *"to comply with a bid submission for the Risk Mitigation Power Procurement Programme"*.
- 2.6.6 The Project compliments the other technologies (wind, solar and battery storage) involved in RMI4P. Other technologies also have significant GHG emissions, lack more local content,

and harm the fragile marine environment. All technologies have some environmental impact. However, the powerships will not harm the fragile marine environment, as the proposed project will be positioned within a heavily impacted brownfields port.

- 2.6.7 It is incorrect to state that the REI4P does not serve as ‘incontrovertible’ evidence of the need and desirability of the proposed Project. The REI4P is the government’s response to the dire need for more power to be supplied to the national grid. It is fully agreed that all considerations need to be given proper weight when the CA makes a decision. Karpowership requests that the issue of economic needs is not merely side-lined for environmental concerns.

Summary of responses from the Competent Authority

- 2.7 In their responses, the CA submit as follows:
- 2.7.1 They (the CA) did consider the need and desirability of the proposed Project and the recommendations contained in the Socio-Economic Assessment, which recommended that the Project should proceed. It is incorrect that they (the CA) dismissed the positive socio-economic benefits of the proposed Project or the fact that the project was awarded preferred bidder status in the RMIPPPP. The proposed Project was refused because the environmental impacts could not be properly evaluated due to lack of information and/or due to contradictory information in the FEIAR. On 11 March 2021, they (the CA) provided guidance to the EAP as part of their comments on the Draft EIAR, particularly in respect of the information that must be included in the FEIAR. The EAP failed to pay heed thereto.
- 2.7.2 The SIP status of the project does not negate the need to comply with all relevant environmental legislation. It was made very clear to the EAP that even though the project was a SIP, it is still mandatory to meet all regulatory requirements pertaining to environmental issues.
- 2.7.3 The proposed project was refused as the FEIAR has not met the need and desirability requirement of NEMA. Importantly, the energy procurement considerations (RMIPPPP, IRP, and SIP) do not override environmental considerations.

Evaluation (Reasons for decision)

- 2.8 In evaluating this ground of appeal, I considered the motivation for the need and desirability of the proposed activities as addressed in chapter 6 of the FEIAR (pages 134 to 153) and at chapter 9.2 thereof (pages 324 to 326). The primary motivation for the need and desirability of the proposed Project is premised on the need for the provision of reliable energy in terms of the National Development Plan (NDP) 2030, the Integrated Resource Plan, 2019 (IRP 2019) and the SIP status of the Project.
- 2.9 Karpowership correctly indicates that South African legislation, including the Constitution and NEMA, entrench the principle of sustainable development, as do the various National strategies, policies, programmes, and plans, including the NDP. The motivation for the need and desirability of the proposed Project thus needs to be assessed and balanced within the context of these strategies, policies, programmes and plans by specifically looking at whether the proposed Project is ecologically sustainable and socially and economically justifiable.
- 2.10 In terms of section 7(2) of the Constitution, the state must respect, protect, promote and fulfil the rights in the Bill of Rights, inclusive of the fundamental right to the environment contemplated in section 24 of the Constitution. I therefore have the constitutional imperative to protect the environment, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and sustainable use of natural resources while promoting justifiable economic and social development. Therefore, all development in South Africa must in terms of section 24 of the Constitution and NEMA, be ecologically sustainable, while economic and social development must be justifiable.
- 2.11 The fundamental rights to the environment in section 24 of the Constitution are distinctly anthropocentric in nature, in that the ultimate aim of these fundamental rights is not the conservation or protection of the environment for the sake of the environment itself, but the aim thereof is the responsible and sustainable utilisation of natural resources for the sake of satisfying the needs of humans. In this context, I also have the constitutional and legal obligation not to allow a preventable state of affairs in an environment that may potentially or

actually harm the health or well-being, in a wide sense, of another person or persons. The 'need and desirability' of a proposed project should also be considered in this context.

- 2.12 The NEMA, the 2014 EIA Regulations, together with the various national strategies, policies, programmes, and plans constitute the reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.
- 2.13 The preamble to NEMA and the definition of 'sustainable development' in section 1 of NEMA confirm that sustainable development requires the integration of social, economic, and environmental factors in the planning, implementation, and evaluation of decisions to ensure that development serves present and future generations.
- 2.14 The National Environmental Management Principles are found in section 2 of NEMA, and the parts thereof relevant for present purposes (with emphasis added), are as follows:

"(3) Development must be socially, environmentally and economically sustainable.

(4) (a) Sustainable development requires the consideration of all relevant factors including the following:

(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

(ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

(iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;

(iv) that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner; (v) ; (vi) ... ;

(vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

(viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

(b) 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.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.

(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure."

2.15 The NEMA provides the tools and procedures required to implement the principles of sustainable development, and the 2014 EIA Regulations define the procedures and criteria for the preparation, evaluation, submission, processing, and consideration of, and decision on, applications for EAs. With the 2014 EIA Regulations specifically calling for the consideration of how the "geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity", the "need and desirability" of a project relates to all of these considerations and not only to socio-economic considerations.

2.16 Ultimately, the aim of an EIA process is to identify, predict and evaluate the actual and potential risks, and the impacts on the geographical, physical, biological, social, economic and cultural aspects of the environment, to find the alternatives and options that best avoid negative impacts altogether, or where negative impacts cannot be avoided, to minimise and

manage negative impacts to acceptable levels, while optimising positive impacts, to ensure that ecological sustainable development and justifiable social and economic development outcomes are achieved.

- 2.17 The proposed actions of individuals must be measured against the short-term and long-term public interest in order to promote justifiable social and economic development, to ensure the simultaneous achievement of the triple bottom-line. In considering the merits of a specific application in terms of the need and desirability considerations, it must be decided which alternatives represent the “*most practicable environmental option*”, which in terms of the definition in NEMA and the purpose of the 2014 EIA Regulations, are that option which provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term. In this regard, the Needs and Desirability Guideline (DEA: 2017 at page 18 thereof) states (with emphasis added) that:

“environmental integrity may never be compromised and the social and economic development must take a certain form and meet certain specific objectives in order for it to be considered justifiable. EIAs are about the search for the best practicable option that will best ensure the maintenance of ecological integrity while promoting justifiable social and economic development”.

- 2.18 While another government department may decide the “need and desirability” of a project from their planning perspective, the CA in an application for an EA for that project must still decide whether the proposed activities are to be considered *needed and desired* from an EIA perspective, in particular, whether that option provides the most benefit, and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term. It might therefore happen that another government department decides, from their own planning perspective, that a certain project should be approved considering its “need and desirability”, whereas the CA may refuse the application for an EA for that project, considering the “need and desirability” thereof from an EIA perspective. The strategic nature of the proposed Project is therefore one of the considerations to be balanced with all other relevant considerations, inclusive of all of the National Environmental Management Principles set out in section 2 of NEMA.

- 2.19 Most of the identified potential negative environmental impacts associated with powerships, and specifically with the proposed Project, are summarised under the “no go” alternative, in paragraph 8.4.18 at pages 288 to 289 of the FEIAr. These negative environmental impacts include the following, among others:
- 2.19.1 loss of vegetation communities, Species of Special Concern (mangrove trees and the orchid *Eulophia speciosa*), biodiversity, ecosystem function and process;
 - 2.19.2 potential contamination and sedimentation, or destruction of vegetation on the wetlands identified along the transmission line route;
 - 2.19.3 hydropedological flow drivers, soil quality or potential to compromise surface water quality in the nearby watercourse;
 - 2.19.4 hydrological regime of the river and riparian areas caused by the clearing of vegetation and increased sediment input, and the hardened surface resulting in increased runoff patterns into the drainage lines;
 - 2.19.5 the associated aquatic biota due to changes in water quality and flow regimes;
 - 2.19.6 potential sedimentation or contamination of surface water from construction or operation activities;
 - 2.19.7 the vadose zone or quality of the groundwater resources;
 - 2.19.8 the estuarine habitats and organisms:
 - i. within a critical biodiversity area (CBA) - listed as irreplaceable;
 - ii. adjacent to the uMhlathuze Estuary - a Estuarine Functional Zone (see FEIAr page 151) which forms part of the Richards Bay Nature Reserve – a proclaimed Protected Area and an internationally recognized Important Bird Area (IBA), and the Enseleni Nature Reserve (see FEIAr page 89) with Species of Conservation Concern (SCC) including at least 6 that are listed as Endangered (EN), at least 3 that are listed as Vulnerable (VU) and at least 5 that are listed as Near Threatened (NT) (see FEIAr page 91);
 - 2.19.9 the benthic community, the marine ecology, marine organisms:
 - i. comprising of a range of habitats each supporting a characteristic biological community, including the important habitats of the mangroves, intertidal and shallow subtidal mud and sand flats, the subtidal benthic zone, and the water body itself (see FEIAr pages 102 to 103),

- ii. by means of the physical disturbance of the littoral zone (see FEIAr page 135), increased seawater temperatures (see FEIAr pages 19, 200 to 202, 206 to 209, 220, and 262), increase in noise (see FEIAr pages 209 to 211, and 263 to 264) and modifications to the hosted biological communities (see FEIAr pages 135, 284, and 295),
 - iii. in close proximity to the eChwebeni Natural Heritage Site - a Transnet designated site of conservation significance within the Port of Richards Bay, preserving part of an original mangrove site that existed prior to the development of the Port (see FEIAr page 96);
- 2.19.10 the increase of ambient concentrations of SO₂, NO₂ and PM₁₀, resulting in health risks through inhalation of air pollutants (see FEIAr pages 19 to 21, 281, 297 to 298, and 309);
- 2.19.11 the increase of greenhouse gas (GHG) emissions with varying degrees of global warming potential that contribute to anthropogenic climate change and its resultant impacts (see FEIAr pages 211 to 212);
- 2.19.12 major hazards such as flash and pool fires;
- 2.19.13 visual and noise disturbances that could be created by the construction activities as the footprint of the facility grows;
- 2.19.14 potential changes in the sense of place; and
- 2.19.15 the increase in ambient noise levels both above ground and underwater and therefore nuisance or adverse impacts on sensitive receptors.
- 2.20 These environmental impacts cannot be ignored in the balancing of all relevant considerations, simply because the proposed Project was designated by another government department as a SIP.
- 2.21 Karpowership's emphasis that the SIP status of the proposed Project serves as 'incontrovertible' evidence of the need and desirability thereof, is in the context of the EA application for the proposed Project, misconceived. The fact that the proposed Project has been designated as a SIP by another government department, does not automatically accord it the right to an EA for that project. The strategic nature of the proposed Project is not a license to override all other relevant environmental considerations.

2.22 The alleviation of the current energy crisis may be vital, but this does not mean that it must be achieved by this specific project, nor does it follow that there is now a license to ignore all relevant environmental considerations.

2.23 In reaching my decision on this ground of appeal, I considered EIMS's (*independent expert commissioned by the Department*) advice on the matter, including that: *"The proposed Richard Bay development is located such that it has a potential to impact certain critical ecological areas (specifically the Sandspit and the Kabeljou Flats). The Precautionary Principle of NEMA requires that a risk averse and cautionary approach be applied. Considering the uncertainties and gaps listed in the findings of the RoR it would be unjustifiable for the CA to make a decision on the merits of this application until such time as these have been remedied"*.

2.24 I therefore proceed to dismiss the grounds of appeal on this topic.

Second ground of appeal: Holistic assessment of the EA application

2.25 The grounds of appeal pertaining to this topic are concerned with all the appellants' assertion that the CA relied heavily on particular components of the EA application, and in doing so, did not holistically assess the EA application, and more specifically that the CA failed to consider the Socio-Economic Assessment of the proposed Project, which recommended that the proposed Project should proceed.

Summary of comments from I&APs

2.26 The Commenting I&APs indicate that:

2.26.1 There is no evidence that the CA did not consider the recommendations pertaining to the Socio-Economic Assessment of the proposed Project, and that the CA did not holistically assess the EA application. Furthermore, the CA is not bound to follow the recommendations in the Socio-Economic Impact Assessment.

2.26.2 One of the reasons for the RoR, stems from the fact that *"the actual and potential impacts on the environment as well as socio-economic conditions could not be properly evaluated*

(particularly insofar as small-scale fisheries are concerned),” especially “because of the lack of a proper underwater noise impact study and the contradictory information that was made available.” This indicates that the CA did consider the socio-economic impacts that this Project will have.

2.26.3 It is necessary to weigh up all of the impacts of the proposed project by applying section 24 of the Constitution and NEMA, and both the positive and negative impacts of the proposed project must be considered. This is entrenched in section 23(2)(b) of NEMA which states that the objective of integrated environmental management is to identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management as set out in section 2 of NEMA. The balancing of all of the relevant considerations is therefore not limited to the recommendation in the Socio-Economic Impact Assessment.

2.26.4 The impact that the proposed Project could have on the much broader community of Richards Bay, including on small-scale fishing, tourism, and those that may be impacted by climate change, also needs to be considered. It is clear from the RoR that the CA does not necessarily dispute some of the socio-economic impacts of the proposed Project, but the CA correctly seeks to ascertain a holistic picture, considering the impacts that the proposed Project could have on the much broader community, surrounding the Port of Richards Bay. Another reason for the RoR is the lack of material information that Karpowership failed to provide in their FEIAr. These gaps directly impact on the adequacy of the socio-economic assessment.

2.26.5 The Socio-Economic Impact Assessment did not present a complete picture of how the proposed Project might impact on small-scale fishers who are dependent on fishing in Richards Bay, including information on the potential loss of livelihoods due to damage to fishing resources as a result of continuous and significant underwater noise for 20 years near to the breeding grounds of threatened fish species. This is partly due to the fact that the public was not given an opportunity to comment on the further reports on underwater

noise obtained by Karpowership after consultation on the Draft EIA, and the fact that the extent of the impact on fisheries due to underwater noise was not determined.

2.26.6 Apart from the lack of information as identified in the RoR, further gaps in the Socio-Economic Impact Assessment include the following:

2.26.6.1 Lack of a qualitative Noise Impact Assessment on megafauna, including the Humpback Dolphin: This may have further impacts on socioeconomics for tourism in the region;

2.26.6.2 Lack of a qualitative Noise Impact Assessment on swamps and mangrove habitats: this may also have socio-economic implications for tourism, fisheries, and local fishermen, since mangroves and swamps are nurseries for fish and crustaceans;

2.26.6.3 Inadequate Avifauna Impact Assessment to identify all the important birds, and conservation areas such as Richards Bay Nature Reserve, mangroves, and their habitats: this may also impact on tourism and related socio-economic activities; and

2.26.6.4 Inadequate assessment of impacts of thermal water released into the environment: this may impact upon the food sources for birds, biodiversity related tourism, fishing, and fishing communities.

2.26.7 Whilst Karpowership indicates that the Socio-Economic Impact Assessment indicates no fatal flaws, and has an overall net positive impact, the study itself was deficient, in that it does not include the socio-economic impacts related to loss of biodiversity on tourism and tourism related jobs; negative impacts on juvenile fish and crustaceans and in turn on local fishermen in the KwaZulu-Natal (KZN) region; the socio-economic impact of climate change, such as loss of property, life, and food security; or alternatives.

2.26.8 The Socio-Economic Impact Assessment stated that there are no fishermen in the harbour area, and thus there is minimal impact. This misses the point, since it is the loss of juvenile fish and crustaceans (due to loss of mangroves, seagrass, or due to underwater noise, or temperature increase either due to climate change and/or discharge of heated water by Karpowership), may ultimately impact the spawning of fish and the crustacean populations; and in turn, the economics, and livelihoods for all local fishermen in the region, not just fishermen within the harbour location.

2.26.9 The other gaps which would have a bearing on the socio-economic consideration, which have not been addressed by Karpowership, include:

2.26.9.1 The socio-economic value of the service that certain natural resources provide to mitigate climate change mitigation impacts, through carbon capture, and the implication of the loss of such resources. These include blue carbon services, such as mangroves, swamps, estuaries, corals, and seagrass. This was not included in the climate change impact assessment (CCIA) nor in the Socio-economic impact assessment.

2.26.9.2 The socio-economic value of mangroves and wetlands which can mitigate severe storms and flooding and other extreme weather events and prevent damage to surrounding properties – impacts which are expected to intensify as the climate crisis progresses.

2.26.9.3 A socio-economic assessment of the impacts of climate change on the proposed Project itself, the surrounding communities, and the impact that the proposed Project will have by emitting over 17million tCO₂e are absent. The Climate Change Impact Assessment (CCIA) only superficially provided for these impacts, and for, among others, loss of property, loss of working hours from temperature increase, droughts, and food insecurity.

2.26.9.4 A socio-economic impact assessment of biodiversity related services is absent.

2.26.9.5 The socio-economic Impact on the tourism economy as a result of loss of megafauna and negative impacts to the CPA, FSA, and other protected nature reserves and estuaries in the area has not been assessed.

2.26.9.6 Fatal Flaws are not identified and assessed. The assessment matrix (appendix C of Karpowership EIA) does not contain an option for fatal flaws, and thus the socio-economic impact assessment could not have identified fatal flaws.

2.26.10 The assessment of alternatives:

2.26.10.1 No wide assessment was done in terms of the negative impacts. The Socio-Economic Impact Assessment assesses the jobs that would be produced by Karpowership, and the benefits to the economy and jobs as a result of electricity production in the country as a whole, casting a very wide net in terms of positive impacts. However, such a wide assessment has not been done in terms of the negative impacts. These include: the impacts on the country as a whole as a result of the climate change impacts (including

mitigation and adaptation implication) that the Project would contribute to and exacerbate, the economic implications of commitments to unnecessarily expensive capacity from the Project over the 20-year period of the power purchase agreement, as a whole.

2.26.10.2 The negative impacts assessed are scaled down to a local level only, and not all the impacts were assessed. This kind of assessment is defective as it does not compare like for like. The negative impacts of the proposed Project on tourism, fisheries, and climate change on the country as a whole, should have been assessed and reported.

2.26.11 The Marine Ecology Specialist Report (Appendix I10) also concludes, on page 43 thereof, that: *"there is not enough information pertaining to underwater noise and vibration levels from floating power plant ships in the context of the Port of Richards Bay to conduct an assessment. Therefore, general sound levels from commercial vessels and from a powership moored in another location are presented, as are the biological thresholds of sensitive receptors. A quantitative underwater noise assessment is recommended to comprehensively assess the impact on the marine ecology."*

2.26.12 In respect of the Noise Impact Assessment (Appendix I16), the following:

2.26.12.1 It records after Table 9, titled *"Noise Level at receivers during operational phase"*, that: *"Figure 6 Below illustrates the noise contours predicted during the operational phase. The Richard's Bay Nature Reserve will not be impacted as the noise is predicted to dissipate once reaching its boundary"*. However, Figure 6 does not support this statement. There is no indication of where the noise sources are, or where the Richards Bay Nature Reserve is in relation to the noise.

2.26.12.2 The Noise Impact Assessment does not (in map or figure or text form or otherwise) indicate the coordinates or exact location of the noise sources of both the construction and operation of the proposed Project. This is bearing in mind that there will be thirteen (13) towers erected for the transmission lines, which are likely to transverse mangroves and other sensitive birds and protected areas. There is no indication of where all the biological and ecological sensitive habitats will be located on the map or in the text and how far these will be in relation to the source of the noise.

- 2.26.12.3 There are only 6 noise sensitive areas identified. None of these includes the nearby Kabeljou Flats, various Mangroves, Important Bird Area (IBA) or Critical Biodiversity Areas (CBA), estuaries and wetlands. Figure 2 also does not indicate where these are. For instance, in between Noise Sensitive area 6 and the location of the ships are some of the mangrove forests, etc. Some of the transmission lines will also fall within that area. It is unclear why these are not depicted on the map. Therefore, whilst a list of construction noise is depicted, where these are in relation to various biologically sensitive areas, is not depicted.
- 2.26.12.4 The map in Figure 2 also only indicates the mooring of the ship, but it does not indicate the various construction sites of the associated activities including the transmission lines and piling activities that will take place. The map also does not indicate where the mangroves, seagrass and ecologically sensitive areas are in relation to the various construction sites.
- 2.26.12.5 The map provided in Figure 5 of thereto, only models and maps out the impact of Karpowership mooring on the immediate surrounds during the operation phase. There is no similar figure or map provided in respect of the construction phase. Figure 5 also does not indicate the location of the noise sensitive areas that are of biological importance. For example, the location of the various mangroves, estuaries, protected areas, CBA, the Richards Bay Nature Reserve, kabeljou flats, in relation to the noise modelled.
- 2.26.12.6 The map in Figure 5 also does not indicate all the sources of the noise. There seems to be a single point source, which is the mooring site of the Karpowership. It does not seem to include the transmission lines overhead.
- 2.26.12.7 When assessing the cumulative impacts, it indicates that the proposed noise impact of Nseleni Floating Independent Power Plant (NFIPP) (*which would be in a similar vicinity to the Karpowership project*), indicated noise impacts to be of low significance. This is misleading since the environmental impact and estuarine assessments as well as the avifaunal assessments for the NFIPP indicated that the construction and operation of the NFIPP would have significant impacts and would result in a fatal flaw. *"It is the noise of the NFIPP that indicated that the noise impact on birds and other sensitive habitats in the area will pose a fatal flaw to the operation. No mitigation has been identified"*.

- 2.26.13 Based on the deficiencies outlined above, there is no reason to support the conclusion that Richards Bay Nature Reserve or other ecologically sensitive areas will not be impacted by noise from the proposed Project. This is particularly so in the construction phase.
- 2.26.13.1 In addition to Karpowership's own Marine and Estuary Impact Assessments indicates a need for a site-specific sound assessment. An expert report by Michelle Fournet also indicates that site-specific sound modelling is necessary and is possible under the circumstances. Having looked at the FEIAR, the Specialist Reports (Appendix I) as well as the Technical reports (Appendix J) for all three Karpowership proposed Projects at Ngqura, Richards Bay and Saldanha, the expert finds the following:
- 2.26.13.1.1 Local sound propagation modelling is possible and essential to determine the underwater noise impacts, and that propagation modelling from Ghana is not applicable to another area, due to differences in water depth, temperature, seasonality, bottom substrate, bottom densities, and other variables which impact the modelling. Ghana figures are best served as input variables to be included in noise modelling efforts.
- 2.26.13.1.2 Karpowership (i) failed to complete the necessary research (desk or field) to conduct a reasonable environmental assessment of noise impacts in the marine environment; and (ii) failed to propose adequate long term marine noise mitigation.
- 2.26.13.1.3 The FEIAR failed to address the impact of anthropogenic noise on important prey species. This is significant because the proposed sites are in the near proximity or directly adjacent to Marine Protected Areas (MPAs), National Parks and Critical Biodiversity Areas. Noise may endanger prey species in or enroute to these areas. This could disrupt the base of the food web and may be ecologically significant throughout trophic levels.
- 2.26.13.1.4 The FEIAR failed to adequately describe likely potential sound sources and amplitudes (e.g. vessels, pile driving noise, suction noise, etc.). This is significant because, without this information, the studies were unable to understand noise impacts on important species or ecosystems, including how far sound will travel.

- 2.26.13.1.5 The FEIAR failed to adequately quantify baseline ambient sound levels at any of the three proposed sites. This is significant because marine organisms use sound for navigation, prey detection, and foraging, so alterations made to the baseline natural soundscape will have ecological consequences that may be severe.
- 2.26.13.1.6 The FEIAR failed to adequately quantify naturally occurring contributions to the marine soundscape. This is significant because in the absence of known natural ambient noise levels, it is not possible to assess how much the proposed activities will increase ambient noise levels in the soundscape. The naturally occurring baseline is therefore necessary for assessing impacts of proposed noise.
- 2.26.13.1.7 The FEIAR failed to adequately model/measure sound propagation in these regions. This is significant because sound propagation may impact protected areas. Quiet biological sounds are used as a cue for foraging megafauna such as odontocetes. Anthropogenic noise at even low levels in these regions may mask biologically relevant sounds associated with predator foraging or larval settlement.
- 2.26.13.1.8 The FEIAR failed to assess the risk associated with permanent soundscape alterations due to permanent changes on the seafloor due to construction activities. This is significant because animals use the soundscape as a cue to inform migration, habitat suitability and settlement (i.e. where juvenile animals select to grow and populate).
- 2.26.13.1.9 The FEIAR failed to consider the impact of noise on marine areas outside of the immediate construction range including coastal areas and along vessel routes. This is significant because vessel noise outside of, and adjacent to, the proposed powership may permeate and potentially overwhelm protected areas. Vessel noise has a wide range of negative impacts on marine fauna throughout the food web. These impacts may be ecologically substantial.
- 2.26.13.1.10 The FEIAR failed to consider the physiological effects of anthropogenic noise on sound sensitive species including marine mammals, invertebrates, and fish. This is significant because the studies failed to consider how biologically critical behaviours that are important both for the fitness of the individual and overall population may be impacted.

- 2.26.13.1.11 The FEIAR failed to adequately consider the impact of noise on the behaviour protected or sound sensitive species - including marine mammals. Noise can have significant impacts such as separating cetacean calves from mothers. This is particularly relevant given the recent decline in Southern right whale abundance (including cows and calves) and given that humpback cow-calf pairs utilize this area and may be disturbed by noise.
- 2.26.13.1.12 The FEIAR failed to incorporate International Whaling Commission's (IWC) Resolution 2018-4. Resolution on Anthropogenic and Underwater Noise, which requires effective remediation of noise impacts when cost effective solutions are available and states a lack of information is not grounds for ignoring the potential threats of anthropogenic noise.
- 2.26.13.1.13 The FEIAR failed to consider impact of noise on the ecosystem holistically, including a failure to consider the links between trophic levels (e.g., predator and prey), and links between ecosystems and economics (e.g., commercial fish and fisheries). This is significant because it omits some of the largest, though not immediately obvious, potential and cumulative impacts of noise on this ecosystem and the users who rely on it.
- 2.26.13.1.14 The FEIAR failed to incorporate best science into assessment of underwater noise impacts. This is significant because the results of the EIA mitigation efforts are not based on reliable scientific information, and therefore may not adequately protect sensitive ecosystems.
- 2.26.13.1.15 Where the FEIAR indicates that there is minimal impact to noise on sensitive species, or that there are adequate mitigation measures which exist to mitigate the impacts, these findings in fact cannot be supported or relied upon due to the lack of a proper study to substantiate these claims.
- 2.26.13.1.16 The lack of research resulting from this exact region on these specific faunal communities is not grounds for ignoring potential noise impacts, rather it is a greater indication of the need for baseline research in this region prior to development, and a need for careful mitigation measures.
- 2.26.14 Given that there are significant gaps identified in the sound assessment conducted by Karpowership, which may have impacts on the sensitive areas, and mortality rates of

various fish and crustaceans, specific to each region, the EA should be refused, as the assessment is not sufficient for decision-making. Additionally, the South African taxpayers will be incurring the costs of this unnecessarily expensive gas infrastructure.

- 2.26.15 The rejection of the EA application for a power plant that will contribute significantly to climate change and has potentially significant adverse impacts on the marine environment that have not been fully understood, is entirely justifiable.

Summary of comments from Karpowership

- 2.27 In their comments, Karpowership submits as follows:

- 2.27.1 The aims and principles espoused by the RMI4P, and the allocation of SIP status are in fact vital to the orderly execution of the government's plans to obtain power and diversify its sources of power for the country (see the IRP 2019). The RMI4P is the government's response to the dire need for more power to be supplied to the national grid. It is incorrect that no bearing can be ascribed to the SIP status of the Karpowership Projects. The ascribed SIP status and the development and execution of the REI4P by another organ of state is therefore a heavily weighted consideration in this EA application and serves as 'incontrovertible' evidence of the need and desirability of the proposed Project.
- 2.27.2 However, Karpowership fully agreed that all considerations need to be given proper weight when the CA makes a decision. Karpowership only requested that the economic needs are not merely side-lined for environmental concerns.
- 2.27.3 The CA is obliged to consider the greater socio-economic aspects and weigh them up against the environmental impacts of the proposed Project. Karpowership SA has not argued that socio-economic needs and procurement considerations should be considered superior to environmental concerns but is requesting that these considerations be given the weight they deserve in comparison to the environmental considerations. The crux of the argument is that the current EA application should be seen in light of the purpose for which the EA was sought: to comply with a bid submission for the Risk Mitigation Power Procurement Programme.

- 2.27.4 There is however no evidence in the RoR that the FEIAr was holistically assessed or that the proposed Project would have a long-term negative environmental impact. The CA seems instead to have focussed on the micro-environmental issues raised by the NGO's (and supported by an emotive media) and then seems to have given these issues an undue weighting in reaching its decision whilst the voices of the local communities seem to have been largely unheeded. No fatal environmental flaws were identified. Properly and objectively considered, it is clear that the project should have been authorised.
- 2.27.5 The decision-maker is not bound to follow any recommendations in the FEIAr, but they are bound to at least consider them and where they disagree to state as much. There is no evidence that the Socio-Economic Impact Assessment was adequately considered nor were any questions addressed to Karpowership prior to the decision in order to gather more information, engage on concerns or settle any queries. This would have been standard in the process for any other applicant in a transparent and balanced engagement.
- 2.27.6 Karpowership has proven that they are one of the lowest cost and best value for money bidders in the RFP. Notably, Karpowership Richards Bay Project is the third (3rd) cheapest of the Preferred Bidders. LNG is a vital part of the RMI4P and a crucial transitional fuel for South Africa, both in terms of moving away from coal (with very high GHG emissions) and meeting the immediate goal of reducing load shedding. In addition, Karpowership meets the requirements of the RFP to be on stream by December 2022 and is a technology new to South Africa. The Powership shall operate for approximately 16 hours a day, depending on the needs of the national grid, as per the Peaking Power Requirements. Projects selected for the 20-year power purchase agreement under the RMI4P must be able to operate between 05h00 and 21h30 daily and must have full load-following ability.
- 2.27.7 The socio-economic impact assessment casts a 'wide net', as the creation of jobs cannot only be localised to the Port of Richards Bay. By the same logic, the economic suffering as a result of load shedding in the country would be 'localised' to the place where power is generated or where the substations are located. This necessitates that the impact of readily available and on-demand produced power will benefit the entire country and consequently, lead to job creation across the entire country. The socio-economic impact assessment

therefore looked at both the local and wider impacts of the project because the creation of jobs and other positive and negative impacts cannot be only localised to the Port of Richards Bay. If only local impacts were relevant, then only the localised economic benefits and the local suffering caused by load shedding would be considered. Since the impact of readily available and on-demand produced power will benefit the entire country, the fact that there will be job creation across the entire country is a relevant consideration.

2.27.8 At no point has Karpowership stated or implied that the SIP status of the proposed Project should override environmental concerns. Environmental issues were thoroughly assessed in the FEIAR and no fatal flaws were found. Based on this "*clean slate*," the CA is duty-bound to consider the socio-economic aspects of the project and then take a balanced decision.

2.27.9 The socio-economic benefits of the proposed Project have been thoroughly researched and analysed in the specialist reports, specifically the Socio-Economic analysis. It is agreed that the socio-economic benefits are only one consideration, but it appears that this consideration was not given due consideration by the CA, especially for the wider South African community. Furthermore, the larger Richards Bay community is decidedly not reliant on small-scale fishing.

2.27.10 In respect of noise impacts:

2.27.10.1 At the time of the initial round of studies for the EIA process, the underwater noise was considered to have been sufficiently addressed through the noise impact assessment report, which was part of the Draft EIA, the Marine Impact Assessment Report and the Ghanian study, which were included in the FEIAR.

2.27.10.2 There have been sufficient studies of underwater noise and its impacts on the surrounding marine life, include mammals. The powerships will be located in the industrial Port of Richards Bay, which is only occasionally host to sharks and dolphins. The Marine Ecological Report explicitly stated on page 23, that mammals tend to steer clear of the Port.

- 2.27.10.3 Additionally, the conclusion of the peer review by Promethium Carbon (Page 18) supported the CCIA by Themis, as follows: *“Based on the above, we believe that Themis has addressed and contextualised, the impacts of climate change on the three proposed powership projects. Themis presented a well-structured and thoroughly researched document. Based on the above, we believe that the CCIA does sufficiently consider climate change as part of the EIA for the proposed Karpowership Gas to Power Projects located within three South African ports namely: Port of Ngqura (Eastern Cape), Richards Bay (Kwazulu-Natal) and Saldanha Bay (Western Cape).”*
- 2.27.10.4 In other words, the impact of the current Project is already measured against a cumulative baseline. It is worth noting that this stance on cumulative impacts is based on Promethium’s approach and peer review.
- 2.27.10.5 Should the CA choose to have a stance that the proposed Project has a fatal flaw, all projects generating electricity via LPG or LNG with an output of more than 450MW and similar emissions intensity would be considered as fatally flawed and rule out substantive operations that are crucial to sustainable energy supply. In the same light, gas-to-power projects that have been recently authorised, should be revoked.
- 2.27.10.6 In terms of Just-Transition for South Africa, the technology agnostic approach of the Risk Mitigation Independent Power Producer Procurement Programme could mean thermal, renewable and storage solutions will combine to meet a specific grid need, making the procurement for gas an even more attractive option for the future of energy.
- 2.27.10.7 It is undeniable that the proposed Project will be associated with GHG emissions, as any energy project, including renewables would be. This needs to be weighed against other risks, such as the risks of not proceeding with the project which means load shedding, economic stagnation, and poverty. The CCIA concludes that the proposed Project should proceed and is in line with South Africa GHG emissions obligations.
- 2.27.10.8 Karpowership SA does not dispute the importance of factoring in climate change, but however fail to understand the link drawn between climate change and the Karpowership Projects as a whole. ‘Greener’ renewable forms of energy are not as ‘footprint free’ as

one would believe. As such, it is necessary for the CA to contextualise the outputs of the powerships and further contextualise this in setting of the RMI4P.

- 2.27.10.9 The CCIA has comprehensively assessed the impact of climate change on the Project and of the Project on climate change and has recommended that there are no fatal flaws and that the Project should proceed. LNG acts as an important transitional fuel and complements renewables to provide critical power to the grid to prevent loadshedding. This will prevent economic stagnation, energy poverty and further unemployment.
- 2.27.10.10 Comprehensive noise assessments were undertaken and indicate that the impacts (if there are any) are low and will therefore be of low significance or impact on the surrounding environments (see the Ecological Impact Assessment in Section 9, on page 49 to 51). There is no anticipated noise impact on the swamps and mangrove systems.
- 2.27.10.11 The issue of noise has been apparently misunderstood by the commenting I&APs. The commenting I&APs paint the picture that there is a massive impact on pristine oceans when in fact the powerships will be sighted in a heavily impacted brownfields port. All potential impacts have been carefully studied by specialists in the EIA process and no fatal flaws have been identified. A summary of the noise reports and studies is attached as Annexure B to the Executive Summary submitted on appeal. As is apparent from the table provided, noise has been well studied as part of this EIA process, in accordance with the noise specialist resources available for a South African EIA process.
- 2.27.10.12 The source of noise will be in the location where the powership is moored. These diagrams of the noise can be found on page 23 of the Noise Assessment conducted by Safetech. There are various maps within the Safetech report. The map on page 16 of the Noise Assessment indicates all noise sensitive areas. Additionally, there is an image on page 25 of the report which details the cumulative impacts of surrounding developments. The map also indicates all forms of construction and impacted areas.
- 2.27.10.13 The report from Safetech does not include an image on Noise levels during construction phase. However, it must be noted that construction will be a part of the current Port activities and does not include any dredging. Additionally, noise impacts are addressed

in the Avifaunal, Estuarine and Marine reports (on page 296 of the FEIAr). Transmission lines do not create noise.

2.27.10.14 The Noise assessment assessed the cumulative ambient noise only and from that perspective, noise impacts would be of low significance.

2.27.10.15 The noise impacts on birds from the final EIA submission by NFIPP has been downscaled from Fatally Flawed to High. Also, no underwater noise assessment was completed for that project. Lastly, the NFIPP project had not yet been approved by the CA and was still in the draft phase when the FEIAr for the proposed Project was submitted to the CA.

2.27.10.16 It is believed that noise has been adequately assessed through the various reports that have been done as per the table provided on appeal and marked as Annexure B. As there is no existing powership project in South Africa, this information would have to be developed over time. The specialists have confirmed that no unacceptable negative impacts are expected from underwater noise. Further detailed modelling and monitoring will be done over time during operation of the powerships.

2.27.10.17 As the predicted impact was low, generally and across all species there was no requirement to carry out species-specific research, specifically due to the fact that the species are not prevalent in the Port and impacts will not be felt beyond the ports.

2.27.10.18 The noise emanating from the powership is taking place in a busy harbour environment that is already impacted. There are no anticipated unacceptable noise impacts nor sensitive species as the harbour is already highly impacted.

2.27.10.19 There are no specialists available in South Africa that can do such reports. As such the Safetech and Lwandle Marine Ecology report combined (i.e. noise and ecology). The result was that the reports predicted low impacts on marine life. It must be stressed that GW continues to over emphasise the sensitivities and impacts. In reality the Powership will be sited in a heavily impacted brownfields port. All potential impacts have been carefully studied by specialists in the EIA process and no fatal flaws have been identified.

2.27.10.20 Despite there being no underwater noise thresholds to work with, noise has been very well studied as part of this EIA process, arguably the most comprehensive noise assessment ever done in a South African EIA. In line with the 1st Commenting I&AP's misinformation campaign, the issue of noise has been completely blown out of proportion and misrepresented, painting the picture that there is a massive impact on pristine oceans, when in fact the powerships will be located in a heavily impacted brownfields port. All potential impacts have been carefully studied by specialists in the EIA process and no fatal flaws have been identified.

2.27.10.21 The Avifauna Impact Study was conducted during the peak summer months. The review and commenting on the initial report were done after the summer season. The Avifauna Impact Assessment was comprehensive and is part of the FEIAR as presented. The only potential gap in the Avifauna report would be that the report did not detail the Bonn convention. The principle or guidelines were mentioned, but not specifically saying Bonn Convention. However, after peer review, the report was updated, and the Bonn convention was specifically included in the Final Report with the FEIAR.

2.27.10.22 Detailed thermal plume modelling was done and is part of the EIAR as presented (Appendix J2). The Marine Ecological Impact Assessment (Appendix I15, Section 3.4.3 on page 33 to 40) details the effects of the discharge of cooling water on the marine ecology in the receiving water body.

2.27.10.23 There is no obligation (legal or otherwise) to conduct a socio-economic impact on biodiversity related services, and the omission of such a report does not in any manner renege on the completeness of the EIA process. It must be understood that all reports will have some form of a 'gap' or limitation, but this in no manner inherently means that the report is incomplete. (See FEIAR at Section 8 on page 305). The impact on biodiversity is predicted as low (FEIAR on page 305), so this would be pointless in any event.

2.27.10.24 The sensitivities of the surrounding marine life and the potential socio-economic impacts are overemphasised. In reality, the powerships will be moored in a heavily impacted brownfields port and consequently, the low impacts from the powership will be

predominantly localised to the working harbour. All potential impacts have been carefully studied by specialists in the EIA process and no fatal flaws have been identified.

2.27.11 In respect of climate change impacts:

2.27.11.1 A detailed Climate Change Impact Assessment (CCIA) was included in the FEIAr, which presents objective information to the decision maker.

2.27.11.2 The impacts of the proposed Project on climate change are by nature cumulative since the receiving environment is the global atmosphere. It is for this reason, following quantification of the GHG emissions associated with project activities, that the relative contribution or expenditure of the Project can be compared to global and national carbon budgets (FEIAr, Section 5.5 and 5.6). Because accumulated GHG emissions from all global sources contribute to climate change, the impacts of climate change cannot be geographically or politically contained, nor can any impact be attributed to a single source or project. The cumulative impacts of gas-to-energy projects at national level can only be meaningfully assessed using approaches such as a Strategic Environmental Assessment (SEA) framework. An exercise of this nature will allow for a national overview of the cumulative impact of gas-to-power projects, and thus a comparison against South Africa's international commitments under the Paris Agreement.

2.27.11.3 Due to the location where the powerships will be moored in the Port, and its substantial distance from any spaces used for tourism or recreational means, the powerships will likely not have an impact on tourism in the Richards Bay or its surrounding areas (see the FEIAr on page 172). As per Section 5 (page 38 to 56) of the Socio-Economic Impact Assessment, there will be no negative impact on tourism. The powerships are docked in the harbour, well away from tourist attractions and accommodation. The indirect impact on tourism of alleviating load shedding is positive, as tourism requires reliable energy and tourists with money to spend.

2.27.11.4 Further, the drawing of direct links of job creation to sustained and reliable power sources, which enable the economy to function and operate properly, is direct. This is because there are select few suppliers of power to the entire national grid. However, to directly link the loss of jobs as a result of climate change or taxpayers' money being used for the construction of 'unnecessarily expensive' infrastructure does not make sense. If

there are any negative impacts as a result of the powerships being moored in the Port of Richards Bay, negative impacts would inherently be localised, but the fact that the power produced feeds into a national grid, the benefits felt would be subject to being under a wider net.

- 2.27.12 Both the substance of the FEIAR and the process were robust and in accordance with the law. Well qualified, experienced specialists were used for all components of the EIAr and no deficiencies in the particular components of the EIAr have been noted by the CA.
- 2.27.13 The EIA clearly considered the potential impact on small-scale fishers and there was proper consultation with the small-scale fishers. Proof of such consultation was to the DFFE. There is a low projected impact on marine life and no detrimental impact on small-scale fishers in the Port of Saldanha Bay, or the Port of Richards Bay, as fishing is not allowed in these Port in terms of harbour health and safety regulations. There is no recognition in the Record of Refusal that the site is proposed in an active Port and existing brownfield site, and that no fishing is allowed by small-scale fishers within the Port. According to the comprehensive assessment, there is therefore no projected negative impact on the small-scale fishers.
- 2.27.14 The Socio-Economic Impact Assessment was further refined to include small-scale fishers and clarified that no fatal flaws were identified and that the net positive impacts are expected to outweigh the net negative effects. In this regard, liaison with the business chambers also occurred during the EIA process.
- 2.27.15 The Socio-Economic Impact Assessment did not address the sensitivities regarding marine ecology, as this is not a mandated study. A detailed site-specific assessment was undertaken on marine ecology by Lwandle, a specialist in Marine Ecology. These factors have been considered under section 5 of the Socio-Economic Impact Assessment, on pages 41 to 66 thereof.
- 2.27.16 If the CA had assessed the EIA holistically, considering all environmental and socio-economic factors, it would have granted the EA. It is therefore clear that the CA erred in its decision to refuse the EA.

Summary of responses from the Competent Authority

2.28 In their responses, the CA advises that:

2.28.1 The EA application was assessed holistically. However the following considerations could not be overlooked:

2.28.1.1 the lack of a qualitative Noise Impact Assessment on megafauna including the Humpback Dolphin: This may have further impacts on socioeconomics for tourism in the region;

2.28.1.2 the lack of a qualitative Noise Impact Assessment on swamps and mangrove habitats: this may also have socio- economic implications for tourism, fisheries, and local fishermen, since mangroves and swamps are nurseries for fish and crustaceans;

2.28.1.3 an inadequate Avifauna Impact Assessment to identify all the important birds, and conservation areas such as Richards Bay Nature Reserve, mangroves, and their habitats: this may also impact on tourism and related socio-economic activities;

2.28.1.4 an inadequate assessment of impacts of thermal water released into the environment: this may impact the food sources for birds, biodiversity related tourism, fishing, and fishing communities;

2.28.1.5 the public participation process conducted by the EAP; and

2.28.1.6 the EIA process as a whole.

2.28.2 In light thereof, the FEIAR dated April 2021 was not a sufficient, adequate and a reliable report upon which to make a decision. Thus the EA application was refused as the minimum requirements were not met, and the impacts could not be properly evaluated due to lack of information or contradictory information.

Evaluation (Reasons for decision)

2.29 In an application for EA for the proposed activities, a holistic assessment of the FEIAR requires the identification, prediction and evaluation of the actual and potential risks, and impacts on the geographical, physical, biological, social, economic and cultural aspects of the environment, in order to find alternatives and options that best avoid negative impacts

altogether, or where negative impacts cannot be avoided, to minimise and manage negative impacts to acceptable levels, while optimising positive impacts, to ensure that ecological sustainable development and justifiable social and economic development outcomes are achieved.

- 2.30 As I have stated under the heading “***The strategic nature of the Project from a need and desirability perspective***” herein above, the ultimate aim of the fundamental rights in the Constitution is not the conservation or protection of the environment for the sake of the environment itself, but the aim thereof is the responsible and sustainable utilisation of natural resources for the sake of satisfying the needs of humans. I have the constitutional and legal obligation not to allow a preventable state of affairs in an environment that may potentially or actually harm the health or well-being, in a wide sense, of another person or persons. The holistic consideration of the proposed Project requires the polycentric consideration of all relevant factors, inclusive of the impact that the proposed Project could have on the much broader community of Richards Bay, some of whom are reliant on small-scale fishing, and of the impact upon their livelihoods due to damage to fishing resources as a result of continuous and significant underwater noise and thermal plume for 24 hours per day for 20 years, near to the breeding grounds of fish species.
- 2.31 The proposed actions of individuals must be measured against the short-term and long-term public interest, to promote justifiable social and economic development and to ensure the simultaneous achievement of the triple bottom-line. Also, the socio-economic merits of a specific application must be decided based on which alternatives represent the “most practicable environmental option”, which in terms of the definition in NEMA and the purpose of the 2014 EIA Regulations, is the option that provides the most benefits and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term.
- 2.32 Considering that the two (2) powerships and related infrastructure will be operational for 24 hours per day (see FEIAr at page 313) for the 20-year duration of the proposed Project, even the so-called “*micro-environmental issues*” that Karpowership refers to, may impact upon the socio-economic status of the area of the proposed activities. For this very reason, “*the voices*

of the local communities" must be heard, and the concerns raised by such communities or individuals need to be addressed in the identification, prediction, and evaluation of the actual and potential risks for, and impacts on all of the geographical, physical, biological, social, economic, and cultural aspects of the environment.

2.33 In evaluating this ground of appeal, I considered that the CA, on 11 March 2021, in their comments on the Draft EIAr, advised Karpowership of the information that must be included in the FEIAR, inclusive of the following:

- 2.33.1 All specialist studies must be final and provide detailed/practical mitigation measures for the preferred alternative and recommendations and must not recommend further studies to be completed post EA (at page 2 paragraph (a)(viii) and at page 3 paragraph (e)(i)(e) thereof).
- 2.33.2 Ensure that all issues raised, and comments received during the circulation of the Draft EIAr from registered I&APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed in the FEIAR (at page 2 paragraph (c) (v) thereof).
- 2.33.3 The public participation process must be conducted in terms of Regulation 39, 40, 41, 42, 43 and 44 of the 2014 EIA Regulations (at page 3 paragraph (c) (ix) thereof).
- 2.33.4 Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defensible reasons; and where necessary, include further expertise advice (at page 3 paragraph (e)(ii) thereof).
- 2.33.5 Should there be any other similar projects within a 30 km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following (at page 4 paragraph (f) thereof):
 - 2.33.5.1 Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e. hectares of cumulatively transformed land.
 - 2.33.5.2 Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar

- developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project.
- 2.33.5.3 The cumulative impacts significance rating must also inform the need and desirability of the proposed development.
- 2.33.5.4 A cumulative impact environmental statement on whether the proposed development must proceed; and
- 2.33.5.5 Should there be significant changes or new information that has been added to the EIAr or EMPr which changes, or information was not contained in the reports or plans consulted on during the initial public participation process, you are required to comply with regulation 23(1)(b) of the 2014 EIA Regulations (at page 5 thereof).
- 2.34 Although I do not address each of the above requirements under this specific heading, my evaluation under each of the headings herein, indicates that the FEIAr did not meet and/or comply with all of the requirements prescribed by the CA.
- 2.35 In considering this ground of appeal, I also took heed of the following:
- 2.35.1 The Socio-Economic Impact Assessment of the proposed Project is addressed in Appendix I15 to the FEIAr.
- 2.35.2 Consultation regarding the small-scale fishing community is addressed in Annexure 3 to the Socio-Economic Impact Assessment (Appendix I15, page 80).
- 2.35.3 Paragraph 7.5.6 (Table 7-2, on pages 164 to 167) of the FEIAr, amongst others, seem to be inserted after the public participation process on the Draft EIAr was completed. This paragraph contains the concerns raised by I&APs during the draft EIA phase, inclusive of the EAP's responses thereto. In this regard, the FEIAr still indicates that future engagements in respect of job opportunities are anticipated for inclusion in Karpowership's comprehensive economic development plan, which plan is still contemplated for the future.
- 2.36 Neither the socio-economic needs nor procurement considerations can elevate the recommendation in a Socio-Economic Impact Assessment report above the holistic consideration of the actual and potential risks for, and impacts on the geographical, physical, biological, social, economic, and cultural aspects of the environment.

- 2.37 My holistic consideration of the grounds of appeal pertaining to this topic, as well as my *de novo* holistic consideration of the application for EA, requires reference to some of the reports submitted with the FEIAR. I turn now to deal with these reports:

The Socio-Economic Impact Assessment report

- 2.37.1 The Socio-Economic Impact Assessment report (Appendix I15) noted in paragraph 3.5.2 on page 37 thereof, that there are two groups of potentially affected communities: the recreational and livelihood fishing and small crafts community, and the tourism node surrounding Alkanstrand and Naval Island.
- 2.37.2 The recreational and livelihood fishers, referred to as "*small fishermen*", fish out of the Richards Bay Port and due to the size of their fishing boats, stay close to shore (within 5 miles of the coastline) to secure their catches. Similarly, there is a small crafts harbour mostly used for smaller fishing vessels and the yachting community. It is recorded that engagements with the small-scale community established that there is no fishing taking place within the harbour itself, but recreational fishing does take place at the harbour mouth some 4 km away from where the FSRU will be moored. All stakeholders who were consulted indicated that it is highly unlikely that the operations will have any impact on the fishing community (see pages 37 to 38 thereof).
- 2.37.3 In respect of the tourism industry, it is noted that the powerships and FSRU are to be semi-permanently moored for 20 years in the same location in the protected waters deep within the Port of Richards Bay, which is some 3 kilometres from the Tourism Precinct area. The recreational activities are all positioned towards the Port entrance and will be unaffected by the powerships. Furthermore, all current recreational and tourist activities are already in an area utilised by operating ships and as such it is unlikely that the powerships will have a significant lasting impact on these activities (Appendix I15 on page 38 to 39).
- 2.38 The Socio-Economic Impact Assessment report also states the following:
- 2.38.1 Under the heading: "Temporary increase in employment in the national and local economies", the following: "*The proposed Powerships and their related infrastructure are*

anticipated to directly create approximately 108 Full Time Equivalent (FTE) employment positions over the course of the construction phase (on page 49), apart from which only a positive spin-off effect on the employment situation in other sectors of the national and local economies is anticipated. It is then recommended that the developer encourage the contractor to fill as many positions as possible using labour within uMhlathuze Local Municipality.

- 2.38.2 Contrary thereto, it is stated under the heading *"Temporary increase in household earnings"*, that: *"The proposed Powerships and their associated infrastructure development will create a total of 1 001 FTE employment positions during construction"* (page 51).
- 2.38.3 *"The positive effects generated by the project will not entirely offset all the negative impacts. These include impacts on the sense of place, and economic infrastructure that could occur during both construction and operational phases. These impacts though will affect local communities either temporarily or over the long term. These impacts are not highly significant and can be traded off for the net positive impact created by the project in terms of production, employment, government revenue, community benefits and households' earnings."* (paragraph 6.2.4 on page 68 and 73)
- 2.38.4 Contrary thereto, it is stated in paragraph 6.3 on page 73, that : *"Based on the information presented in this report, it is evident that the net positive impacts associated with the development and operation of the proposed Powerships and their associated infrastructure are expected to outweigh the net negative effects. The project is envisaged to have a positive stimulus on the local economy and employment creation, leading to the economy's diversification and a small reduction in the unemployment rate. The project should therefore be considered for development. No fatal flaws were identified as part of the socio-economic assessment*
- 2.38.5 During the construction phase: *"The project will be creating negative direct, secondary, and cumulative impacts on the local communities, specifically areas surrounding the site where the proposed facility is to be built. The main factors that will cause this negative impact are (1) the influx of workers and job seekers from outside of the local community, (2) the impact on the surrounding economic and social infrastructure and (3) the limited visual and noise disturbances that could be created by the construction activities as the*

footprint of the facility grows" (page70), and "Potential negative impacts can largely be mitigated, and their significance reduced. The minimal visual impacts anticipated, however, cannot be fully eliminated although their significance is low as the surrounding area is industrial in nature and relatively far from residential areas."

2.38.6 During the operational phase: "Negative impacts include the potential changes in the sense of place. These potential losses, if they do occur, are likely to be small, given the industrial nature of the proposed development area", and "... negative effects can be mitigated (although not entirely eradicated), and positive impacts enhanced." (page 71).

2.38.7 In the conclusion (with emphasis added): "It should, however, be acknowledged some negative impacts may arise and that these will largely be borne by households in proximity to the development. The industrial nature of the surrounding area and limited number of such households within close proximity to the development will help to notably reduce this impact. Equally it needs to be noted that many of the positive impacts will be concentrated in the local and national economies, creating a potential imbalance with the potential negative impacts that would exclusively be concentrated at a local level." (paragraph 6.3 on pages 73 to 74)

2.39 I am therefore of the view that the Socio-Economic Impact Assessment report did not include an analysis of the actual and potential risks and impacts, based on the following:

2.39.1 Local fishermen expressed their concerns about the impact of the Project on the fish, and fishermen, given that fishing is their only form of livelihood.

2.39.2 Moreover, they expressed a sense of loss of place due to the visual impact that the powerships will bring as well as possible impacts on fishing and livelihoods.

2.39.3 The socio-economic assessment did not assess all the sensitivities on fish and marine life in the area.

The Marine Ecological Assessment

2.40 The Marine Ecological Assessment (Appendix I10) records on page 7 thereof, that the greater Richards Bay area provides many ecosystem services to society, most of which fall under socio-economic topics, and some are directly dependent on ecosystem health and functionality. These ecosystem services to society include the following:

- 2.40.1 Fisheries, mainly recreational and subsistence, but commercial fishing occurs on the adjacent continental shelf.
 - 2.40.2 Raw materials for firewood and building from plant resources.
 - 2.40.3 Carbon sequestration by, for example, phytoplankton and mangroves within the estuary and Port area.
 - 2.40.4 Protection from extreme sea conditions and large swells provided mainly by the mangrove stands, and regulation of water flows from, for example, Stormwater runoff.
 - 2.40.5 Ecotourism and recreation provided by the Richards Bay Nature Reserve and the surrounding beaches and water body. The sea and estuary areas are also used for various ceremonies by residents in the area.
 - 2.40.6 Nutrient cycling, in which mangroves play an important role and which allows for primary production.
 - 2.40.7 Nursery areas, refuge areas and food sources for numerous marine biota, some of which are commercially important.
 - 2.40.8 River flow, which supports some species through, inter alia, the transmittal of olfactory cues to the offshore region.
 - 2.40.9 Effluent disposal and intake waters used for various industrial applications such as cooling, desalination, and processing.
 - 2.40.10 Commercial transport, which is significant as Richards Bay hosts several large commercial terminals.
-
- 2.41 Even though these ecosystem services to society admittedly fall under socio-economic topics, the potential impact thereon was not assessed as part of the Socio-Economic Assessment.
 - 2.42 The study area and scale of the Marine Ecological Assessment records that disturbance to the seabed during pipeline installation and burial, the discharge of heated cooling water and the generation of underwater noise, are considered to be the most important sources of disturbance to the marine environment (paragraph 1.2.1 on page 5).

- 2.43 According to the Marine Ecological Assessment, the Port of Richards Bay's important habitats include the mangroves, intertidal and shallow subtidal mud and sand flats, the subtidal benthic zone, and the water body itself.
- 2.44 The Intertidal and Shallow Subtidal Habitats include the mangroves, characterised by high productivity, supporting large numbers of invertebrate and fish species, multiple salt marshes that add to the region's ecological integrity, well established seagrass beds (*Zostera capensis*) which are extensively used by fauna and play an important role in estuarine ecosystem functioning, mudflats that support a high diversity and abundance of macrobenthos and serve as an important nursery ground for fish, and sandflats that are considered an important nursery ground for juvenile fish and serve as a habitat for birds (paragraph 2.5.1 on page 16 to 17).
- 2.45 The benthic macrofauna assemblage within the Port of Richards Bay include macrofaunal densities in the mudflats to the south-west of the proposed powership and FSRU site, polychaete worms primarily dominate the community in the proposed development area, several larger crustacean species and penaeid prawns - an essential component of the bait, and commercial fishery and the Port and Umhlathuze Estuary acts as an important nursery ground for these species (paragraph 2.5.2 on page 17 to 19).
- 2.46 Being an estuarine system, the undeveloped, shallower sections of the Richards Bay Port function as an important nursery ground for many fish species. In most studies conducted, most fish sampled were juveniles occurring within the intertidal and shallow subtidal zones, demonstrating the importance of this habitat. Several shark and ray species have also been recorded to occur in the Port, including bull shark, blacktip shark, dusky shark, milkshark, giant guitarfish, sharpnose stingray and honeycomb stingray (paragraph 2.5.4 on page 21 to 23).
- 2.47 The Richards Bay area is a preferred habitat of the Indo-Pacific humpback dolphin, the species occurs within the Port and feeds in the entrance channel. Based on species distributions, several other dolphin species may occur in the Port's vicinity as well, while whales, including humpback whales and southern right whales, generally occur further offshore. Five turtle species occur on the east coast of South Africa. Important loggerhead

and leatherback nesting sites occur along the sandy beaches north of the Port of Richards Bay.

- 2.48 Several fish and megafauna that are known to occur within or near the Port are also listed as being threatened by the IUCN Red List (IUCN, 2020). The dusky kob and dusky shark are Endangered, as is the Indian Ocean humpback dolphin. Several species are Vulnerable, and bonefish, catface rockcod, bronze bream, bull shark and blacktip shark are listed as being Near Threatened. Several seabirds in the area are also threatened. (paragraph 2.6 on page 23)
- 2.49 The impacts identified in the Marine Ecological Assessment (Appendix I10) includes the following:
- 2.49.1 Gas pipeline construction and installation will disturb approximately 17 000 m² of benthic habitat within the site-specific area of about 78.5 ha. This will result in the modification of approximately 2.1% of the benthic community structure on site. Following installation, sessile organisms should colonise hard surfaces causing a minor increase in benthos biodiversity in the project area and resulting in restored ecological function. Disturbance to benthic fauna is an unavoidable consequence of the proposed development. No mitigation measures are proposed but contractors laying the pipeline and anchors should minimise the area of seabed disturbed (paragraph 3.4.1 on page 27 to 29).
- 2.49.2 Seawater abstracted by the two (2) powerships will entrain small marine organisms such as holoplankton, meroplankton and ichthyoplankton from the surrounding water body condenser cooling systems. This will be coupled with the impingement or trapping of larger organisms against the screens used to prevent debris from being drawn into the cooling water intake. As entrained organisms pass through the pumps, they are exposed to collective changes in hydrostatic pressure, shear forces, accelerative forces from changes in velocity and direction, and mechanical buffeting and collision against the pump mechanisms' hard surfaces. These can cause physical damage to marine organisms, especially larger, more fragile species, resulting in death or incapacitation, the latter reducing their ability to escape predators post-discharge. Furthermore, the abstracted seawater receives excess heat and increases in temperature through the cooling process,

inducing thermal stress on entrained organisms. Temperatures of the cooling water can be expected to increase by 15°C (ΔT) whilst in the system. Rapid temperature increases above ambient conditions can affect marine organisms' survival, growth, metabolism, morphology, reproduction, and behaviour (paragraph 3.4.2 on page 30).

- 2.49.3 The seawater abstraction process also affects other, generally larger, marine organisms such as juvenile fish through impingement on the intake pipes' screens. Notable organisms that can be impinged in the Port include juvenile fish, several shark species, and several species of cetaceans.
- 2.49.4 The discharge of warmed cooling water into the surrounding water body causes temperature changes which in turn generates chronic level effects on biota. These include alterations in the growth, metabolism, respiration patterns and reproduction of marine organisms/ life, and/or influence ecosystem-level processes such as alterations in the amount of oxygen dissolved in seawater, which can be detrimental to marine life. The sensitive receptors comprise the 'resident biota', including mangrove communities, seagrass beds, benthos on the sand and mudflats, fish larvae, and juvenile fish in the water column. Mudflats and sandflats support a high biological diversity level and are considered an important nursery ground for juvenile fish. Each year millions of larval and juvenile marine fish migrate into the Port of Richards Bay to use it as a sheltered, food-rich nursery area (paragraph 3.4.3 on page 33).
- 2.49.5 The proposed floating power plant (FPP) facility in the Port of Richards Bay is surrounded by important habitats such as the mangroves, seagrass beds, intertidal and shallow subtidal mud and sand flats, the subtidal benthic zone, and the water body itself. These areas could be impacted by the surface noise and the underwater noise from the vessel operations. Underwater noise from human activities is known to have a number of adverse effects on individual aquatic organisms. Effects may arise from exposure to brief high-level sounds and may include death, injury, permanent or temporary hearing impairment or those behavioural responses that may disrupt important life functions. With longer exposures, chronic effects may occur, including developmental deficiencies and physiological stress. These may affect life functions, including individual health and fitness, foraging efficiency, avoidance of predation, swimming energetics and reproductive behaviour (paragraph 3.4.4 on page 41 to 42).

- 2.49.6 The sensitive receptors to noise within the Port of Richards Bay are fish and marine mammals. To a certain extent, benthic invertebrates may also be impacted by underwater noise and vibration, but evidence of this is limited. Richards Bay acts as an essential nursery habitat for many fish species due to its sheltered and food-rich waters. Aggregations of juveniles are present in the area during key recruitment periods (August to November). Juveniles are considered more sensitive to noise disturbances as they are less mobile, while adult fish can move out of affected areas.
- 2.49.7 Other important receptors in the area are the various seabird species. Penguins show avoidance responses at approximately 110 dB, cormorants have an underwater hearing threshold of 71 dB at 2 kHz and the underwater hearing threshold of northern gannets is 101 dB at 1 kHz and 90 dB at 2 kHz (paragraph 3.4.4 on page 42).
- 2.49.8 A better understanding of the underwater noise climate in the Port of Richards Bay is required to place the noise generated by the powership in context (paragraph 3.4.4 on page 43).
- 2.50 The Marine Ecological Assessment concludes that there is not enough information about underwater noise and vibration levels from floating power plant ships in the context of the Port of Richards Bay to conduct an assessment. Therefore, general sound levels from commercial vessels and from a powership moored in another location are presented, as are the biological thresholds of sensitive receptors. A quantitative underwater noise assessment is recommended to comprehensively assess the impact on the marine ecology (paragraph 4 on page 43).

The Avifauna Impact Assessment

- 2.51 The "*Independent Review of the Avifaunal Assessment of the Proposed Gas to Power Project Karpower Project, Richards Bay, KwaZulu-Natal*" dated 23-25 April 2021 could not agree that the Project should go ahead. The peer review that was conducted therefore contradicts the findings of the original assessment, and no new assessment was done in this regard, to provide a firm position on the proposed development.
- 2.52 The said peer review indicated, amongst other findings, that:

- 2.52.1 while the original study mentions a number of times that the sandpit and Kabeljou flats areas in the harbour area have been identified as very sensitive habitat for water-associated birds, and waders in particular, and are irreplaceable, there has not been enough emphasis on these two areas, especially the Kabeljou flats, which are basically an extension of the Richards Bay Game Reserve and act as a buffer zone to the Protected Area. Any downsizing, or loss, of the Kabeljou flats could have a devastating effect on the Richards Bay Game Reserve. South Africa, as signatory to the Bonn Convention and the African Eurasian Waterbird Treaty, would be remiss to allow this to happen; and
- 2.52.2 not considering the thermal heating of water as a potential threat to food resources and the risk of pollution from the ships, e.g. oil, ruptured undersea pipes, etc, is likely to have large negative effects on the food sources and thus on the birds.

The Noise Impact Assessment

- 2.53 The Noise Impact Assessment (Appendix I16) was conducted by Safetech and it only deals with terrestrial noise (paragraph 5 on page 18). However, with regards to the underwater noise impacts (paragraph 7.7 on page 26) this assessment acknowledges the following:
- 2.53.1 In marine environments sound is important to animals as it is used for a variety of purposes such as communication, navigation, orientation, feeding and the detection of predators. The limitation of vision, touch, taste, and smell in water means that sound is critical due to its physical properties for example, speed of transmission and is this an important sensory medium for marine animals.
- 2.53.2 Marine mammals use sound as a primary means for underwater communication and sensing. They emit sound to communicate regarding the presence of danger, food, a conspecific or other animal, and also about their own position, identity, and reproductive or territorial status. Underwater sound is especially important for odontocete cetaceans that have developed sophisticated echolocation systems to detect, localise and characterise underwater objects, for example, in relation to coordinated movement between conspecifics and feeding behaviour.
- 2.53.3 Anthropogenic changes to the acoustic environment include increases in the number of high intensity noise events and chronically elevated and homogenised background sound levels.

Any increase in anthropogenic noise could thus have significant effects on the environment in an ecologically sensitive area.

2.54 The underwater noise that could be generated in this Project includes, but is not limited to, the following:

2.54.1 An increase in marine traffic during LNG deliveries. The main noise sources will be propeller noise, sonar ranging devices and engine noise transmitted through the hull.

2.54.2 Pile driving when constructing and installing the LNG offloading infrastructure.

2.54.3 Noise that is radiated through the hull of the two (2) powerships during power generation.

2.54.4 Noise from the suction and discharge of cooling water used on the powerships into the harbour environment.

2.55 The Noise Impact Assessment (Appendix I16) then records that:

2.55.1 The results of a study conducted in April 2021 in Ghana of a similar Powership by GDS R&D and AB MECHENG shows that in the immediate vicinity of the hull of the vessel, the underwater noise does not appear to exceed 110dB at frequencies in the 1/3 octave band scale. The Ghana study however only applies to a berthed Powership and not to the vessel traffic associated with the operation thereof, such as LNG deliveries, etc. The ecological specialist studies can use the Ghana study data to evaluate the underwater noise impacts. (paragraph 7.7 on page 27).

2.56 The Noise Impact Assessment concludes (paragraph 8 on page 27) by highly recommending the following:

“(a) Install acoustic enclosures around all major noise emitting components to suppress the noise emissions from equipment such as engines, exhaust stacks etc.

(b) Install silencers on equipment such as exhaust stacks outlets and all air outlets and inlets.

(c) Periodic terrestrial noise measurements are taken during the construction and operational phases.

- (d) *A hydrophone system is used to determine the underwater soundscape in the vicinity of the Powership berth, FSRU, LNGC berth, harbour entrance and other sensitive areas in Richards Bay to determine the current underwater noise environment. This should commence prior to construction and continue periodically once the operational phase commences."*

2.57 However, the Noise Impact Assessment does not indicate whether any of the above recommendations are practically possible; and if so, whether the specific vessels to be used in the proposed Project, are so equipped.

2.58 Considering that the Ghana study only applies to one berthed powership, I am of the view that the Noise Impact Assessment did not assess all of the potential impacts of the activities of the proposed Project, especially since (i) the cumulative underwater noise impact to be propagated by the three (3) vessels to be used in the proposed Project, and (ii) the cumulative underwater noise contribution of the LNG carrier from time to time, were not assessed.

2.59 The Technical Report of Terrestrial and Underwater Radiated Noise (URN) Evaluation (Appendix J) acknowledges the following:

2.59.1 Noise travels much more in water, covering greater distances than it would do on land while travelling through air.

2.59.2 The effect of underwater noise pollution is more painful than anything else for marine animals. Most animals are alarmed by the alien sounds. Deaths can occur due to haemorrhages, changed diving patterns, migration to newer places, and damage to internal organs and an overall panic response to the foreign sounds. There is also a disruption in normal communication between marine animals as a result of underwater noise pollution. This means animals prone to noise pollution are unable to call their mates, look for food or even make a cry for help under such circumstances (paragraph 1.1 on page 12).

2.59.3 Many marine animals like fish (rockfish, herring, san eel, cod, blue whiting, etc.) show signs of extensive damage to their ears upon exposure to seismic air guns even up to several kilometers. Exposure to noise during embryonic stage increases sensitivity of fish to noise impact, increasing the mortality rates at time of birth and development of genetic anomalies.

- 2.59.4 The migration of marine animals to new areas not only affects the marine diversity balance, but indirectly affects humans too. A decreased catch in many fish species like herring, cod, and blue whiting, especially in areas susceptible to noise pollution from ships, has been noticed. Dislocation or movement of marine animals to newer locations is also one of the many ocean noise pollution effects. While this may seem like a survival mechanism, studies conducted for a follow up on these animals is not that promising as most animals fail to acclimatize in the new environment, not to mention loss of diversity in many regions.
- 2.59.5 Sensitivity of various marine animals to ocean noise pollution is varying. While cetaceans like whales and dolphins may show a greater resistance, soft shelled species like mollusks, prawns, fish, etc. are much more sensitive. However, it is important to note that as many as 24 cetacean species have shown negative effects of noise pollution in the ocean. In all, about 55 marine species have been noted to have suffered due to exposure to sound of varying frequencies. These include sperm whale, grey whale, minke whale, pygmy sperm whale, killer whale, sea bass, pink snapper, goldfish, cod, haddock, bluefin tuna, squid, lobster, brown shrimp, etc.
- 2.60 The Technical Report of the Terrestrial and Underwater Radiated Noise (URN) Evaluation (Appendix J), states that:
- 2.60.1 The powerships examined in this study are not in navigation; therefore, they do not radiate the noise through underwater caused by the ship's speed. Considering the higher level of noises that are generated at speed of over 15 knots or higher, caused both by the interaction of the ship structure with the wave and the cavitation in the propellers, powerships are of no concern for those noise sources as the ship is docked in its normal operations (paragraph 3.2 on page 31). This study therefore did not take into consideration all of the proposed activities in the proposed Project.
- 2.60.2 The study nevertheless indicated that there is no standardisation yet on the awareness of sensitivities of marine life against the harmful URN caused by the powerships (paragraph 5 on page 45).
- 2.61 These specialist studies are indicative thereof that the deficiencies, concerns, and gaps outlined by the CA in the RoR and other I&APs are valid. The Socio-Economic Impact

Assessment report, and Karpowership themselves, brushed aside these environmental concerns that have the potential to impact on the livelihoods of small-scale fishers, as “*micro impacts in the brownfields ports*”, or “*micro-environmental issues*”, and offer limited job opportunities as a trade-off.

- 2.62 The FEIAr furthermore includes a significant change from the Draft EIAr, both in the “*Impact assessment findings (with and without mitigation): Powership and Gas Pipeline Alternative 1: Construction Phase*” (paragraph 8.4.8.4 on pages 256 to 259 of the FEIAr), and in the “*Impact assessment findings (with and without mitigation): Powership and Gas Pipeline Alternative 2: Construction Phase*” (paragraph 8.4.8.5 on pages 259 to 261 of the FEIAr) relating to the laying of the mooring facilities (i.e. heavy chain, anchor system) and the proposed subsea pipeline, which will result in localised disturbance of the intertidal and subtidal soft-sediment environment, with knock on effects for benthic and pelagic organisms, which may result in smothering and/or injury of estuarine/marine organisms.
- 2.63 Despite the finding that this proposed activity “*will result in localised disturbance of the intertidal and subtidal soft-sediment environment, with knock on effects for benthic and pelagic organisms, which may result in smothering and/or injury of estuarine/marine organisms*”, this impact is justified by the statement that the area of disturbance is small, and then, inexplicably, and contrary to the finding, unlikely to compromise the benthic communities.
- 2.64 It was also added in the Coastal and Estuarine Impact Assessment Report (Appendix I9), that “*mooring of the FSRU will take place 200 m away from the sensitive sandspit where higher densities and diversity were found. Physical disturbance of the intertidal zone is expected during the assembly of the gas pipeline and undertaking of other construction related activities for the project.*” With the FSRU only 200 m away from such a sensitive area, the impact of the “*knock on effects for benthic and pelagic organisms, which may result in smothering and/or injury of estuarine/marine organisms*” seems inevitable.
- 2.65 Under the impact “*Disturbance or loss of terrestrial fauna*”, at the mitigation of impacts, the changes include “*No vessels may access the Kabeljous Flats. The sandspit and Kabeljous Flat must be designated no-go areas, i.e. these areas may not be utilised in any way to*

support or facilitate construction/mooring activities, storing of materials, etc.” (pages 258 and 260 of the FEIAR), and yet, the mooring of the FSRU will take place only 200 m away from the sensitive sandspit.

2.66 These proposed activities will also generate underwater noise, but the impact thereof upon the marine ecology was not assessed in the Marine Ecology Specialist study or in the specialist study on Noise Impacts.

2.67 In my assessment of this ground of appeal I am satisfied that the CA correctly found that:

2.67.1 *“While the Noise Specialist Report (dated October 2020) notes, the close proximity of the Richards Bay Nature Reserve to this noise source, it only quantifies above-ground noise, and only determines the impact of noise on human sensitive receptors. It does not detail what impact noise of between 50 and 70dBA would have on non-human receptors within the nature reserve. The Richards Bay Nature Reserve should have been identified as a sensitive receptor for non-humans. The potential for disturbance to birdlife and reclusive species in the fringes of the reserve's swamp and mangrove forest components is a critical omission in terms of the impact assessment. Noise of 50dBA would most certainly result in displacement of species from their core habitat; however, this is not mentioned or assessed, and mitigation measures are not provided.”; and*

2.67.2 *“The “Marine Ecology Specialist Study G2P Development, Port of Richards Bay” dated April 2021 recommends that a Noise Modelling Study should be undertaken to gain a more quantitative understanding of the noise produced from power ship operations in the Port of Richards Bay and the cumulative impacts on the surrounding marine ecology. The same recommendation is reinforced by the Estuarine Specialist. The Noise Modelling study should have been conducted as part of the EIA process to fully understand the impacts of the proposed development.”*

The Climate Change Impact Assessment

2.68 The 2017 judgment in the case of *Earthlife Africa Johannesburg v the Minister of Environmental Affairs* [201] 2 All SA 519 (GP) (Earthlife judgement) confirmed that a Climate

Change Impact Assessment (CCIA) is a necessary component of an EIA process for projects with climate impacts. The court confirmed the need for a CCIA that is much broader than a mere assessment of anticipated emissions; and confirmed the need for a comprehensive assessment, which assesses, *inter alia*, the impacts of climate change on the proposed project itself, and the ways in which the project might aggravate the impacts of climate change in the area. The court concluded that “[w]ithout a full assessment of the climate change impact of the project, there was no rational basis for the Chief Director to endorse these baseless assertions”.

2.69 The CCIA in the FEIAr does not comply with this requirement as it is mainly concerned with contribution of the proposed Project's GHG emissions towards climate change (FEIAr paragraph 8.3.10 on pages 211 to 214). Nevertheless, the impact assessment finding in respect of the GHG emissions contribution to climate change is that: *“Because of greenhouse gas emissions associated with the proposed projects and the abovementioned international consensus on the anthropogenic causes of climate change, the likelihood of the impact occurring is definite. The impact is therefore rated as High negative significance and cannot be mitigated below a High negative rating”* (FEIAr paragraph 8.4.15.1 on page 272).

2.70 The following is of particular concern in the CCIA:

2.70.1 Emissions from gas production, gathering, processing, initial transport, and LNG liquefaction are not considered in the emissions assessment.

2.70.2 The mitigation measures proposed for the significant GHG impacts of the powerships are entirely undeveloped and inadequate. There is no plan for capturing the carbon emissions from the ships, despite carbon capture and storage being suggested as a plausible mitigation measure.

2.71 A holistic consideration of the EA application for the proposed Project, and of the appeals, require that I point out the further concerns that arise in the FEIAr as follows:

2.71.1 While the two (2) powerships and related infrastructure will be operational for 24 hours per day (see FEIAr at page 313) for the duration of the 20-year lifespan of the proposed Project,

the impact assessments do not adequately assess the potential environmental impacts over the duration of the proposed Project and thereafter, some of which may be irreversible.

- 2.71.2 The statement that *“The potential for pollution from shipping (including spent oil and lubricants, paint, solvents and waste detergents, waste from ship maintenance activities, sewage, galley waste, sweepings from hatches and engine rooms, slops from holds and tanks, ballast water, general domestic waste, medicinal/medical waste, spent batteries, discharge of heated water etc.) as a result of the proposed gas to power process is considered to be high”* (FEIAr page 203). The risk for chemical pollution is indicated as High and can be mitigated only to Medium-Low (FEIAr paragraph 8.4.8 on page 262).
- 2.71.3 The direct Medium impact caused by the uptake of cooling water (by two (2) powerships for 24 hours per day for the duration of the 20-year lifespan of the proposed Project) of *“Ecological damage caused by entrainment”*, that changes to Low significance without any mitigation proposed (paragraph 8.4.9.1 on page 263).
- 2.71.4 The direct impact caused by the discharge of cooling water (by two (2) powerships for 24 hours per day for the duration of the 20-year lifespan of the proposed Project) into the sea, of *“Raised water temperatures could affect benthic crustacean families, and fish larvae and juveniles that could not move away from the affected area”* (FEIAr paragraph 8.4.9.1 on page 263), for which impact NO MITIGATION is proposed.
- 2.72 The conclusion of the South African Council for Natural Scientific Professions (SACNASP) Peer Review dated 23 April 2021 states that the impacts identified is not a true reflection of the scale of the Project in terms of influence. There are impacts that trigger regional and global scale impacts and the specialist recommends that these be reassessed and in addition, the peer review states that there is no clear recommendation from the estuarine specialist. This should have been reassessed and finalised by the EAP prior to submission of the FEIAr for decision-making purposes.
- 2.73 I also considered and concur with the comments from the Oceans & Coast (O&C) Branch of the Department on the proposed Project, which comments are as follows:

2.73.1 There remains considerable uncertainty about the potential impacts of noise from the powerships, because of the following:

2.73.1.1 the potential impacts of noise from the powerships have not yet been evaluated, considering that there are no powerships yet in South Africa and so no comparable noise assessment exists;

2.73.1.2 knowledge of the current underwater soundscape is lacking, to be able to properly assess the potential impacts of the underwater noise; and

2.73.1.3 potential impacts of underwater noise on some marine taxa, such as invertebrates, are not well known.

2.73.2 Other ecological concerns received little or no mention, although considerable uncertainties also surround such operational impacts such as heating of the seawater and entrainment of organisms, and the specialist reports and FEIAr were not always entirely convincing regarding the low significance of these potential impacts.

2.73.2.1 No mitigation measures are put forward for impacts on marine ecology by activities of the proposed operation that are in essence unavoidable. This includes not only noise, but effects of the thermal plume caused by the discharge of cooling water that may raise water temperatures and damage marine organisms, and entrainment. The only recommendations are for monitoring; and

2.73.2.2 It is furthermore unclear what the 'additional mitigation measures' (to the components and technologies that have already been built into the powership) might be, that will be implemented 'should the need arise'.

2.74 In my holistic assessment and consideration of the activities of the proposed Project, I found that the actual and potential impacts on the environment, as well as the socio-economic conditions; particularly in relation to small-scale fisheries, could not be determined due to gaps and inconsistencies in the various reports submitted. In particular, due to the lack of information in respect of the Underwater Noise Impact, the Marine and Ecology Study, as well as the Estuarine Impact Report, the actual and potential risks, and impacts on the geographical, physical, biological, social, economic and cultural aspects of the environment could not be predicted and evaluated in order to find the alternatives and options that best

avoid negative impacts altogether, or where negative impacts cannot be avoided, to minimise and manage negative impacts to acceptable levels, while optimising positive impacts, to ensure that ecological sustainable development and justifiable social and economic development outcomes are achieved.

- 2.75 My findings on this ground of appeal are also confirmed by the independent expert appointed by the Department, in their recommendations, where they state as follows:

“we are in agreement that due to certain aspects, specifically the lack of a specialist underwater noise assessment, that there was insufficient and inadequate information available on which to make an informed and responsible decision”.

- 2.76 I therefore proceed to dismiss the grounds of appeal pertaining to the holistic assessment of the proposed Project.

Third ground of appeal: The audi alterem partem rule

- 2.77 The crux of this ground of appeal is that the CA considered comments and objections by environmental groups outside of the PPP timelines, and that Karpowership, through their EAP, was not afforded any right of response or reply in contravention of the *audi alterem partem* rule.

- 2.78 Karpowership is further of the view that the CA specifically ignored (i) the comprehensive Memorandum submitted by the EAP on 18 June 2021 in response to the purported suspension of the EIA process for the Saldanha project, and (ii) the further inputs submitted by Karpowership on 23 June 2021 in response to CER's request for suspension of the EIA process for the proposed Project.

Summary of comments from I&APs

- 2.79 The Commenting I&APs submit as follows:

- 2.79.1 The CA received written notice from the 2nd Commenting I&APs, as contemplated in regulation 14(2) of the 2014 EIA Regulations, complaining that the appointed EAP was suspected of non-compliance with regulation 13 thereof. This complaint was associated with

the Saldanha EIA process as it was alleged that the EAP held a meeting with small-scale fishers on 19 April 2021, during which time the EAP failed to disclose the recommendations of the Marine Specialist study (dated February 2021) to the fishers, even though the EAP was aware thereof. The EAP's failure to disclose this crucial information during this meeting constitutes a failure to carry out the duties and legal requirements for EAPs as prescribed by NEMA.

- 2.79.2 Regulation 14(3) of the 2014 EIA Regulations requires the CA to investigate the allegation promptly. However, the CA wrote to the EAP and to Karpowership notifying them that, as the FEIAr was already submitted for consideration, the CA believes there is very little reason as to why the decision-making process should be suspended pending the outcome of an investigative process against the EAP. As such, the CA reconsidered the matter and they concluded that there is no need for the suspension to stay in place.
- 2.79.3 The objection filed by the 2nd Commenting I&AP was not an objection under the PPP for the EIA process, but rather a complaint of procedural unfairness in terms of a separate provision of NEMA to report a failure to disclose crucial information to I&APs by the EAP. This investigative process against the EAP was outside of the scope of the EIA process. The Memorandum was a response to the complaint filed by the 2nd Commenting I&AP in terms of regulation 13 of the 2014 EIA Regulations, dated 30 May 2021.
- 2.79.4 The further inputs submitted by Karpowership on 23 June 2021 was in response to the request from CER, representing the 1st Commenting I&AP, to suspend the EIA application processes for this proposed Project and Ngqura. In this letter, the CA was referred to the EAP's response of 18 June 2021, which responded to the 2nd Commenting I&AP's complaint regarding the Saldanha Bay EIA process, as summarised herein above.
- 2.79.5 The Marine Specialist study of February 2021 already recommended that further noise modelling be undertaken to *"gain more qualitative understanding of the noise produced from vessel operations"*. This information should have been made clear to the fishers, as not doing so prejudiced their ability to participate effectively in the process as per the requirements of NEMA and the 2014 EIA Regulations.

2.79.6 To the extent that the impacts are not, or cannot be adequately assessed, the application for an EA should be refused. This is in line with the NEMA principle that requires a risk-averse and cautionary approach. Nevertheless, experts advised that sound modelling is possible, and should have been conducted in this instance, to ensure a better understanding of the potential sound impacts.

2.79.7 The CA identified gaps in the various reports, including the noise impact assessment, which if addressed, may still change the socio-economic findings in relation to the fishermen in the region. Focusing on fishermen located within the harbour to identify the socio-economic impacts misses the point, in that if the underwater noise impacts negatively impacted on the nursing habitat for fish and crustaceans, it means that there may be fewer fish and populations in the entire region, not only in the vicinity of the harbour. In any event, it has already been demonstrated that the Socio-Economic impact assessment contains various gaps and deficiencies.

Summary of comments from Karpowership

2.80 In their comments, Karpowership submits as follows:

2.80.1 The Saldanha Bay EIA process relates to one of Karpowership's proposed powership projects. The EA application in respect thereof was suspended on 08 June 2021, following a complaint by the 2nd Commenting I&AP (in this matter). Karpowership responded to this suspension in their Memorandum of 18 June 2021. However, the Richards Bay EIA process was not officially suspended by the CA, although in a correspondence addressed from the CA to Karpowership on 23 June 2021, this being the same date that the RoR was received by Karpowership, the Saldanha suspension was lifted. Considering the timing of these decisions, the logical inference is that the suspension was lifted merely so that the RoR could be issued.

2.80.2 The Memorandum of 18 June 2021 contained important information for the CA to consider regarding the purported suspension of the EIA process and regarding the decision whether to authorise the proposed Saldanha Bay Project. The Memorandum of 18 June 2021 and further information submitted on 23 June 2021 in respect of the purported suspension of the

Saldanha Bay EIA process do not appear to have been considered by the CA in their decision-making process. Although at that stage it related specifically to the Saldanha suspension, many of the issues were common to Karpowership's other EIA processes and were applicable to Richards Bay too.

- 2.80.3 There is clear evidence that the I&APs comments and objections were considered by the CA outside of the PPP in respect of the proposed Richards Bay project, and that this influenced the assessment of the proposed Richards Bay Project. The disproportionate and distorted media reporting was intended to and did influence public opinion negatively.
- 2.80.4 Due to the fact that the proposed Project is the first of its kind in South Africa, baseline information needs to be built up in order to create sufficient contextualising information. The Marine Ecology Report stated that the indicated injury sound levels did not breach threshold levels and the FEIAR further discussed underwater noise on pages 206 to 210 and its own recommendations (page 210), namely that the Baseline Study be undertaken over time, once the powerships are operational. There are no operating powerships in South Africa which can currently be modelled. Again, it must be borne in mind that the impacts are of low significance and are centralised in a Port, in a brown-fields environment. Furthermore, in order for the modelling to take place, the soundscape of each port must be undertaken. In addition, Annexure B to the Executive Summary submitted on appeal, contains a summary of the noise studies that have been conducted and the outcomes thereof.
- 2.80.5 Additional noise impacts of traffic within the Port are outside of the scope of the EIA process. There are a total of 24 deliveries to the LNG, which accounts for less than 1% of the total traffic forecasts in the Richards Bay Port of up to 2051 (see FEIAR on page 119, and Appendix J1 - Marine Vessel Traffic Assessment).
- 2.80.6 The argument that the entire FEIAR is null and the EA application should thus be refused because selected impacts that were identified and recommended by the EAP to further investigate were not assessed, is a flawed argument. The EAP acknowledged that mitigation measures should be undertaken. Furthermore, the EA should have been granted wherein select conditions are put in place in which additional studies must be undertaken prior to commencement of any activity. The lack of a select study does not negate all other studies

conducted, particularly when it is the applicant making the suggestion that the additional study be conducted.

- 2.80.7 The Commenting I&APs put emphasis on small-scale fishers and attempts to create an argument that the small-scale fishers are the backbone of the local economy. Small-scale fishing is not allowed in the Port of Richards Bay in which the powerships should be moored (see the FEIAR on page 115). It is expected that there will be low impact on surrounding local marine environments.

Summary of responses from the Competent Authority

- 2.81 In their responses, the CA states that:

- 2.81.1 They did consider the content of the I&APs' complaint, brought in terms of regulation 14 of the 2014 EIA Regulations, against the EAP, in respect of the Saldanha Bay EA application. The EAP/ Karpowership was equally afforded a right of response, and they submitted a comprehensive memorandum on 18 June 2021 wherein they made submissions regarding the Saldanha Bay suspension. On 23 June 2021, the EAP addressed a letter to the CA in response to the request from the CER, representing the 1st Commenting I&AP, to suspend the EIA application processes for the proposed Project/Richards Bay and Ngqura project.
- 2.81.2 The memorandum issued by the EAP/ Karpowership on 18 June 2021 and their further correspondence of 23 June 2021 were considered by the CA as part of the decision-making process. This led to the withdrawal of the suspension of the EIA process for the proposed project, and the subsequent decision on the EA application.
- 2.81.3 In any case, the CA was under no obligation to consider the 23 June 2021 letter as it concerns an investigative process against the EAP and falls outside of the scope of the EIA process. The Memorandum was a response to the complaint filed by the 2nd Commenting I&AP in terms of regulation 13 of the 2014 EIA Regulations, dated 30 May 2021.
- 2.81.4 It is disputed that the comments and objections raised outside of the PPP, including media reporting, influenced the CA's decision to refuse the EA application.

Evaluation (Reasons for decision)

- 2.82 An administrative appeal, such as the appeals at hand, require a *de novo* consideration of all the available documents and information pertaining to the application for EA for the proposed Project.
- 2.83 As is evidenced by the background information herein above (paragraph 1), I have considered Karpowership's Memorandum of 18 June 2021 in respect of the Saldanha suspension, the EAP's separate submission of 18 June 2021, and the EAP's further submission of 23 June 2021 in response to the request from the CER, representing the 1st Commenting I&AP, to also suspend the EIA application processes in respect of this proposed Project and the Ngqura project.
- 2.84 With reference to the background herein above (paragraph 1), the Appeals Directorate on 27 August 2021 provided Karpowership and the CA with a consolidated ARR and requested that they submit a responding statement and comments. Karpowership timeously filed their consolidated comments/responses to the appeals, and on 16 September 2021, they (Karpowership), through their legal representative at the time (Gunn Attorneys), submitted an answering statement to the responding statements filed by I&APs (1st and 2nd Commenting I&APs) against the Karpowership appeal. In this regard, Karpowership provided an executive summary tabling the issues/comments/responses raised by I&APs and their responses thereto.
- 2.85 Under the heading "**Holistic assessment of the EA application**" herein above, I pointed out that on 11 March 2021 the CA guided Karpowership, stretching over several pages, regarding specifically what to include in the FEIAR.
- 2.86 Karpowership was therefore afforded the right of response or reply in terms of the *audi alterem partem* rule, and, apart from my consideration of all of the other available documents and information pertaining to the application for EA for this Project, I also considered the Memorandum of 18 June 2021 and the further inputs that Karpowership submitted on 23 June 2021 regarding the objections by I&APs. In this regard, I found that the majority of the

concerns raised by the I&APs in the suspension request and the subsequent responding Memorandum from the EAP/Karpowership were not materially new information as these aspects had in some form or another been raised in the FEIAr and required consideration by the CA under the decision-making process.

- 2.87 EIMS, in their recommendations on the grounds of appeal relating to this topic, state as follows:

"It is however our view that the majority of the concerns raised by the I&AP's in the Suspension Request and the responding Memorandum from the Appellant were not materially new information as these aspects had in some form or another been raised in the FEIAr and would have required consideration by the CA under the EIA decision making process.

It is our view that this ground of appeal should be dismissed"

- 2.88 Considering all of the above, I proceed to dismiss the grounds of appeal on this topic.

Fourth ground of appeal: Section 2(4)(l) of NEMA

- 2.89 This ground of appeal alleges that the CA failed to assess the proposed Project in accordance with the provisions of section 2(4)(l) of NEMA, as there was no inter-governmental engagement with regard to the decision taken, particularly because no consideration was given to (i) the SIP status of the Project, (ii) the preferred bidder status that was awarded to the Project in the RMIPPPP, and (iii) the Project's importance for purposes of supplying electricity to the grid.

Summary of comments from I&APs

- 2.90 The Commenting I&APs submit as follows:

- 2.90.1 The existence of other policies and the need for co-ordination with other departments, does not absolve the CA from discharging their obligations in terms of section 24 of the Constitution, NEMA, the 2014 EIA Regulations and associated guidelines.

2.90.2 This ground of appeal has no bearing on why the CA refused to grant the EA and is therefore irrelevant for purposes of the present appeal. Whether or not there was co-ordination between government departments on the EIA process, this would not remedy the procedural and content flaws in the FEIAr, which formed the basis for the CA's refusal. In saying this, they (the Commenting I&APs) do not dispute the need for co-operative governance in the EIA process, but merely argue that the existence or absence of co-operative governance would not affect the outcome arrived at by the CA, as this would not address the reasons on which the CA based their refusal.

Summary of comments from Karpowership

2.91 In their comments, Karpowership submits as follows:

2.91.1 The Commenting I&APs misinterpreted the policy and legislative context and Karpowership's arguments. It is false that no bearing can be ascribed to the SIP status of the Karpowership projects. Section 24(a)(i) of NEMA prescribes that the CA "*...must ensure, with respect to every application for an environmental authorisation - coordination and cooperation between organs of state in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of state*". The ascribed SIP status and the development and execution of the RMI4P by another organ of state is therefore an important consideration in this application.

2.91.2 Karpowership has never alleged that the CA neglected their responsibilities under other informing pieces of legislation.

2.91.3 The SIP status and the objectives of the REI4P were not considered by the CA or if they were, they were not given adequate weighting. These considerations should have carried more weight, as a national governmental initiative and the importance thereof should have been given proper consideration.

Summary of responses from the Competent Authority

2.92 In their responses, the CA advises that:

- 2.92.1 Regulation 7(2) of the 2014 EIA Regulations states that *“the competent authority or EAP must consult with every organ of state that administers a law relating to a matter affecting the environment relevant to that application for an environmental authorisation when such competent authority considers the application and unless agreement to the contrary has been reached the EAP will be responsible for such consultation”*. In compliance therewith, the EAP consulted various organs of state and the comments and input received were considered by the CA in reaching a decision to refuse the EA application.
- 2.92.2 However, it is the environmental CA's mandate to consider developments in terms of sustainability requirements, taking into account the provisions of section 24 of the Constitution which enshrines that every citizen in the Republic has a right to an environment that is not harmful to their health and wellbeing, and to have the environment protected through reasonable legislative measures, i.e. NEMA and the 2014 EIA Regulations, etc.
- 2.92.3 In refusing the EA application, they (the CA) considered all pillars of sustainability i.e. social, economic, and environmental. The CA further considered the 2014 EIA Regulations, the PPP undertaken and the potential impacts of the development (positive and negative).
- 2.92.4 The SIP status of the Project is not in dispute, but irrespective, the proposed development still needs to meet the requirements of the 2014 EIA Regulations and NEMA for a favourable outcome. The FEIAr was found to be deficient.

Evaluation (Reasons for decision)

- 2.93 In my assessment of this ground of appeal it is evident to me that Karpowership seems to labour under the misconception that the designation of the Project as a SIP by the DMRE, who (in respect of this Project) do not have the legislative mandate for the protection or management of the environment, makes the DMRE a role player with whom there must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, as contemplated in section 2(4)(l) of NEMA.
- 2.94 In terms of section 2(1) of NEMA, the National Environmental Management Principles are as follows:

“(a) shall apply alongside all other appropriate and relevant considerations, including the State’s responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;

(b) serve as the general framework within which environmental management and implementation plans must be formulated;

(c) serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;

(d) serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and

(e) guide the interpretation, administration and implementation of this Act, and any other law concerned with the protection or management of the environment.

2.95 The National Environmental Management Principles serve in terms of section 2(1)(e) of NEMA as a guide to the interpretation, administration, and implementation of NEMA, and any other law concerned with the protection or management of the environment. The legislation in terms of which the Project was designated as a SIP, and awarded preferred bidder status in the RMIPPPP, is not concerned with the protection or management of the environment.

2.96 Section 2(4)(l) of NEMA can in any event not be elevated above the other relevant factors to be considered in the context of sustainable development, as to mean that the relevant factors listed in section 2(4)(a) to (k) and (m) to (r) should rank lower than section 2(4)(l).

2.97 While no input was received from the DMRE, the RoR nevertheless indicates that the CA, in making their decision, took into consideration all the inputs from the following organs of state:

2.97.1 The Nelson Mandela Bay Metropolitan Municipality,

2.97.2 Ezemvelo KZN Wildlife;

2.97.3 KwaZulu-Natal Economic Development;

2.97.4 Tourism and Environmental Affairs;

2.97.5 Eskom;

- 2.97.6 SAHRA;
- 2.97.7 The Department of Forestry, Fisheries and the Environment: Biodiversity and Conservation, Oceans and Coast and Air Quality;
- 2.97.8 The uMhlathuze Local Municipality;
- 2.97.9 Birdlife SA; and
- 2.97.10 Transnet.

2.98 I note that EIMS, in their recommendations on the grounds of appeal under this topic, state that: *"It is however suggested that the CA expand on the current mechanisms and forums being utilised at the moment to further respond to this ground of appeal."* Nevertheless, I am satisfied with the CA's responses, as per my assessment herein above.

2.99 I also note that regular engagements were held between the Department and the office of the Independent Power Producer (IPP), as well as the SIP coordinators, wherein it was made very clear that even though the Project was designated as a SIP, it still needs to meet all regulatory requirements in respect of the protection and management of the environment.

2.100 I therefore proceed to dismiss the grounds of appeal on this topic.

Fifth and sixth grounds of appeal: Public Participation

2.101 In the grounds of appeal under this topic, it is alleged that the CA failed to consider that Karpowership met the 'threshold' for public participation, as set out in the Memorandum of 18 June 2021, and that the additional information provided in the FEIAr is the same information provided in response to the comments received from I&APs.

Summary of comments from I&APs

2.102 The Commenting I&APs submit as follows:

2.102.1 Meeting the 'threshold' of public participation does not create an entitlement to the granting of an EA. Each application is considered on the merits thereof by taking into account all the relevant but polycentric factors and considerations, which are weighed up against each

other in the process. This consideration process is not a mechanical ticking off on a checklist.

- 2.102.2 Karpowership has not met the 'threshold' for public participation, as they did not afford the public an opportunity to comment on significant new information and/or significant changes in the FEIAr after the public comment period, as required by regulation 23(1)(b) of the 2014 EIA Regulations. Regulation 23(1)(b) of the 2014 EIA Regulations is clear that when new and material information is added to the FEIAr, such report must be subjected to a further 30-day PPP, and any additional comments thereto should be considered and included in the revised FEIAr before submitting same to the CA for consideration and decision-making purposes. Karpowership was specifically cautioned by the CA to adhere to regulation 23(1)(b) of the 2014 EIA Regulations. The failure to comply with regulation 23(1)(b) of the 2014 EIA Regulation caused procedural unfairness that cannot be rectified through the appeal process.
- 2.102.3 The significant new information in the FEIAr that was not subjected to public participation, took the form of a supplementary assessment, and data on underwater noise undertaken at an existing operational powership in Ghana that was included in the FEIAr. This study presents data that was previously unavailable to the experts in the Draft EIAr on the underwater noise generated by a powership, and it contains significant information on the underwater sound generated by powerships, the impacts of underwater sound on marine living organisms, and it mentions the lack of consensus as to the sensitivities of marine life against the harmful URN (underwater noise) caused by the powerships.
- 2.102.4 This assessment in turn led to significant changes in the Specialist Study on Noise Impacts (the Safetech Report), the Marine Ecology Specialist study (the Lwandle Report), and recommendations of the FEIAr, including that an assessment of underwater sound impacts be undertaken after the EA was granted for the project. The extensive changes made to the FEIAr, and to the various reports resulted in the impact ratings for the proposed Project being changed. These changes are material and, as a result, regulation 23(1)(b) of the 2014 EIA Regulations applies.

- 2.102.5 The inclusion of these changes into the FEIAR prejudiced I& APs. These changes were not merely further revisions as argued by Karpowership, or changes in the Marine Ecological Specialist report by the addition of a short-term study on underwater noise at a Powership Operation in a port in Ghana, constituting a peer review or update of this report.
- 2.102.6 The peer reviewed report by Prometheus Carbon dated April 2021, which critiqued the previous CCIA, indicated that the impacts were not assessed adequately, and that Scope 3 emissions should be added. The content and adequacy of the peer reviewed report could therefore not be considered or evaluated as this was not made available for comment subsequent to the Draft EIAr and before the FEIAr submission.
- 2.102.7 According to the FEIAr and the revised April 2021 CCIA, a total of 17 million tCO₂e (based on a 20-year operational lifetime of the Project), greenhouse gas emissions (GHG) is expected to be released. A further additional 670 000 tCO₂e direct emissions will be released from FSRU operations, and indirect scope 3 emissions of 126 000 tCO₂e will also be released. This would amount to 0.82% of South Africa's carbon budget, and the EIA rating is "Very High" with impact being definite and mitigation not being possible. This is the highest possible negative rating. Ordinarily, a highest possible rating, which cannot be mitigated, should result in a fatal flaw, with the Project not being able to go ahead.
- 2.102.8 Looking at the Richards Bay Project alone, due to the fatal flaw of a very high rating in terms of GHG emissions, the proposed Project should not go ahead. Cumulatively with all three (3) vessels, the **GHG emissions essentially treble**. All three (3) vessels would emit approximately 46 million tCO₂e over the Project's 20-year lifespan, additional 2 million tCO₂e for direct FSRU operation, and a further additional 370 000 tCO₂e for Scope 3 emissions. In other words, the three Karpowership Projects alone, would amount to almost 50 million tCO₂e GHG emissions, taking up over 1.18% of SA's national carbon budget over the lifetime of 20 years.
- 2.102.9 Even in the most recent revision of the CCIA, the Scope 3 indirect emission were not adequately assessed since full cycle emissions were only calculated from when the ship enters South African waters. Full cycle emissions are not limited to vessels entering the port but should include the entire emissions from extraction of gas to the end point when

the gas is used. The public did not have an opportunity to assess this, as the revised information was not made available. The fact that full cycle emissions were not adequately assessed means that the CCIA is fatally flawed.

- 2.102.10 The public and small-scale fishers were prejudiced as they were not given an opportunity to challenge the methodology and conclusions of the Specialist Study on Noise Impacts and the Marine Ecology Specialist study. According to the expert report by T.E. Mackenzie Hoy obtained by Green Connection, these two reports are of no value in the decision-making process and should be completely disregarded.
- 2.102.11 The recommendation in the FEIAR that underwater impacts be studied after authorisation of the proposed project, is inconsistent with the regulatory regime for impact assessments and flies in the face of the precautionary principle. Such a recommendation prejudices I&APs who should have been afforded an opportunity to comment on such. Section 23 of NEMA read with the NEMA principles, makes it clear that environmental impacts of listed activities must be assessed and mitigated before authorisation, and a risk averse approach must be considered, in the absence of scientific information.
- 2.102.12 It is irregular and unlawful to address the gaps in the information by way of inserting the concerns raised by the CA in the RoR as conditions in the EA. This would not be consistent with the NEMA requirements or the precautionary and risk averse approach in section 2 of NEMA.
- 2.102.13 The failure to adhere to all the relevant laws and regulations governing public participation means that Karpowership failed to meet the public participation requirements. The partial compliance with the relevant laws does not suggest that all the relevant public participation requirements have been met.
- 2.102.14 Furthermore, there were gaps of material information in many of the reports, with the implication that not all of the impacts of the Project could be fully assessed. Even with the inclusion of significant new information in the FEIAR, there are still material gaps that exist in the FEIAR, of which the Climate Change and Noise Impact assessments, as well as the impact of the increase in seawater temperature upon the marine ecology, may be crucial

because these impacts also influence the Marine, Ecological, as well as the Socio-Economic Impact assessments, amongst others.

2.102.15 Karpowership argues that the Socio-Economic Impact Assessment concluded that engagement with the recreational and small-scale fishing community established that there is no fishing taking place within the harbour itself. However, an assessment of, and engagement with local fishermen in the harbour mouth alone misses the point. The potential impacts of the Project on juvenile fish and crustaceans are likely to have wider impacts on the marine species populations, and consequently, are likely to impact on fishermen scattered across the KZN region, and not just the fishermen at the harbour mouth. In other words, the scope of impact of the proposed Project on I&APs is far broader than the immediate harbour vicinity. The public participation and EIA process conducted by Karpowership has failed to address or consider these impacts.

2.102.16 In the interests of fair administrative process guaranteed by the Constitution, and the public participation provisions, all public participation documents (the scoping reports, Draft EIAR, etc) should be made available and be easily accessible at the very least, throughout the public participation process. There is no reason for withholding these records, and I&AP's should at any time be able to access and refer back to the scoping reports and other records during the comment on the Draft EIAR stage, all the way up until the decision and the appeal stage. Failure to make these records accessible is highly prejudicial to the I&APs' rights to participate and comment on the EIA, and more generally breaches the rights of access to information.

2.102.17 On 16 April 2021, after the draft EIAR commenting stage, the CER, representing the 1st commenting I&AP, requested that the EAP make the EIA documents available, since these documents were password protected and inaccessible. These documents should be freely available to ensure an open PPP. The EAP provided no answer for why these documents were password protected. Nonetheless, on 19 April 2021, the EAP enabled access to a google drive on request. This is unduly onerous and a burdensome process, and therefore unacceptable, as I&APs and members of the public should have momentary access to these crucial public records without having to undertake prior requests (at their

own time and expense). There is no reason that any documents should be taken down until a decision on the application is taken and even thereafter. Nor should they be password protected. These are public documents and should be made publicly available.

2.102.18 On 19 August 2021, at the National Energy Regulator South Africa (NERSA) public hearing in relation to Karpowership's electricity generation licence application, Dr Eloise Marais from the University College of London, submitted the findings of her research. She indicated under oath that the cumulative GHG emissions from the Karpowership Projects could be as high as 70-105million tCO₂e.

2.102.19 The impact rating of climate change impacts after mitigation is rated as "high", and in the CCIA itself, the rating is "very high". Despite this rating, Karpowership indicates in various paragraphs that none of the impacts were identified as a fatal flaw. This is because its impact rating schedule in Appendix C of the FEIAR does not provide for fatal flaws. Normally however, the highest possible rating (in terms of climate change, or otherwise) which cannot be mitigated, usually results in a fatal flaw being identified. Yet again, I&APs did not have an opportunity to interrogate this.

2.102.20 There were changes in impact ratings for most activities, which I&APs did not have an opportunity to interrogate.

2.102.21 Although Karpowership submits, in their appeal, that the changes to the Draft EIAR were minor, not less than 12 pages of information was identified that specifies the changes from the Draft EIAR to the FEIAR. These changes in the information in the various reports are material and significant, since the changes in the expert reports resulted in changes to many pages of the FEIAR, and also of the significance ratings. The failure to subject these changes to further public participation for a further 30 days, in fulfilment of regulation 23(1)(b) of the 2014 EIA Regulations, is a violation of the public participation provisions of NEMA and the 2014 EIA Regulations.

2.102.22 The gaps in the information provided to the CA on climate change prevents the CA from reaching an informed decision, in light of the material nature of the missing information. This is highly problematic considering the significance of the climate crisis for South Africa

and the increasing amount of evidence that there is a need to take adequate and urgent steps to mitigate the harms of the climate crisis. The Intergovernmental Panel on Climate Change (IPCC) Report (IPCC 1.5 Report) indicates on pages 244 and 227, that “... *Some of the worst impacts on sustainable development are expected to be felt among agricultural and coastal dependent livelihoods, indigenous people, children and the elderly, poor labourers, poor urban dwellers in African Cities...*”.

2.102.23 South Africa is already lagging behind in the global effort to address climate change. The Climate Action Tracker (CAT), which takes the current government action and policies into account, rates South Africa's proposed actions and policies under the Paris Agreement as “highly insufficient”. The CAT states that South Africa's climate commitment in 2030 is not consistent with holding warming to below 2°C, let alone limiting it to 1.5°C as required under the Paris Agreement, and that instead it is consistent with warming between 3°C and 4°C. If all countries were to follow South Africa's approach, warming could reach over 3°C and up to 4°C. This means South Africa's climate commitment is not in line with any interpretation of a “fair” approach to the former 2°C goal, let alone the Paris Agreement's 1.5°C limit. New and unnecessary sources of GHG emissions would be counter-productive in this endeavour, including the Karpowership Projects, which is anticipated to emit almost 50million tCO₂e GHG emissions.

2.102.24 In addition to the actual emissions, the CCIA has also not addressed the proposed Project's impact on natural resources which have an ability to mitigate climate change such as seagrass and mangroves, and the proposed Project will negatively impact on a number of critical biodiversity and protected areas, as well as mangroves and estuaries. Richard's Bay is home to a number of ecologically sensitive surrounds including estuaries, critically endangered mangroves (*which support various birds, fish and other marine ecology, including those that are critically endangered*). These include the Kwambonambi Dune Forest; Kwambonambi Hygrophilous Grassland; KZN Coastal Forest; Protected Mangrove Forest; Swamp Forest; Richards Bay Nature Reserve, a protected area in terms of National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003), uMhlathuze Estuary; an Important Bird Area (IBA); Greater Umhlathuze Wetland System; and a CBA. Mangroves, corals, seagrass, and estuaries are particularly important as they

have the exceptionally high ability to absorb carbon from the atmosphere, thereby acting as carbon sinks. Mangroves and wetlands also have the ability to act as a buffer against extreme weather events such as storms, rough seas, and/or flooding. Despite this, these were not addressed in the CCIA of the three Karpowership Projects, and the full impact therefore is unknown.

2.102.25 Mangroves and estuaries are also spawning grounds for juvenile fish and prawns. However, in this regard, the Marine Ecological Impact Study for the Richards Bay Project indicates that there is not enough information about underwater noise and vibration levels from floating mobile powerships in the context of the Port of Richards Bay to conduct an assessment. *“Therefore, general sound levels from commercial vessels and from a powership moored in another location are presented, as are the biological thresholds of sensitive receptors. A quantitative underwater noise assessment is recommended to comprehensively assess the impact on the marine ecology.... A noise modelling study should be undertaken to gain a more quantitative understanding of the noise produced from powership operations in the Port of Richards Bay and the cumulative impacts on the surrounding marine ecology.”* Whilst the full extent of the impact is unknown, the powerships will impact negatively on the surrounding wetlands, mangroves, protected areas, and other natural resources which have the ability to mitigate climate change.

2.102.26 As such, the proposed Project is not in the public interest, and is not in line with the NEMA principles including the protection of sensitive, vulnerable, highly dynamic, or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems. It also is not in line with the provisions aimed to protect the water resources for future generations in line with the National Water Act 36 of 1998 and cannot be said to meet the section 24 Constitutional requirements.

Summary of comments from Karpowership

2.103 In their comments, Karpowership submits as follows:

- 2.103.1 The PPP was conducted in line with the CA's approved public participation plan and accepted Plan of Study, and conformed to the 2014 EIA Regulations and proof thereof has been submitted to the CA.
- 2.103.2 Changes made between the Draft EIAR and FEIAR were as a result of public participation and input, which shows that the public participation was meaningful and effective, and this is part of the iterative EIA process. There were no changes made in the FEIAR that necessitated a further round of public participation. No new material information was submitted to the CA as the finalisation of the Draft EIAR to the FEIAR is a normal process within the EIA process. The information submitted in the FEIAR did not trigger regulation 23(1)(b) of the 2014 EIA Regulations. The new information obtained and subsequently placed into the FEIAR, was not material or significant and/or to the prejudice of I&APs and therefore did not trigger regulation 23(1)(b) of the 2014 EIA Regulations.
- 2.103.3 There were no "new" studies submitted in the FEIAR. The core studies obtained were originally made available to all I&APs, and pursuant to specific objection thereto, further studies were obtained in direct answer to the objections raised. This is in compliance with the iterative process. There is no obligation to run an open-ended PPP during the EIA process. Any concerns or deficiencies with the PPP (such as the 30-day comment period for the Draft EIAR), which was false and a misrepresentation by the 1st Commenting I&AP were answered in the appeal.
- 2.103.4 Insofar as "site studies" are concerned, it is impossible to undertake "site studies" at this stage of the proposed Project, given that the proposed Project entails new technology introduced into the Republic. There are no existing "Karpowership" sites in South Africa. There is also no competitor' sites available, nation-wide. The information provided to the I&APs was thus adequate, reasonable and the best available information.
- 2.103.5 In light hereof, the information provided to I&APs between the Draft and the Final EIAR stage is not new information. It is information provided in response to comments already received from I&APs. An analysis has been made between the Draft EIAR and the FEIAR as to the variations thereof, and these do not evidence "new facts" that are "prejudicial" to I&APs. On the contrary, the additional information received in response to the comments

raised indicates that the impacts of the proposed Project are not excessively harmful. It is reiterated that providing clarifying information to answer the queries raised by I&APs does not inherently constitute substantial new information worthy of an additional round of public participation.

2.103.6 It was inevitable that the experts would use general expertise based on experience and other studies to make a recommendation. The Specialist Study on Noise Impacts (the Safetech Report) and the Marine Ecology Specialist Study (the Lwandle Report) were not changed. Therefore, the studies were not reworked, but merely updated. The Ghanaian report was added as the most applicable case study due to interaction with I&APs and requests received. The noise specialist and the marine ecologist examined the Ghana study and considered it to be sufficiently similar to provide an adequate indicator of the likely noise impacts. However, recognising the shortcomings of that approach but lacking a practical alternative, the specialists made the assessment and monitoring recommendations such as:

- i. Lwandle: a baseline study of the underwater noise climate be initiated prior to construction, and secondly that post-construction noise levels then be monitored for a period of at least 12 months; and
- ii. Safetech: the need for the underwater "soundscape" be determined. It recommended that pre- and post-construction underwater noise measurements be measured by means of hydrophones, as had been the case in the Ghana study, and be monitored on an ongoing basis.

2.103.7 The 1st Commenting I&AP's complaint is clearly vexatious and misleading as the environmental impacts are taken out of context, exaggerated and the small-scale fishers are used as pawns to win over the CA and public support. The 1st Commenting I&AP has failed to explain how they are acting in the public interest, since the environmental impacts they claim are exaggerated and taken out of context. In addition, the 1st Commenting I&AP's comments are a fabrication and misrepresentation of the truth.

- 2.103.8 While it is true that the proposed Project is totally new to South Africa, the individual impacts are not. Therefore, all of the issues associated with the proposed Project could be adequately studied by the specialists and this was in fact done.
- 2.103.9 If, however, there were any minor gaps in knowledge which remained, these could be incorporated as conditions of the EA for the Project. In this regard, it is important to bear in mind that the Richards Bay Project would take place in an industrial port, a working harbour, which is already an impacted or brownfields site. Therefore, the projected impacts on the marine environment are low, and in the case of underwater noise in Richards Bay, the impacts are medium to low after mitigation. For example, if there is a requirement to better understand the underwater soundscapes in these industrial ports, Karpowership could be instructed through conditions in the EA to further study such issues, so that the underwater noise impacts in the industrial port are better understood and where relevant to the Karpowership operations, impacts are constantly monitored and required management measures are timeously considered.
- 2.103.10 The monitoring can improve understanding and thus going forward aid not only in biodiversity enhancements, but also guide future decisions by Transnet National Ports Authority (TNPA) and the CA. Monitoring during operation will add to the baseline. Best available expert and science was used in the EIA process. The baseline can be improved during operation and this is recommended by Lwandle. This would be done (and is recommended) for the operational phase as predicted impacts are low and can be adhered to as part of the EMPr and ongoing environmental auditing.
- 2.103.11 Conditions could also be enforced, where necessary for monitoring, reporting and stakeholder overview through a stakeholder committee, to which the Department's Coastal Marine and Biodiversity involvement will be key from the onset to ensure environmental accountability by Karpowership.
- 2.103.12 The EIA process that was undertaken for the proposed Richards Bay project met and exceeded the thresholds for EIAs in terms of NEMA and the 2014 EIA Regulations. Proof thereof is provided in the public consultation log (which is part of the EIAr) that was attached to the appeal as Annexure CA7. Any concerns or alleged deficiencies of the

public participation procedure were answered in the appeal. Karpowership has done everything reasonably necessary to meet the minimum legislated thresholds for fair public participation in terms of both NEMA and PAJA, which should have been considered by the CA prior to a negative decision being made.

2.103.13 The public participation provisions of NEMA provide that a decision-maker cannot simply rely on the information provided by objectors, without any scientific basis for such objection or without an interrogation of such objection by the CAs themselves to establish any scientific basis for same. It is incumbent upon a decision-maker to consider the other side of the application. In this instance, it was incumbent upon the decision-maker to also consider the inputs of Karpowership objectively, fairly, and impartially, in reaching their decision.

2.103.14 It was incumbent upon the decision-maker not only to consider the inputs of the objectors/I&APs, but also to consider the inputs from Karpowership. Such clarification from the decision-maker and incorporation of inputs from Karpowership could have led to the issues raised having been incorporated into specific conditions for the implementation of the proposed Project. This would have considerable socio-economic benefit, whilst fully considering the objections raised.

2.103.15 It is a legal requirement for the EIA process to identify if there are gaps. It is highly unlikely that an EIA process will not have any gaps. This does not prevent the EIA from being approved by the CA (refer to section 8.8 on page 305 of the FEIAR).

Summary of responses from the Competent Authority

2.104 In their responses, the CA advises that:

2.104.1 The EAP failed to comply with the peremptory provisions of regulation 23(1)(b) of the 2014 EIA Regulations as the FEIAR dated April 2021 contains significant changes and/or contains significant new information that was not part of the initial reports that had been subjected to PPP. The EAP, however, failed to subject the revised EIAR to another round of public participation prior to submitting it for decision-making purposes.

2.104.2 In addition, Karpowership failed to comply with the requirements prescribed in terms of section 24(1A)(c) of NEMA in relation to any procedure relating to public consultation and information gathering. The EAP subjected the draft EIAr to public review for a period less than the legislated 30 days as the relevant documents were removed from their (the EAP's) website and were only returned upon receiving queries from various I&APs. Therefore, it is the CA's view that the PPP undertaken in respect of the proposed project was not in line with the requirement of regulation 39 to 44 of the 2014 EIA Regulations, and the PPP also failed to comply with the principles of NEMA as outlined in Chapter 2 thereto, hence the decision to reject the EA application.

Evaluation (Reasons for decision)

- 2.105 This ground of appeal is essentially a critique of the procedure that was followed and does not deal with the merits of the decision. Even though a defective public participation is a procedural defect that will result in a refusal of the application for an EA, I must emphasise that meeting a minimum 'threshold' for public participation does not establish an entitlement to the granting of an EA.
- 2.106 The aspects in the Memorandum that sets out the purported minimum legislated 'threshold' for fair public participation, was in response to the written complaint lodged to the CA in terms of regulation 14(2) of the 2014 EIA Regulations, and those aspects, are in my view, to be considered in the investigative process against the EAP. I have nevertheless considered the contents of this Memorandum, amongst other information, placed before me.
- 2.107 There is no 'minimum threshold' for public participation as suggested by Karpowership. There are legal requirements and policies specifically relating to public consultation in the environmental sphere, which must be adhered to for any application for EA. The NEMA, the 2014 EIA Regulations and the public participation guidelines provide the legislative framework for meaningful public participation.
- 2.108 As I have stated under the heading "**Holistic assessment of the EA application**" herein above, the CA already, on 11 March 2021, in their comments on the Draft EIAr, listed the information that must have been included in the FEIAr. The CA further drew Karpowership's

attention to the provisions of regulation 23(1)(b) of the 2014 EIA regulations in so far as it applies to significant changes or new information. Despite this alert from the CA, a comparison between the Draft EIAr and the FEIAr shows that there are many notable changes and additions between these two documents, which in my view constitute 'significant' changes or 'new information'.

2.109 Any significant changes or new information requires a risk averse and participatory approach in which I&APs are allowed to comment thereon, which may be followed by the available mechanisms for revision, as contemplated in regulation 23(1)(b) of the 2014 EIA Regulations. The significant changes or new information in the FEIAr should have been subjected to a further public participation.

2.110 The above view is confirmed by the appointed independent expert, in their recommendations, wherein they state as follows:

"EIMS has considered at a high level the changes between the DEIAr which was subjected for public participation and the FEIAr which was not subjected to additional public participation. There are many notable changes and additions between these two documents which in our view constitute 'significant' changes or new information, and which would have been important for potential and registered I&APs to be able to comment on.

As such it is our view that a risk averse and participatory approach should have been taken and that the available mechanisms for revision (i.e. Regulation 23 (1)(b)) should have been followed.

However, regarding the applicability of the requirement for the provisions of Regulation 23 (1)(b) to be followed, we are of the view that there were potentially significant changes to the report and potential new information and as such should have been submitted for public review. In this regard we feel that the ground of appeal in so far as it relates to this specific aspect should be dismissed.

Regarding the consultation with small scale fishers, the EAP (Appendix D of the FEIAr) states that consultation with the small-scale fishing community indicated that it is highly unlikely that the operations will have any impact on the fishing community. The consultation referred to references the engagements that the socio-economic specialist had with small scale fishers

to determine whether there was fishing taking place in the Harbour. The response from the EAP further states that there is no fishing taking place in the harbour. It appears from the response and the statements from the socio-economic report that the basis for determining that there will not be an impact on the small-scale fishers relies on the fact that fishing doesn't take place in the harbour.

It is in our view necessary for the socio-economic assessment to have considered the potential impacts on the source of the small-scale fishers fish stocks which are expected to include the fish nursery functionality of the Harbour itself.

The EAP argues that consultation with the small-scale fishers was fulfilled through the interviewing process of the Socio-economic assessment. These small-scale fishers were not included in the projects database of registered I&APs nor is there evidence of direct notification of these stakeholders to participate in the EIA process.”.

2.111 Further to the above, I do not agree with Karpowership's submission that, because the proposed Project introduces new technology in South Africa, this is a further reason why the issues in the reasons for the CA's decision could have been more appropriately incorporated into the conditions of a positive EA for the proposed Project in terms of mitigation and prevention measures. The fact that the proposed Project introduces new technology justifies a more cautious approach in which a more rigorous, detailed, and comprehensive assessment on the potential and actual impact upon the environment is required, especially since there is no reference to similar projects which could have been used as the baseline.

2.112 The suggestion that the potential impacts of the proposed Project may be identified, predicted, evaluated, and monitored by means of a condition in an EA, defeats the purpose of the EIA process. The very purpose of an EIA process is to identify, predict and evaluate the actual and potential risks, and impacts on the geographical, physical, biological, social, economic and cultural aspects of the environment, before commencement of any of the proposed activities, to find alternatives and options that best avoid negative impacts altogether, or where negative impacts cannot be avoided, to minimise and manage negative impacts to acceptable levels, while optimising positive impacts, to ensure that ecological sustainable development and justifiable social and economic development outcomes are achieved. The FEIAr informs the decision on whether or not an EA for a specific project

should be granted before any of the potential impacts of that proposed activity actually happens.

2.113 Furthermore, considering the CA's conclusion that there was an inadequate public participation, this procedural unfairness cannot be cured after the fact. The gaps outlined in the RoR remain and without addressing such, the negative or positive impacts of the proposed Project, including the socio-economic considerations thereof, cannot be adequately considered.

2.114 Where there are gaps in the information contained in the FEIAR, the risk averse approach should be followed in line with the National Environmental Management Principles in section 2 of the NEMA.

2.115 In my view, it is evident that the EAP failed to enlist the provision of regulation 23(1)(b) of the 2014 EIA Regulations, as the FEIAR dated April 2021 contains significant changes and/or significant new information that was not contained in the reports consulted on during the PPP. Nonetheless, the FEIAR was submitted to the CA for decision-making purposes in the absence of a second round of public consultation. This compromised the decision-making powers of the CA, as it does mine.

2.116 I therefore proceed to dismiss the grounds of appeal on this topic.

Seventh ground of appeal: Socio-economic benefits of the Project

2.117 The grounds of appeal pertaining to this topic are concerned with the alleged failure of the CA to comprehensively consider the overall socio-economic benefits of the proposed Project to the broader Republic, as enumerated in the FEIAR. In this regard, Karpowership contends that the RoR fails to consider the IRP 2019 and the substantiation of the proposed Project from a socio-economic perspective. The IRP 2019 indicates that South Africa is policy driven towards an expansive energy mix, which should include an energy mix directive as well as the introduction of new technologies to prevent installed inflexible capacity. Karpowership concludes that these components should have been considered by the decision-maker against sections 2(3), 2(4)(a), 2(4)(b), 2(4)(i), 2(4)(l) and 2(4)(m) of NEMA.

Summary of comments from I&APs

2.118 The Commenting I&APs state that:

- 2.118.1 South Africa's need for electricity is devastating and the whole country is facing load shedding, but Karpowership is not the answer. There are more ways this problem can be dealt with in a cleaner manner as to thousands of fishermen jobs being at risk, who will not be able to feed their families going into more poverty. The local fishermen have been here for decades with fishing as their only income and have no education or knowledge to turn to another job as a source of income. The powerships are not climate neutral. They will add to the climate change issues we already have in the country. As a result, many residents/citizens throughout South Africa would be negatively affected. The rejection of the EA application in respect of a power plant that would contribute significantly to climate change and has potential for significant adverse environmental impacts on the marine environment (that have not been fully understood), is entirely justifiable.
- 2.118.2 Karpowership seeks to rely heavily on the so-called positive aspects of the socio-economic impacts of the proposed Project, ignoring the balancing act that is required in terms of the law, which includes consideration of all the NEMA principles in decision-making. Karpowership highlights only the positive impacts but does not explicitly outline any of the negative impacts, in circumstances where a comprehensive assessment of all impacts is required in order for the CA to reach a decision.
- 2.118.3 The potential Socio-Economic impacts of the proposed Project, which were not adequately addressed, include the following:
- 2.118.3.1 Higher temperatures (on land and sea) and reduction in rainfall is expected because of climate change, resulting in the reduction of already depleted rainfall will contribute to increasing number of droughts.
- 2.118.3.2 South Africa's economy is highly dependent on climate-sensitive sectors such as agriculture and forestry, that may impact on tourism, which is another key driver of economic growth.

- 2.118.3.3 There is no specific assessment that was done to assess the impacts of the anticipated increase in sea temperature on the juvenile fish nursery areas, that would be caused by the Karpowership's discharge of heated water, and the impact on the local economy as a result thereof.
- 2.118.3.4 Noise impacts of the proposed Project would threaten the marine ecology in Richards Bay. More specific responses from commenting I&AP's on the noise impacts of the Project, are summarised under the heading "**Holistic assessment of EA application**" herein above.
- 2.118.4 Section 2 of NEMA seeks to encourage public participation, to protect sensitive ecosystems such as coastal shores and estuaries that are significant for human resources usage and development pressure, to promote a sustainable development and to guide decision-making, amongst other things. The CA concluded that the information provided by Karpowership was not sufficient to enable them to make an informed decision. Karpowership seeks to marginalize an economy of small-scale fishers based on its own notions of development and improvement of the South African economy.
- 2.118.5 The conclusion of the South African Council for Natural Scientific Professions' (SACNASP) Peer Review of the Estuarine Impact Report dated 23 April 2021, states that the impacts identified are not a true reflection of the scale of the Project in terms of influence. There are impacts that trigger regional and global scale impacts and the specialist recommends that these be reassessed and, in addition, the peer review states that there is no clear recommendation from the estuarine specialist. The letter by the peer reviewer, MER, dated 23 April 2021 states that "*on the 22 April 2021 MER was requested to review the amended Richards Bay report*". This serves to corroborate the allegations around significant gaps in the reports and the need for a more thorough assessment.
- 2.118.6 In terms of conclusions and recommendations, impacts are localised and are not a true reflection of the scale of the proposed Project in terms of influence. There are impacts that should trigger regional scale and even global scale impacts. This needs to be reassessed.
- 2.118.7 There is no clear recommendation of the proposed Project from an estuary specialist. As it stands the approval included in the report does so by deflecting the responsibility for the

assessment of the impacts to certain components which form part of the whole estuary. An estuary specialist must integrate the assessment of all components that combine to form the estuary.

- 2.118.8 It is unclear whether all of these impacts were assessed, in 2 days, from the review recommendations, as a new report was submitted on 24 April 2021. It does not appear that all of these recommendations were addressed.
- 2.118.9 Considering that significant gaps were identified in the EIA process conducted by Karpowership, which gaps may have impacts on the sensitive areas, and mortality rates of various fish and crustaceans specific to each region, the EA was correctly refused, as the assessment undertaken is not sufficient for decision-making.
- 2.118.10 Due to the foreseen harms of the proposed Project and the lack of material information, an application of NEMA principles in any other way would not have remedied the outcome reached, nor could it have resulted in the CA granting the EA.

Summary of comments from Karpowership

- 2.119 In their comments to these grounds of appeal, Karpowership submits as follows:
- 2.119.1 As a Preferred Bidder in the REI4P, it is clear that Karpowership is certainly one of the better ways to produce electricity for the national grid. Socio-Economic Impacts further deal with the cost of obtaining electricity from the power provider. The Karpowership Richards Bay Project is the 3rd cheapest bidder in terms of cost per MW produced.
- 2.119.2 Karpowership has an extensive training programme which they will be implementing for the continuous upskilling of their employees.
- 2.119.3 It is not apparent from the RoR that all pillars of sustainability were holistically considered. Instead, the RoR seems to have concentrated on and been guided by the focus of the NGO's, the media, namely on the small-scale fishers and micro-environmental issues. There is no mention in the RoR of the positive socio-economic aspects of the proposed Project, the contribution of the proposed Project to alleviate load shedding, or the role that

LNG could play as a transitional fuel for South Africa to diversify away from coal. There does not appear to be an appreciation in the RoR of the fact that the Project would be complementary to renewable energy projects in the RMI4P.

- 2.119.4 Furthermore, natural gas is not seen, *per se*, at page 13 of the IRP 2019, as being overtly negative. It should be noted that the input into the Project is LNG, which is natural gas that has been cooled for purposes of transportation. It is then re-gassified on the FSRU and natural gas is then used to power the turbines on the powerships.
- 2.119.5 While NEMA's section 2 principles must, and have been given full consideration, one must not 'conveniently' forget additional important sections of NEMA. In NEMA's preamble, the State is called upon to "*respect, protect, promote and fulfil the social, economic and environmental rights of everyone ...*" and while implementing these rights, it explicitly states that "*sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations*".
- 2.119.6 Section 2(1) of NEMA explicitly states that the principles espoused in section 2(1)(a) of NEMA "*shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution ...*".
- 2.119.7 Section 2(4)(a)(i) of NEMA states that "*the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied*". In a similar vein, section 4(a)(viii) of NEMA states "*that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied*".
- 2.119.8 In respect of the SACNASP Peer Review of the Estuarine Report:
- 2.119.8.1 The letter from the MER dated 23 April 2021 does indicate select gaps. However, these were duly addressed in the FEIAr and in the final Estuarine Report. The MER peer review in fact found that the Coastwise Consulting and GroundTruth reports were

comprehensive reports in terms of their methodologies. The specialists however differed in their interpretations of the results, particularly regarding significance and international scale impacts.

2.119.8.2 The peer reviewer reviewed the Estuarine and Coastal Impact Report on two occasions. Following the first review, the specialist made amendments in the revised report. Thereafter, the peer reviewer proceeded to review the revised report and focused on the sections in which changes had been made, being: (i) Section 6 (Impact Assessment tables), (ii) Section 7 (Conclusions and Recommendations), and (iii) Section 8 (Reasoned Opinion). Following the conclusion of the second peer review, the specialist considered the comments provided by the reviewer and addressed these as applicable in the final Estuarine and Coastal Impact Assessment which was appended to the FEIAr. Accordingly, all comments provided in the most recent SACNASP peer review were considered and were addressed by the specialist. The second review letter was included in the final Estuarine and Coastal Impact Assessment, which was updated according to comments received from I&APs and the SACNASP peer review.

2.119.9 In respect of the Noise Impact Assessment, more specific comments from Karpowership are summarised under the heading "**Holistic assessment of EA application**" herein above.

2.119.10 Karpowership fully appreciates that environmental damage must be avoided where possible. However, in the face of sustainable and secure economic development through the securing of a consistent and reliable source of power for the economy, and where environmental damage can in fact be minimised through responsible economic development, the need for economic development with minimised environmental damage should be viewed as the main point of concern.

2.119.11 The EIA process was not inadequate, on the contrary it was done to a very high standard. The point is that the decision maker did not consider the socio-economic benefits and other factors. The decision maker's focus was too narrow and only alleged that the impacts on the small-scale fishers were not considered or given a weighting which was disproportionate to the alleged impact.

Summary of responses from the Competent Authority

- 2.120 In their responses to this ground of appeal, the CA submits that:
- 2.120.1 The project's status as a SIP cannot have any particular bearing on the decision of the CA in discharging its mandate and on the CA's discretion to refuse or grant an EA. As already outlined in the RoR, all of the negative and positive socio-economic impacts have to be identified in order to make a decision, and these weighed against the environmental impacts.
- 2.120.2 While the socio-economic assessment of the proposed Project highlighted positive aspects of the development and recommended that the project should proceed, other aspects of the development could not be overlooked.
- 2.120.3 Many of the specialist reports contained various gaps which made it impossible for the CA to comprehensively weigh up all considerations. It is necessary to weigh up impacts and apply section 24 of the Constitution, NEMA and its principles, as well as the 2014 EIA Regulations and both the positive and negative impacts of the proposed project must be considered. This is entrenched in section 23(2)(b) of NEMA, which states as follows: *"The general objective of integrated environmental management is to identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2"*.
- 2.120.4 The CA does not necessarily dispute some of the positive socio-economic impacts of the proposed Project. Instead, the CA correctly seeks to ascertain a holistic picture, considering the impact that the proposed Project could have on the much broader community, surrounding the Port of Richards Bay.
- 2.120.5 Furthermore, it is clear that the refusal decision is due to the lack of material information, which Karpowership failed to provide in its FEIAr. These gaps directly impact on the adequacy of the socio-economic assessment. The gaps identified in the RoR which would have a bearing on the socio-economic consideration include:

- 2.120.5.1 Lack of a qualitative Noise Impact Assessment on megafauna, including the Humpback Dolphin: This may have further impacts on socioeconomics for tourism in the region;
- 2.120.5.2 Lack of a qualitative Noise Impact Assessment on swamps and mangrove habitats: this may also have socio-economic implications for tourism, fisheries, and local fishermen, since mangroves and swamps are nurseries for fish and crustaceans;
- 2.120.5.3 Inadequate Avifauna Impact Assessment to identify all the important birds, and conservation areas such as Richards Bay Nature Reserve, mangroves, and their habitats: this may also impact on tourism and related socio-economic activities; and
- 2.120.5.4 Inadequate assessment of impacts of thermal water released into the environment: this may impact upon the food sources for birds, biodiversity related tourism, fishing, and fishing communities.

Evaluation (Reasons for decision)

- 2.121 An application for EA must, in the first instance, comply with the fact-specific requirements for environmental governance, irrespective of whether the Project itself complies with any other legislative dispensation. I repeat that neither socio-economic needs nor procurement considerations can elevate the recommendation in a Socio-Economic Impact Assessment report above the holistic consideration of the actual and potential risks, and impacts on the geographical, physical, biological, social, economic, and cultural aspects of the environment.
- 2.122 In an application for EA, the effect of a decision needs to be considered in respect of all aspects of the environment and all people in the environment, by pursuing the best practical environment option. In simplified terms, this means that Karpowership had to give sufficient proof that the proposed Project will not cause more harm than it will do good.
- 2.123 While the IRP 2019 indicates that South Africa is policy driven towards an expansive energy mix, which should include new technologies such as that of Karpowership, proposed developments still need to meet the requirements of the EIA process. Karpowership is not the only entity that can deliver this result, and refusing their application for EA simply means that, from the perspective of environmental governance, the proposed activities cannot be supported. Therefore, I do not agree with the argument that, because this specific application for EA was refused, therefore a general national policy was contradicted.

- 2.124 Natural gas as a concept is indeed not seen as being overtly negative. It is however not possible with the EIA process for this Project, to make a determination with regard to the significance of potential impacts or consequences for the environment, the effectiveness of potential mitigation measures, or whether the Project will constitute a sustainable development.
- 2.125 While it is acknowledged that (i) the Project is included in the RMIPPPP, (ii) it aligns with the IRP2019, and (iii) may provide certain positive socio-economic benefits, the principles of environmental management as specified in section 2 of NEMA and specifically the following would also need to be considered in decision making:
- 2.125.1 NEMA section 2(4)(a)(vii) – that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions.
 - 2.125.2 NEMA section 2(4)(a)(viii) - that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.
 - 2.125.3 NEMA section 2(4)(b) - environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and must take into account the effects of the decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.
 - 2.125.4 NEMA section 2(4)(c) - that environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.
 - 2.125.5 NEMA section 2(4)(i) – that social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.
 - 2.125.6 NEMA section 2(4)(k) – that decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

2.126 In my evaluation of this ground of appeal, I considered the impacts of the proposed activities, both positive and negative, also in the context of the Socio-Economic Impact Assessment. In this regard, I took note of the following:

2.126.1 The Socio-Economic Impact Assessment correctly looked at both the local and wider impacts of the Project since the creation of jobs and other positive and negative impacts cannot only be localised to the Port of Richards Bay. If only local impacts were relevant, then only the localised economic benefits and the local suffering caused by load shedding, would be considered. The argument by Karpowership, which is entirely correct, is that since the impact of readily available and on-demand produced power will benefit the entire country, the fact that there will be job creation across the entire country, is a relevant consideration.

2.126.2 Under the heading "**Holistic assessment of the EA application**" herein above, I have considered and dealt extensively with the Socio-Economic Impact Assessment report, and with the fatal gaps, limitations, and inconsistencies therein. For the sake of brevity, I do not repeat my consideration thereof here, but the contents thereof are also applicable in respect of this ground of appeal.

2.126.3 The gaps, limitations and inconsistencies in the information provided in the Socio-Economic Assessment report has the effect of marginalizing an economy of fishers in Richards Bay.

2.127 As I have stated under the heading "**Holistic assessment of the EA application**" herein above, the specialist studies are indicative thereof that the concerns raised by commenting I&APs, are valid. The Socio-Economic Impact Assessment report, and Karpowership itself, brush aside the environmental concerns that have the potential to impact on the livelihoods of small-scale fishers, as "*micro impacts in the brownfields ports*", or "*micro-environmental issues*", and offer limited job opportunities as a trade-off.

2.128 I repeat that the actual and potential impacts on the environment, as well as the socio-economic conditions, particularly in relation to small-scale fisheries, could not be determined due to gaps and inconsistencies in the various reports submitted. In particular, due to the lack of information in respect of the Underwater Noise Impact; the Marine and Ecology Study

as well as the Estuarine Impact Report; and the actual and potential risks and impacts on the geographical, physical, biological, social, economic and cultural aspects of the environment could not be predicted and evaluated in order to find the alternatives and options that best avoid negative impacts altogether, or where negative impacts cannot be avoided, to minimise and manage negative impacts to acceptable levels, while optimising positive impacts, to ensure that ecological sustainable development and justifiable social and economic development outcomes are achieved.

2.129 Furthermore, I have taken note of the independent expert's advice that based on their review of the RoR findings, there is no evidence to suggest that the CA dismissed the positive socio-economic benefits of the project or the fact that the project falls squarely with the planned energy mix in terms of the IRP 2019.

2.130 I therefore proceed to dismiss the grounds of appeal pertaining to this topic.

Eighth ground of appeal: The SIP status of the Project

2.131 The grounds of appeal on this topic are concerned with the SIP status of the proposed Project in terms of section 8(1)(a) read with section 7(1) of the Infrastructure Development Act, and the ramifications of the refusal of the EA application for the IPP project on a national level. Karpowership is of the view that the CA failed to consider the considerable economic benefits of the proposed Project in the context of the dire need for electricity in the country, which economic benefits would provide scope for various industries to participate in the economic sector.

Summary of comments from I&APs

2.132 According to the commenting I&APs:

2.132.1 None of the reasons provided in the RoR disputes the impact that the proposed Project may have on the energy sector in South Africa. The fact remains that if the proposed Project were to proceed, it would also have considerable negative impacts for climate change, marine ecosystems and on the livelihoods of fishermen. In any event, it is clear

that due to the identified material deficiencies and inadequacies, the EIA processes could not result in the Project being authorised.

- 2.132.2 The proposed Project is not needed or desired both from energy security - or socio-economic perspective. The anticipated harms of the proposed Project, for climate, biodiversity, and socio-economic considerations, far outweigh any alleged benefits, particularly in light of the feasibility of less harmful alternatives to meet the country's electricity needs. Due to the unknown noise impacts on fish and local fishermen, the precautionary and risk averse approach should be taken to uphold the decision to refuse the EA application.
- 2.132.3 The fact that Karpowership's projects have been declared a SIP does not fetter the discretion of the CA or any other relevant authority to refuse authorisation or licenses on environmental sustainability grounds. Karpowership is not the only feasible solution to the country's energy crisis.
- 2.132.4 The fact remains that if this Project were to proceed, it would also have considerable negative impacts for climate, marine ecosystems, and livelihoods of fisherman. In any event, it is clear that, due to the material deficiencies and inadequacies in the EIA records and processes, would and could not result in the Project being authorised.
- 2.132.5 The small-scale fishers have always been excluded. If the powerships are to come to South Africa, the livelihoods of fishermen will be put at risk to better other sectors of the economy. The fishers should benefit, otherwise no one is going to put food on their table or send their children to school or even college or university. The fishers survive on a below average income and that can be taken away from them.
- 2.132.6 The CA should not condone inadequate EIAs on the basis of a project having been identified as a SIP.

Summary of comments from Karpowership

- 2.133 In their comments, Karpowership submits as follows:

- 2.133.1 The Karpowership projects are in response to the RMI4P RFP. Thus, the RMI4P does meet the requirements of a systems approach as LNG plays a role as a transitional energy source together with renewables. Although these are issues that are beyond the scope of the CA, they are considered by other regulators such as DMRE, NERSA and the SIP office. The aim of RMI4P is to replace the polluting, inefficient and expensive Diesel peakers with new technology.
- 2.133.2 The *“existence of any other legislation, policies and decisions including procurement under the RMIPPPP, or in this instance, the project being considered as a SIP”* cannot be cast aside as being irrelevant. The aims and principles espoused by the RMI4P, and the allocation of SIP status are in fact vital to the orderly execution of government's plans to obtain power and diversify the country's sources of power. These are vitally important considerations in the application for EA for the Project.
- 2.133.3 It is clear that these factors were not considered in the RoR, as there is no evidence other than the very narrow issues presented by the 1st and 2nd Commenting I&APs that were considered. The CA is obliged to consider the greater socio-economic aspects and weigh them up against the environmental impacts of the project. No fatal environmental flaws were identified; thus, the proposed Project should have been authorised.
- 2.133.4 All technologies have some environmental impact. The CA seems to have focussed on the micro-environmental issues raised by the NGO's (and supported by an emotive media) and then seems to have given these issues an undue weighting in reaching their decision whilst the voices of the local communities seem to have been largely unheeded in the EIA process. Properly and objectively considered, it is clear that the project should have been authorised.
- 2.133.5 Karpowership does not harm the fragile marine environment as their projects are based in existing brownfields ports. There is no recognition in the RoR that the site is proposed in an active Port, an existing brownfield site, and that no fishing is allowed by small-scale

fishers within the Port. According to the comprehensive assessment, there is no projected negative impact on the small-scale fishers.

- 2.133.6 Karpowership is invested in the communities in which they establish a site. This is evident through Karpowership's upskilling and training programmes.

Summary of responses from the Competent Authority

- 2.134 In their responses, the CA advises that:

- 2.134.1 Section 18 of the Infrastructure Development Act specifically states that: *"Whenever an environmental assessment is required in respect of a strategic integrated project, such assessment must be done in terms of NEMA, with specific reference to Chapter 5"*. Therefore, the project being declared a SIP in terms of the said Act does not circumvent the requirements of the CA to consider the project in light of Chapter 5 of NEMA.
- 2.134.2 Although the SIP status of the Project is not in dispute, the proposed development still needs to meet the requirements of the 2014 EIA Regulations and NEMA for a desired outcome. The FEIAr was found to be deficient.

Evaluation (Reasons for decision)

- 2.135 This ground of appeal to a large extent overlaps with the first topic under the heading ***"The strategic nature of the Project from a need and desirability perspective"***, and to a certain extent with the topic ***"Socio-Economic benefits of the Project"*** that I dealt with herein above. My evaluation therein, which I do not repeat here for the sake of brevity, is thus equally applicable to this topic.
- 2.136 While the economic benefit of the proposed Project is appreciated in the context of the dire need for electricity in the country, which economic benefits would provide scope for various industries to participate in the economic sector, developments still need to comply with all

the legislative requirements for sustainable development, from section 24 of the Constitution down to NEMA and the 2014 EIA Regulations.

2.137 The SIP status of the proposed Project, and the ramifications of the refusal of the EA application for the IPP project on a national level are not the only considerations to be taken into account. The decision in question is polycentric in nature and must take all relevant factors into account, including those that are specifically listed in section 2 of NEMA.

2.138 As I have stated herein above, neither the socio-economic needs or benefit of the Project, nor procurement considerations, and also not the SIP status of the Project, can elevate the recommendation in the Socio-Economic Impact Assessment report above the holistic consideration of the actual and potential risks, and impacts on the geographical, physical, biological, social, economic, and cultural aspects of the environment.

2.139 I concur with the findings of the appointed independent expert that the project being declared a SIP in terms of the Infrastructure Development Act does not circumvent the requirements of the CA to consider the project in light of Chapter 5 of NEMA as highlighted by the CA in the RoR.

2.140 In my view, the gaps in information that led to the rejection of the EA application, on their own, are material and fatal and cannot be cured during the current appeal process. I therefore dismiss the submissions on this ground of appeal.

3. DECISION

3.1 In reaching my decision on the appeals lodged against the decision taken by CA, to refuse Karpowership's application for EA, I have taken the following into consideration:

3.1.1 The information contained in project file 14/12/16/3/3/2/2007, and in particular:

3.1.1.1 The listed activities applied for in the application form received by the CA on 05 October 2020;

- 3.1.1.2 The information contained in the SR received on 18 November 2020, the comments of the CA on the draft SR of 02 November 2020, and the acceptance of the SR on 06 January 2021;
- 3.1.1.3 The Draft EIAr received during February 2021;
- 3.1.1.4 Comments of the CA on the draft EIAr, dated 11 March 2021;
- 3.1.1.5 The FEIAr dated April 2021;
- 3.1.1.6 The comments and inputs received from I&APs, including various Organs of State, *inter alia*: Ezemvelo KZN Wildlife, KwaZulu-Natal Economic Development, Tourism and Environmental Affairs, Eskom, SAHRA, the Department of Forestry, Fisheries & the Environment: Biodiversity and Conservation, Oceans and Coast and Air Quality, the uMhlathuze Local Municipality, Birdlife SA, and Transnet, as well as Karpowership's responses thereto (Appendix D to the FEIAr) / the public participation report;
- 3.1.1.7 The information contained in the specialist studies contained in Appendix I to the FEIAr dated April 2021, and specifically the following:
 - i. Wetland Delineation and Functionality: Triplo4, February 2021;
 - ii. Terrestrial Ecological Assessment: De Wet, April 2021;
 - iii. Estuarine and Coastal Assessment: GroundTruth, April 2021;
 - iv. Climate Change Impact Assessment: Themis Environmental, April 2021, Peer Reviewed by: Luke Richard Moore;
 - v. Major Hazardous Installations (Risk Assessment): Major Hazard Risk Consultants, February 2021;
 - vi. Marine Ecology Assessment: Lwandle, April 2021;
 - vii. Air Quality Impact Assessment: uMoya-Nilu Consulting, April 2021;
 - viii. Wetland Rehabilitation Plan: Triplo4, April 2021;
 - ix. Noise Impact Assessment: Safetech, October 2020; and
 - x. Avifauna Impact Assessment: De Wet, April 2021, Peer Reviewed by: A.N. Marchant.
- 3.1.1.8 The information contained in the technical reports contained in Appendix J to the FEIAr dated April 2021, and specifically the following:
 - i. Technical Report of the Karpowership's Terrestrial and Underwater Radiated Noise (URN) Evaluation: GDS R&D Engineering, April 2021;
- 3.1.2 The complaint from the 2nd Commenting I&AP dated 30 May 2021;

- 3.1.3 The Memorandum of 18 June 2021 received from Karpowership's legal representative at the time (Gunn Attorneys);
- 3.1.4 The EAP's letter of 18 June 2021 in response to the complaint from the 2nd Commenting I&AP;
- 3.1.5 The EAP's letter of 23 June 2021 in response to the request from the CER, representing the 1st Commenting I&AP, to suspend the EA application process for Karpowership's other two Powership Projects (the proposed project/Richards Bay and Ngqura);
- 3.1.6 The CA's Record of Refusal (RoR) of 23 June 2021;
- 3.1.7 The grounds of appeal received from the 1st to 8th appellants between the period of 13 July 2021 and 19 July 2021;
- 3.1.8 The consolidated Appeal Response Report (ARR) with the grounds of appeal, responding statement and comments;
- 3.1.9 Karpowership's answering statement on the comments filed by I&APs against their appeal, dated 16 September 2021;
- 3.1.10 The CA's responding statement on the appeals relating to the refusal decision, dated 31 August 2021;
- 3.1.11 Karpowership's answering statement on the responding statement filed by the CA, dated 27 October 2021;
- 3.1.12 The appointment of an independent expert, Environmental Impact Management Services (Pty) Ltd (EIMS) on 05 April 2022;
- 3.1.13 EIMS's application of 06 April 2022 for extension of the timeframe to submit their advice, recommendations, and report to the Appeal Administrator by 31 May 2022;
- 3.1.14 The extension of 19 April 2022 granted to EIMS by the Director of the Appeals Directorate;
- 3.1.15 EIMS's Independent Appeal Review Report dated 31 May 2022, vetted by an independent legal practitioner, Mr Francois Joubert of Fasken Bell Dewar Inc.; and
- 3.1.16 The objectives and requirements of the relevant legislation, policies, and guidelines, including section 2 of NEMA.
- 3.2 In terms of section 43(6) of NEMA, I have the authority, after considering appeals, to confirm, set aside or vary the decision, provision, condition or directive or to make any other appropriate decision.

- 3.3 I appreciate that the proposed project is in response to the Request for Proposals (RFP) for New Generation Capacity under the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP/ RMI4P) that was issued by the DMRE, to alleviate the immediate and future power generation capacity deficit of South Africa. However, I have the constitutional and legal obligation firstly, not to allow a preventable state of affairs in an environment that may potentially or actually harm the health or well-being, in a wide sense, of another person or persons, and secondly, to ensure ecologically sustainable development and the use of natural resources for the benefit of present and future generations.
- 3.4 In my consideration of all the relevant information before me, I find that there are various gaps in information and procedural defects in relation to the PPP that led to the rejection of the EA application. These gaps in information and the procedural defects are material and fatal and cannot be cured during the current appeal process. Section 43(6) of NEMA allows me to make any other appropriate decision on appeal and to fashion a just and equitable remedy aimed at the proven shortfalls and/or irregularities. To grant appropriate relief, I must determine what is fair and just in the circumstances of a particular case. The various interests that might be affected by the remedy should be weighed. This should at least be guided by the objective to address the wrong occasioned by the infringement; deter future violations; make an order which can be complied with; and which is fair to all those who might be affected by the relief. Manifestly, the nature of the infringement will provide guidance as to the appropriate relief. This approach was followed by the Constitutional Court in the case of *Minister of Defence and Military Veterans v Motau and Others* [2014] ZACC 18.
- 3.5 Therefore, having duly considered all the information pertaining to the various appeals, I deem that an appropriate order in terms of section 43(6) of NEMA is to remit the matter to the CA, as I hereby do, so that the various gaps in information and procedural defects in relation to the PPP that led to the rejection of the EA application may be addressed during the reconsideration and re-adjudication of the EA application, provided that the timeframes prescribed by the 2014 EIA Regulations in respect of the EIA process are adhered to by the appellant and the CA.

**APPEALS AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO REFUSE
THE APPLICATION FOR ENVIRONMENTAL AUTHORISATION SUBMITTED BY
KARPOWERSHIP SA (PTY) LTD IN RESPECT OF THE PROPOSED GAS TO POWER
VIA POWERSHIP PROJECT AT THE PORT OF RICHARDS BAY, SITUATED WITHIN
THE UMHLATHUZE LOCAL MUNICIPALITY IN KWAZULU-NATAL PROVINCE**

- 3.6 In arriving at my decision on the appeals, I have not responded to every statement set out in the appeals, the comments, and responses thereto and the answering statements thereto, and where a particular statement is not directly addressed, the absence of any response thereto should not be interpreted to mean that I have not considered that statement, or that I agree with, or abide by the statement made. I have also not listed each and every annexure, document or report considered, and the absence of any such annexure, document or report should not be interpreted to mean that I have not considered same, or that I agree with, or abide by the findings made therein.
- 3.7 In addition, should any party be dissatisfied with any aspect of my decision, they may apply to a competent court to have this decision judicially reviewed. Judicial review proceedings must be instituted within 180 days of notification hereof, in accordance with the provisions of section 7 of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) (PAJA).



MS B D CREECY, MP

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

DATE: 1/8/2022